Sanfoundary 1. What is the range of short data type in Java? [b] a) -128 to 127 c) -2147483648 to 2147483647 b) -32768 to 32767 d) None of the mentioned Explanation: Short occupies 16 bits in memory. Its range is from -32768 to 32767. 2. What is the range of byte data type in Java? [a] a) -128 to 127 c) -2147483648 to 2147483647 b) -32768 to 32767 d) None of the mentioned Explanation: Byte occupies 8 bits in memory. Its range is from -128 to 127. [d] 3. Which of the following are legal lines of Java code? int w = (int)888.8; byte x = (byte) 100L; long y = (byte)100; byte z = (byte)100L; a) 1 and 2 c) 3 and 4 b) 2 and 3 d) All statements are correct Explanation: Statements (1), (2), (3), and (4) are correct. (1) is correct because when a floating-point number (a double in this case) is cast to an int, it simply loses the digits after the decimal. (2) and (4) are correct because a long can be cast into a byte. If the long is over 127, it loses its most significant (leftmost) bits. (3) actually works, even though a cast is not necessary, because a long can store a byte. advertisement 4. An expression involving byte, int, and literal numbers is promoted to which of these? [a] a) int b) long c) byte 📀 d) float Explanation: An expression involving bytes, ints, shorts, literal numbers, the entire expression is promoted to int before any calculation is do 5. Which of these literals can be contained in float data type variable? [b] a) -1.7e+308 c) +1.7e+308 b) -3.4e+038 d) -3.4e+050 Explanation: Range of float data type is -(3.4e38) To +(3.4e38)6. Which data type value is returned by all transcendental math functions? [c] c) double a) int b) float d) long 7. What will be the output of the following Java code? [c] class average { public static void main(String args[]) double num[] = {5.5, 10.1, 11, 12.8, 56.9, 2.5}; double result; result = 0; for (int i = 0; i < 6; ++i)</pre> result = result + num[i]; System.out.print(result/6); } } c) 16.46666666666667 a) 16.34 b) 16.566666644 d) 16.46666666666 output:

```
$ javac average.java
$ java average
16.4666666666666667
```

8. What will be the output of the following Java statement?

```
1. class output {
2.
           public static void main(String args[])
з.
           ł
4.
               double a, b,c;
                a = 3.0/0;
5.
6.
               b = 0/4.0;
               c=0/0.0;
7.
8.
9.
              System.out.println(a);
10
                      System.out.println(b);
11
                       System.out.println(c);
12.
                  3
13
              }
```

a) Infinity b) 0.0 c) NaN d) all of the mentioned Explanation: For floating point literals, we have constant value to represent (10/0.0) infinity either positive or negative and also have NaN (not a number for undefined like 0/0.0), but for the integral type, we don't have any constant that's why we get an arithmetic exception

[d]

```
9. What will be the output of the following Java code?
                                                                    [c]
    1.
             class increment {
    2.
                  public static void main(String args[])
    з.
                   Ł
    4.
                         int g = 3;
    5.
                         System.out.print(++g *
                                                       8);
    б.
                  }
    7.
             }
                                  \langle O \rangle
                              32
a) 25
               b) 24
                                             d) 33
Explanation: Operator ++ has more preference than *, thus g becomes 4 and when multiplied
by 8 gives 32.
 $ javac increment_java
 $ java increment>
 32
 10. What will be the output of the following Java code?
 1.
         class area {
 2.0
            public static void main(String args[])
 3.-
4.
             Ł
                  double r, pi, a;
 5.
                  r = 9.8;
                  pi = 3.14;
 6.
 7.
                  a = pi * r * r;
 8
                  System.out.println(a);
 9.
             }
 10
               }
                                                              a) 301.5656
                                                                                     b) 301
        c) 301.56
                              d) 301.56560000
output:
$ javac area.java
$ java area
301.5656
```

Character and Boolean Data Types

1. What is the numerical range of a char data type in Java? [d] a) -128 to 127 b) 0 to 256 c) 0 to 32767 d) 0 to 65535 Explanation: Char occupies 16-bit in memory, so it supports 2^{16} i:e from 0 to 65535. 2. Which of these coding types is used for data type characters in Java? [c] a) ASCII b) ISO-LATIN-1 c) UNICODE d) None of the mentioned Explanation: Unicode defines fully international character set that can represent all the characters found in all human languages. Its range is from 0 to 65536. 3. Which of these values can a boolean variable contain? [a] b) 0 & 1 c) Any integer value a) True & False d) true Explanation: Boolean variable can contain only one of two possible values, true and false. 4. Which of these occupy first 0 to 127 in Unicode character set used for characters in Java? [d] a) ASCII d) ASCII and ISOb) ISO-LATIN-1 c) None of the mentioned LATIN1 Explanation: First 0 to 127 character set in Unicode are same as those of ISO-LATIN-1 and ASCII. 5. Which one is a valid declaration of a boolean? [c] a) boolean b1 = 1; b) boolean b2 = 'false'; c) boolean b3 = false;d) boolean b4 = 'true' \mathcal{O} Explanation: Boolean can only be assigned true or false literals. 6. What will be the output of the following Java program? [a] class array output { 1 public static void main(String args 2. 3. 4. char array_variable [] = new char [10]; 5 for (int i = 0; i < 10; ++i) { б. array variable[i] = 'i'; G 7. System.out.print(anay variable[i] + ""); 8. i++: 9. 10. } 11. a) i i i i I b) (97) 234c) i j k l md) None of the mentioned output: \$ javac array output java Siava array output **Viiiii** 7. What will be the output of the following Java program? [a]

```
    class mainclass {
    public static void main(String args[])
    {
    char a = 'A';
    a++;
    System.out.print((int)a);
    }
    }
```

a) 66 b) 67 c) 65 d) 64 Explanation: ASCII value of 'A' is 65, on using ++ operator character value increments by one. output:

```
$ javac mainclass.java
$ java mainclass
66
```

8. What will be the output of the following Java program? [c]

```
udlavalleru, Kishna District, Andma Pradesh
 1. class maindass {
        public static void main(String args[])
 2.
 3.
 4.
          boolean var1 = true;
 5.
       boolean var2 = false,
 б.
       if (var1)
 7.
         System.out.println(var1);
 8
       else
 9.
         System.out.println(var2);
 10.
        }
 11.
     }
a)0
        b)1
                c)ture
                                d)false
explanation
                         output:
$ javac mainclass.java
$ java mainclass
true
9. What will be the output of the following Java code?
                                                                                  [c]
       class booloperators {
   1.
   2.
          public static void main(String args[])
   3.
          {
                           С
   4.
            boolean var_1 \ge true;
        boolean var2 ¥false
   5.
         System.out.println((var1 & var2));
   б.
   7.
          }
   8
       }
          $
a) 0 (b) 1
                                         d) false
                        c) true
Explanation: boolean '&' operator always returns true or false. var1 is defined true and var2
is defined false hence their '&' operator result is false.
output:
     $ javac booloperators.java
     $ java booloperators
     false
10. What will be the output of the following Java code?
                                                                         Answer: b
```

```
1.
    class asciicodes {
2.
       public static void main(String args[])
3.
4.
          char var1 = 'A':
5.
      char var2 = 'a';
б.
      System.out.println((int)var1 + " " + (int)var2);
7.
       }
8.
    }
                                              - 4 -
```

a) 162 b) 65 97 c) 67 95 d) 66 98

Explanation: ASCII code for 'A' is 65 and for 'a' is 97. output: \$ javac asciicodes.java \$ java asciicodes 65 97 **Data Type-Enums** 1. What is the order of variables in Enum? [a] a) Ascending order b) Descending order c) Random order d) Depends on the order() method rari, Andhi Andhi Explanation: The compareTo() method is implemented to order the variable in ascending order. 2. Can we create an instance of Enum outside of Enum itself? Answer: b a) True b) False Explanation: Enum does not have a public constructor. 3. What will be the output of the following Java code? 1 enum Season 2 Ł WINTER, SPRING, SUMMER, FALL з. 4. 1: System.out.println(Season.WINTER.ordinal()); 5. d) 3 a) 0 b) 1 c) 2 Explanation: ordinal() method provides number to the variables defined in Enum. 4. If we try to add Enum constants to a TreeSet, what sorting order will it use? [a] a) Sorted in the order of declaration of Enums b) Sorted in alphabetical order of Enums c) Sorted based on order() method d) Sorted in descending order of names of Enums Explanation: Tree Set will sort the values in the order in which Enum constants are declared. 5. What will be the output of the following Java code snippet? [b] class 2. ł з. 4. 5> enum Enums extends A 7. -{ ABC, BCD, CDE, DEF; 8 9. } a) Runtime Error **b)** Compilation Error d) EnumNotDefined Exception c) It runs successfully Explanation: Enum types cannot extend class. 6. What will be the output of the following Java code snippet? [d] enum Levels 1. 2. { private TOP, 3

```
1. enum Levels
2. {
3. private TOP,
4.
5. public MEDIUM,
6.
7. protected BOTTOM;
8. }
```

a) Runtime Error b) EnumNotDefined Exception c) It runs successfully d) Compilation Error Explanation: Enum cannot have any modifiers. They are public, static and final by default. 7. What will be the output of the following Java code snippet? [a] 1. enum Enums 2. { з. A, B, C; 4. 5 private Enums() 6. Ł 7. System.out.println(10); t. Andhra Pradesh 8 } 9. } 10. public class MainClass 11. 12. Ł public static void main(String[] args) 13 14 Ł Enum en = Enums.B; 15. 16. 3 } 17 b) Compilation Error a) 10 10 10 c)10 d) Runtime Exception 10 Explanation: The constructor of Enums is called which prints 10. 8. Which method returns the elements of Enum class? [b] a) getEnums() **b)** getEnumConstants() c) getEnumList() d) getEnum() Explanation: getEnumConstants() returns the elements of this enum class or null if this Class object does not represent an enum type. 9. Which class does all the Enums extend? [c] b) Enums (**C**) Enum a) Object d) EnumClass Explanation: All enums implicitly extend java.lang.Enum. Since Java does not support multiple inheritance, an enum cannot extend anything else. 10. Are enums are type-safe? [a] a) True $\langle \langle \cdot \rangle$ b) False Explanation: Enums are type-safe as they have own name-space. Data Type-BigDecimal 1. Which of the following is the advantage of BigDecimal over double? [d] a) Syntax b) Memory usage c) Garbage creation d) Precision Explanation: BigDecimal has unnatural syntax, needs more memory and creates a great amount of garbage. But it has a high precision which is useful for some calculations like money. 2. Which of the below data type doesn't support overloaded methods for +,-,* and /? [d] a) int b) float c) double d) **BigDecimal** Explanation: int, float, double provide overloaded methods for +,-,* and /. BigDecimal does not provide these overloaded methods. 3. What will be the output of the following Java code snippet? [a]

```
double a = 0.02;
   1
         double b = 0.03;
   2.
   3
         double c = b - a;
   4.
         System.out.println(c);
   5
         BigDecimal _a = new BigDecimal("0.02");
   6.
   7.
         BigDecimal _b = new BigDecimal("0.03");
         BigDecimal _c = b.subtract(_a);
   8
   9
         System.out.println( c);
a) 0.0099999999999999998
                                                           b)0.01
 0.01
                                                               0.0099999999999999998
c) 0.01
                                                            d)0.0099999999999999998
0.01
                                                             0.00999999999999999998
Explanation: BigDecimal provides more precision as compared to double. Double is faster in
terms of performance as compared to BigDecimal.
                                                                              6) [c]
4. What is the base of BigDecimal data type?
              b) Base 8
                             c) Base 10
a) Base 2
                                                    d) Base e
Explanation: A BigDecimal is n*10<sup>-</sup>scale where n is an arbitrary large signed integer. Scale
can be thought of as the number of digits to move the decimal point to left or right.
5. What is the limitation of toString() method of BigDecimal?
                                                                                  [d]
                                                        Distilict '
a) There is no limitation
b) toString returns null
c) toString returns the number in expanded form
d) toString uses scientific notation
Explanation: toString() of BigDecimal uses scientific notation to represent numbers known
as canonical representation. We must use toPlainString() to avoid scientific notation.
6. Which of the following is not provided by BigDecimal?
                                                                                  [b]
a) scale manipulation
                             b) + operator \heartsuit
                                                    c) rounding
                                                                          d) hashing
Explanation: toBigInteger() converts BigDecimal to a BigInteger.toBigIntegerExact()
converts this BigDecimal to a BigInteger by checking for lost information.
7. BigDecimal is a part of which package?
                                                                                  [b]
                      b) java.math
a) java.lang
                                            c) java.util
                                                                   d) java.io
Explanation: BigDecimal is a part of java.math. This package provides various classes for
storing numbers and mathematical operations.
8. What is BigDecimal ONE?
                                                                                  [d]
a) wrong statement 🔊
b) custom defined statement
c) static variable with value 1 on scale 10
d) static variable with value 1 on scale 0
Explanation: BigDecimal.ONE is a static variable of BigDecimal class with value 1 on scale
0.
9. Which class is a library of functions to perform arithmetic operations of BigInteger and
BigDecimal?
                                                                                  [a]
a) MathContext
                      b) MathLib
                                     c) BigLib
                                                           d) BigContext
Explanation: MathContext class is a library of functions to perform arithmetic operations of
BigInteger and BigDecimal.
10. What will be the output of the following Java code snippet?
                                                                                         [b]
```

```
1. public class AddDemo
2. {
         public static void main(String args[])
3
4
          ł
5.
                 BigDecimal b = new BigDecimal("23.43");
                 BigDecimal br = new BigDecimal("24");
6
7.
                 BigDecimal bres = b.add(new BigDecimal("450.23"));
8.
                 System.out.println("Add: "+bres);
9
10.
                        MathContext mc = new MathContext(2,
   RoundingMode.DOWN);
11
                        BigDecimal bdecMath = b.add(new
   BigDecimal("450.23"), mc);
                        System.out.println("Add using MathContext:
                                                ina District Andria Pradesh
12.
   "+bdecMath);
13.
                 }
14.
        - }
a) Compilation failure
b)
Add: 473.66
Add using MathContext: 4.7E+2
c)
Add 4.7E+2
Add using MathContext: 473.66
d) Runtime exception
Explanation: add() adds the two numbers, MathContext provides library for carrying out
various arithmetic operations.
Data Type-Date, TimeZone
1. How to format date from one form to another?
                                                                                     [a]
a) SimpleDateFormat
                            b) DateFormat
                                                 c) SimpleFormat
                                                                       d) DateConverter
Explanation: SimpleDateFormat can be used as
 Date now = new Date();
 SimpleDateFormat sdf = new SimpleDateFormat ("yyyy-mm-dd'T'hh:MM:ss");
 String nowStr = sdf.format(now);
 System.out.println("Current Date: " + );
2. How to convert Date object to String?
                                                                                     [b]
a)
SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd");
sdf.parse(new Date());
b)
SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd");
sdf.format(new Date());
c)
SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd");
new Date().parse();
d)
SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd");
new Date().format();
3. How to convert a String to a Date object?
                                                                       [a]
a)
SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd");
```

sdf.parse(new Date()); b) SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd"); sdf.format(new Date()); c) SimpleDateFormat sdf = new SimpleDateFormat("yyyy-mm-dd"); new Date().parse(); d) SimpleDateFormat sdf = new SimpleDateFormat("vyvy-mm-dd"); new Date().format(); Explanation: SimpleDateFormat takes a string containing pattern. sdf.parse converts the String to Date object. 4. Is SimpleDateFormat thread safe? [b] b) False a) True Explanation: SimpleDateFormat is not thread safe. In the multithreaded environment, we need to manage threads explicitly. 5. How to identify if a timezone is eligible for DayLight Saving? [c] b) useDaylightTime() of Date class a) useDaylightTime() of Time class d) useDaylightTime() of DateTime class c) useDaylightTime() of TimeZone class Explanation: public abstract boolean useDaylightTime() is provided in TimeZone class. 6. What is the replacement of joda time library in java 8? [a] a) java.time (JSR-310) b) java.date (JSR-310) d) java.jodaTime c) java.joda Explanation: In java 8, we are asked to migrate to java.time (JSR-310) which is a core part of the JDK which replaces joda library project. 7. How is Date stored in database? [a] a) java.sql.Date b) java.util.Date c) java.sql.DateTime d) java.util.DateTime Explanation: java.sql.Date is the datatype of Date stored in database. 8. What does LocalTime represent? [b] a) Date without time b) Time without Date c) Date and Time d) Date and Time with timezone Explanation: LocalTime of joda library represents time without date. 9. How to get difference between two dates? [a] a) long diffInMilli = java.time.Duration.between(dateTime1, dateTime2).toMillis(); b) long diffInMilli = java.time.difference(dateTime1, dateTime2).toMillis(); c) Date diffInMilli = java.time.Duration.between(dateTime1, dateTime2).toMillis(); d) Time diffInMilli = java.time.Duration.between(dateTime1, dateTime2).toMillis(); Explanation: Java 8 provides a method called between which provides Duration between two times. 10. How to get UTC time? [c] b) Date.getUTC(); a) Time.getUTC(); c) Instant.now(); d) TimeZone.getUTC(); Explanation: In java 8, Instant.now() provides current time in UTC/GMT **Literals & Variables** 1. Which of these is long data type literal? Answer: a a) 0x99fffL b) ABCDEFG c) 0x99fffa d) 99671246 Explanation: Data type long literals are appended by an upper or lowercase L. 0x99fffL is hexadecimal long literal. 2. Which of these can be returned by the operator &? Answer: d b) Boolean c) Character d) Integer or Boolean a) Integer

```
Explanation: We can use binary ampersand operator on integers/chars (and it returns an
       integer) or on booleans (and it returns a boolean).
       3. Literals in java must be appended by which of these?
                                                                                                                                                          Answer: d
       a) L
                                    b) 1
                                                                 c) D
                                                                                               d) L and I
        Explanation: Data type long literals are appended by an upper or lowercase L.
       4. Literal can be of which of these data types?
                                                                                                                                                                         Answer: d
       a) integer
                                                   b) float
                                                                                c) Boolean
                                                                                                             d) all of the mentioned
        5. Which of these can not be used for a variable name in Java?
                                                                                                                                                                         Answer: b
                                                                                c) identifier & keyword
       a) identifier
                                                   b) keyword
                                                                                                                                           d) none of the mentioned
                        a_{i}
a_{i
        Explanation: Keywords are specially reserved words which can not be used for naming a
       user defined variable, example: class, int, for etc.
       6. What will be the output of the following Java program?
1.
            class evaluate
2.
3.
                 public static void main(String args[])
4.
5.
                      int a[] = \{1, 2, 3, 4, 5\};
6.
7.
8.
9.
10.
                                                                  mic, Gudlavalleru,
11.
12.
            }
       a) 38
        output:
       $ javac evaluate.java
       $ java evaluate
       40
       7. What will be the output of the following Java program?
                                                                                                                                                          Answer: b
1.
            class array_output 00
2.
            {
3.
                 public static void main(String args[])
4.
5.
                             int array_variable [] = new int[10];
6.
                          Hor (int i = 0; i < 10; ++i) {
7.
                          array_variable[i] = i/2;
8.
                          array_variable[i]++;
9.
                          System.out.print(array_variable[i] + " ");
10.
                          i++;
11.
12.
13.
14.
                                                                                c) 0 1 2 3 4 5 6 7 8 9 d) 1 2 3 4 5 6 7 8 9 10
       a) 0 2 4 6 8
                                                   b) 1 2 3 4 5
       Explanation: When an array is declared using new operator then all of its elements are
```

initialized to 0 automatically. for loop body is executed 5 times as whenever controls comes in the loop i value is incremented twice, first by i++ in body of loop then by ++i in increment

```
condition of for loop.
   output:
   $ javac array output.java
   $ java array_output
   12345
   8. What will be the output of the following Java program?
                                                                               Answer: d
1.
      class variable scope
2.
3.
        public static void main(String args[])
4.
                                                               trict Andhra Pradesh
5.
           int x:
6.
           x = 5;
7.
           ł
8.
                  int y = 6;
9.
                  System.out.print(x + "" + y);
10.
           System.out.println(x + "" + y);
11.
12.
         }
13. }
                                                        d) Compilation error
   a) 5656
                  b) 5 6 5
                                 c) Runtime error
    Explanation: Second print statement doesn't have access to y, scope y was limited to the
   block defined after initialization of x.
   output:
   $ javac variable_scope.java
   Exception in thread "main" java.lang.Error Unresolved compilation problem: y cannot be
   resolved to a variable
   9. Which of these is an incorrect string literal?
                                                                               Answer: d
                          b) "Hello\nWorld"
   a) "Hello World"
                                                c) "\"Hello World\""
   d)"Hello
   world"
    Explanation: All string literals must begin and end in the same line.
    10. What will be the output of the following Java program?
                                                                               Answer: a
1.
      class dynamic_initialization
2.
      {
3.
        public static void main(String args[])
4.
             Ψ
5.
           double a, b;
           a = 3.0;
6.
7.
           b = 4.0;
8.
               double c = Math.sqrt(a * a + b * b);
9.
               System.out.println(c);
10.
11.
      }
   a) 5.0
                  b) 25.0
                                 c) 7.0
                                                d) Compilation Error
   Explanation: Variable c has been dynamically initialized to square root of a * a + b * b,
```

Explanation: Variable c has been dynamically initialized to square root of a * a + b * b, during run time. output: \$ javac dynamic_initialization.java

\$ java dynamic_initialization 5.0 **Type Conversions, Promotions and Castings** 1. Which of these is necessary condition for automatic type conversion in Java? [B] a) The destination type is smaller than source type b) The destination type is larger than source type c) The destination type can be larger or smaller than source type d) None of the mentioned 2. What is the prototype of the default constructor of this Java class? [d] public class prototype { } Andhra P[b] d) public prototype() a) prototype() b) prototype(void) c) public prototype(void) 3. What will be the error in the following Java code? byte b = 50; b = b * 50: a) b cannot contain value 100, limited by its range b) * operator has converted b * 50 into int, which can not be converted to byte without casting c) b cannot contain value 50 d) No error in this code Explanation: While evaluating an expression containing int, bytes or shorts, the whole expression is converted to int then evaluated and the result is also of type int. 4. If an expression contains double, int, float, long, then the whole expression will be promoted into which of these data types? c) double a) long b) int d) float Explanation: If any operand is double the result of an expression is double. 5. What is Truncation is Java? [a] a) Floating-point value assigned to an integer type b) Integer value assigned to floating type c) Floating-point value assigned to an Floating type d) Integer value assigned to floating type 6. What will be the output of the following Java code? [a] class char_increment 1. 2. 3. public static void main(String args[]) 4 char c1 = 'D'; 5 char c2 = 84; 5 2++ c1++; System.out.println(c1

a) **E U** b) U E c) V E d) U F

Explanation: Operator ++ increments the value of character by 1. c1 and c2 are given values D and 84, when we use ++ operator their values increments by 1, c1 and c2 becomes E and U respectively.

output:

10.

\$ javac char_increment.java \$ java char_increment E U 7. What will be the output of the following Java code?

```
1.
           class conversion
      2.
           {
      3.
              public static void main(String args[])
      4.
       5.
                double a = 295.04;
      6.
                int b = 300;
      7.
                byte c = (byte) a;
      8.
                byte d = (byte) b;
                System.out.println(c + " " + d);
      9.
       10.
               }
       11.
           }
a) 38 43
                                                            d) 295.04 300
                 b) 39 44
                                  c) 295 300
Explanation: Type casting a larger variable into a smaller variable results in modulo of larger
variable by range of smaller variable. b contains 300 which is larger than byte's range i:e -
                                                                 District And
128 to 127 hence d contains 300 modulo 256 i:e 44.
output:
    $ javac conversion.java
    $ java conversion
    39 44
8. What will be the output of the following Java \operatorname{code}^{\mathbb{R}^3}
                                                                     [c]
1.
     class A
2.
     {
3.
       final public int calculate(int a, int b) { return
4.
     }
5.
     class B extends A
6
     {
7.
       public int calculate(int a, int b) { return 2; }
8.
     }
9.
     public class output
10.
11.
         public static void main (String args )
12
13.
           B object = new B();
14
           System out.print("b is "+b.calculate(0, 1));
15.
16.
a) b is : 2
                                  c) Compilation Error
                                                                     d) An exception is thrown at
                 b) b is : 1
runtime
```

Explanation: The code does not compile because the method calculate() in class A is final and so cannot be overridden by method of class b.

9. What will be the output of the following Java program, if we run as "java main_arguments

```
1 2 3"?
1.
    class main_arguments
2.
    {
                                                                              [d]
3.
       public static void main(String [] args)
4.
5.
          String [] argument = new String[2][2];
б.
         int X;
7.
          argument[0] = args;
8.
         x = argument[0].length;
9.
          for (int y = 0; y < x; y++)
10.
             System.out.print(" " + argument[0][y]);
11.
        }
                                            - 13 -
12.
     }
```

[b]

a) 1 1 b) 1 0 c) 1 0 3 d) 1 2

Explanation: In argument[0] = args;, the reference variable arg[0], which was referring to an array with two elements, is reassigned to an array (args) with three elements.

Output:

```
$ javac main_arguments.java
$ java main arguments
123
```

10. What will be the output of the following Java program?

```
1
   class c
2
   Ł
     public void main( String[] args )
3
4
     -{
5.
6.
     }
7
   }
```

a) Hello c b) Hello Explanation: A runtime error will occur owning to the main method of the code fragment not being declared static.Output:

```
$ javac c.java
Exception in thread "main"
                           java.lang.NoSuchMethodError: main
```

Arrays

1. Which of these operators is used to allocate memory to array variable in Java? [c] b) alloc $\mathcal{O}^{\mathcal{O}}$ c) new a) malloc d) new malloc Explanation: Operator new allocates a block of memory specified by the size of an array, and gives the reference of memory allocated to the array variable. 2. Which of these is an incorrect array declaration? [d] a) int arr[] = new int[5] b) int [] arr = new int[5] c) int arr [12 new int [5]]d) int arr[] = int [5] new Explanation: Operator new must be succeeded by array type and array size. 3. What will be the output of the following Java code? (int arr[] = new int [5]; [d]

```
System.out.print(arr);
```

a) 0 b) value stored in arr[0] c) 00000

d) Class name@ hashcode in hexadecimal form

Explanation: If we trying to print any reference variable internally, toString() will be called which is implemented to return the String in following form:

classname@hashcode in hexadecimal form

4. Which of these is an incorrect Statement? [a]

a) It is necessary to use new operator to initialize an array

b) Array can be initialized using comma separated expressions surrounded by curly braces

c) Array can be initialized when they are declared

d) None of the mentioned

Explanation: Array can be initialized using both new and comma separated expressions surrounded by curly braces example : int arr[5] = new int[5]; and int arr[] = { 0, 1, 2, 3, 4};
5. Which of these is necessary to specify at time of array initialization? [a]
a) Row
b) Column
c) Both Row and Column
d) None of the mentioned.
6. What will be the output of the following Java code?

output:

0

```
a) 0 2 4 6 8 b) 1 3 5 7 9 c) 0 1 2 3 4 5 6 7 8 9 d) 1 2 3 4 5 6 7 8 9 10
Explanation: When an array is declared using new operator then all of its elements are
initialized to 0 automatically. for loop body is executed 5 times as whenever controls comes
in the loop i value is incremented twice, first by i++ in body of loop then by ++i in increment
condition of for loop.
```

[b]

\$ javac array_output.java
\$ java array_output
0 2 4 6 8

7. What will be the output of the following Java code?

```
1.
          class multidimention_array
 2
               public static void main(String args[])
 3
 4
                   Cint arr[][] = new int[3][];
 5
 б.
                   [arr[0] = new int[1];
 7.
                    arr[1] = new int[2];
                    arr[2] = new int[3];
 8.
                  int sum = 0;
 9.
                            for (int i = 0; i < 3; ++i)</pre>
 10.
 11.
                                 for (int j = 0; j < i + 1; ++j)</pre>
                            arr[i][j] = j + 1;
for (int i = 0; i < 3; ++i)
for (int j = 0; j < i + 1; ++j)</pre>
 12.
 13
 14
                                      sum + = arr[i][j];
  16
 ïε.
                            System.out.print(sum);
 17
                       Ъ
}
```

a) 11 b) 10 c) 13 d) 14 Explanation: arr[][] is a 2D array, array has been allotted memory in parts. 1st row contains 1 element, 2nd row contains 2 elements and 3rd row contains 3 elements. each element of array is given i + j value in loop. sum contains addition of all the elements of the array. output:

```
$ javac multidimention_array.java
$ java multidimention_array
10
```

8. What will be the output of the following Java code?

```
class evaluate
    public static void main(String args[])
        Ł
           int arr[] = new int[] {0 , 1, 2, 3, 4, 5, 6, 7, 8, 9};
           int n = 6;
            n = arr[arr[n] / 2];
           System.out.println(arr[n] / 2);
        }
      }
```

```
a) 3
               b) 0
                               c) 6
                                              d) 1
Explanation: Array arr contains 10 elements. n contains 6 thus in next line n is given value 3
printing arr[3]/2 i:e 3/2 = 1 because of int Value, by int values there is no rest. If this values
would be float the result would be 1.5.
output:
```

```
$ javac evaluate.java
$ java evaluate
```

8, 9}};

int sum = 0;

}

}

for (int i = 0; i < 3; ++i)</pre>

for (int j = 0; j < 3; ++j)</pre>

System.out.print(sum / 5);

sum = sum + array_variable[i][j];

6.

7. 8.

9

10 11.

12.

9. What will be the output of the following Java code?

```
· District Andhra
1.
        class array_output
2.
        ł
з.
            public static void main(String args[]
4.
            Ł
                char array_variable [] = new_char[10];
5
              for (int i = 0; i < 10; ++i)</pre>
6.
                                            0
7.
                Ł
                    array_variable[i] < 31';
8.
9
                    System.out.print(array_variable[i] + "");
                                  CZ
10.
                      }
                          Hechnic,
11.
                  3
12.
              }
a) 1 2 3 4 5 6 7 8 9 10
                                            b) 0 1 2 3 4 5 6 7 8 9 10
c) i j k l m n o p q r
                                            output:
                 5
    $ javac argay_output.java
    $ java array_output
    i i i sli i i i i i i
10. What will be the output of the following Java code?
                                                           [b]
  T:
          class array output
0
   2.
          ł
              public static void main(String args[])
   3.
   4.
              ł
                  int array_variable[][] = {{ 1, 2, 3}, { 4 , 5, 6}, { 7,
   5.
```

[d]

```
[d]
```

a) 8 **b**) 9 c) 10 d) 11 output: \$ javac array_output.java \$ java array_output **Data Structures-Arrays** 1. What is the type of variable 'b' and 'd' in the following Java snippet? [c] int a[], b; int []c, d; a) 'b' and 'd' are int b) 'b' and 'd' are arrays of type int d) 'd' is int variable; 'b' is int array c) 'b' is int variable; 'd' is int array Explanation: If [] is declared after variable it is applicable only to one variable. If [] is declared before variable it is applicable to all the variables. 2. Which of these is an incorrect array declaration? [d] a) int arr[] = new int[5]; b) int [] arr = new int[5]; d) int arr[] = int [5] new c)int arr[]; arr = new int[5];; Explanation: Operator new must be succeeded by array type and array size. The order is important and determines the type of variable. 3. What will be the output of the following Java code? [d] 1. int arr[] = new int [5]; System.out.print(arr); d) Garbage value a) 0 b) value stored in arr[0]. c) 00000 Explanation: arr is an array variable, it is pointing to array of integers. Printing arr will print garbage value. It is not same as printing arr 4. What will be the output of the following Java code snippet? [b] Object[] names = new_String[3]; names[0] = new Integer(0); a) ArrayIndexOutOfBoundsException b) ArrayStoreException c) Compilation Error Q^{ζ} d) Code runs successfully Explanation: ArrayIndexOutOfBoundsException comes when code tries to access an invalid index for a given array. ArrayStoreException comes when you have stored an element of type other than the type of array. 5. Generics does not work with? [d] a) Set 9+ b) List c) Tree d) Array Explanation: Generics gives the flexibility to strongly typecast collections. Generics is applicable to Set, List and Tree. It is not applicable to Array. 6. How to sort an array? [b] a) Array.sort() **b**) Arrays.sort() c) Collection.sort() d) System.sort() Explanation: Arrays class contains various methods for manipulating arrays (such as sorting and searching). Array is not a valid class. 7. How to copy contents of array? [a] a) System.arrayCopy() b) Array.copy() c) Arrays.copy() d) Collection.copy() Explanation: Arrays class contains various methods for manipulating arrays (such as sorting and searching). Array is not a valid class. 8. Can you make an array volatile? [a] a) True b) False

	 Explanation: You can only make variable pointing to array volatile. If an a replacing individual elements then guarantee provided by volatile variable 9. Where is an array stored in memory? [a] a) heap space [b] stack space c) heap space and stack space [b] stack space c) heap space and stack space [b] stack space. Whenever an object is created, in the Heap space and stack memory contains the reference to it. 10. An array elements are always stored in memory locations. a) Sequential b) Random [c] Sequential and Random [c] Sequential and Random [c] Sequential and Random [c] Sequential contiguous memory. Linked List random [c] Sequentions. 	urray is change will not be he , it's always sta [a] ary search st is stored in	d by ld.
	Arithmetic Operators	203	
	1. Which of the following can be operands of arithmetic operators?	2 [d]	
	a) Numeric b) Boolean c) Characters d) Both Numeric &	Characters	
	Explanation: The operand of arithmetic operators can be any of numeric o	r character typ	e,
	2 Modulus operator % can be applied to which of these?	[6]	
	a) Integers b Floating $-t$	point numbers	
	c) Both Integers and floating – point numbers	e mentioned	
	Explanation: Modulus operator can be applied to both integers and floating	g point numbe	rs.
	3. With $x = 0$, which of the following are legal lines of Java code for change $x = 0$.	ging the value	of x
	to 1? [c]		
	2. x = x + 1		
	3. x += 1;		
	4. x =+ 35		
	a) 1, 2 & 3 b) 1 & 4 c) 1, 2, 3 & 4 d) 3 & 2		
	Explanation: Operator ϕ increases value of variable by 1. $x = x + 1$ can a	lso be written	in
	shorthand form as $x \neq = 1$. Also $x = +1$ will set the value of x to 1.		
	4. Decrement operator,, decreases the value of variable by what number	er?	[a]
	a) 1 b) 2 c) 3 d) 4	F 13	
	5. Which of these statements are incorrect?	[d]	41.
	a) Assignment operators are more efficiently implemented by Java run-un	ie system than	their
	b) Assignment operators run faster than their equivalent long forms		
	c) Assignment operators can be used only with numeric and character data	ı type	
	d) None of the mentioned	, of bo	
	6. What will be the output of the following Java program?	[c]	
1	class increment		
2	b. { public static void main(String args)		
4	$\begin{cases} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$		
6	double var 1 = 1 + 5; double var 2 = var 1 / 4;		- ·
7	int var3 = 1 + 5; int var4 = var3 / 4	a) 1 1	b)
9	System.out.print(var $2 + " " + var_4$);		C)
1	0. 1. }	1.5 1	a)
1	2. }	1.3 1.0	

Explanation: None output: \$ javac increment java \$ java increment 1.5 1

7. What will be the output of the following Java program? [a] 1. class Modulus 2. 3. public static void main(String args[]) Andhra Pradesh 4. 5. double a = 25.64; б. int b = 25: 7 a = a % 10;8. b = b % 10;9. System.out.println(a + " " + b); 10. } - } 11. b) 5.64000000000001 5.0 a) 5.64000000000001 5 d) 5 5.640000000000001 c) 5 5 Explanation: Modulus operator returns the remainder of a division operation on the operand. a = a % 10 returns 25.64 % 10 i:e 5.640000000000000 Similarly b = b % 10 returns 5. output: Iquanalleun, \$ javac Modulus.java \$ java Modulus 5.640000000000001 5 8. What will be the output of the following Java program? [c] 1. class increment 2. Ł 3. public static void main(String args[]) 4. 5. int g = 3Qб. System_oùt.print(++g * 8); 7. 8. ϑ b) 24 c) 32 d) 33 a) 25. 🔊 Explanation: Operator ++ has more preference than *, thus g becomes 4 and when multiplied by 8 gives 32. output:

\$ javac increment.java \$ java increment 32

9. Can 8 byte long data type be automatically type cast to 4 byte float data type?[a]a) Trueb) False

Explanation: Both data types have different memory representation that's why 8-byte integral data type can be stored to 4-byte floating point data type.

10. What will be the output of the following Java program? [d]

1. class Output 2. { 3. public static void main(String args[]) 4. 5. int a = 1; 6. int b = 2; 7. int C; 8. int d: 9. c=++b; 10. d = a ++:Wishna District, Andhra Pradesh 11. c++; 12. b++: 13. ++a: System.out.println(a + " " + b + " " + c); 14. 15. } 16. } b)3 2 3 c)234 a)324 output: \$ javac Output java \$ java Output 344 **Bitwise Operators** 1. Which of these is not a bitwise operator? [d] b) &= a) & c) |= **d**) <= Explanation: <= is a relational operator 2. Which operator is used to invert all the digits in a binary representation of a number? [a] d) ^ a) ~ b) <<< c) >>>Explanation: Unary not operator, ~, inverts all of the bits of its operand in binary representation. 3. On applying Left shift operator, <<, on integer bits are lost one they are shifted past which position bit? S [d] b) 32 a) 1 c) 33 d) 31 Explanation. The left shift operator shifts all of the bits in a value to the left specified number of times. For each shift left, the high order bit is shifted out and lost, zero is brought in from the right. When a left shift is applied to an integer operand, bits are lost once they are shifted past the bit position 31. 4. Which right shift operator preserves the sign of the value? [b] a) << **b**) >> c) <<= d) >>= 5. Which of these statements are incorrect? [d] a) The left shift operator, <<, shifts all of the bits in a value to the left specified number of times b) The right shift operator, >>, shifts all of the bits in a value to the right specified number of times c) The left shift operator can be used as an alternative to multiplying by 2 d) The right shift operator automatically fills the higher order bits with 0

Explanation: The right shift operator automatically fills the higher order bit with its previous contents each time a shift occurs. This also preserves the sign of the value.

```
6. What will be the output of the following Java program?
                                                                [c]
    class bitwise operator
    ł
        public static void main(String args[])
         Ł
             int var1 = 42;
             int var2 = ~var1;
             System.out.print(varl + " " + var2);
         }
    }
              b) 43 43
                            c) 42 - 43
                                                  d) 42 43
a) 42 42
Explanation: Unary not operator, ~, inverts all of the bits of its operand. 42 in binary is
00101010 in using ~ operator on var1 and assigning it to var2 we get inverted value of 42 i:e
                                                 3hna District
11010101 which is -43 in decimal.
output:
   $ javac bitwise_operator.java
   $ java bitwise operator
   42 - 43
7. What will be the output of the following Java program?
                                                                [a]
   class bitwise operator
   Ł
       public static void main (String args[])
             int a = 3:
             int b = 6;
             int c = a | b;
             int d = a & be
             System.out.println(c +
                                             + d);
                     00
                3
                     b) 7 7
a) 7 2
                                                  d) 5 2
                                   c) 7 5
Explanation: And operator produces 1 bit if both operand are 1. Or operator produces 1 bit if
any bit of the two operands in 1.
output: 🖖
                                 $ javac bitwise operator.java
                                 $ java bitwise operator
8. What will be the output of the following Java program?
                                                                       [d]
 class leftshift operator
 ł
     public static void main(String args[])
           byte x = 64;
           int i;
           byte y;
           i = x << 2;
           y = (byte) (x << 2)
               System.out.print(i + " " + y);
         3
     }
```

d) 256 0 a) 0 64 b) 64 0 c) 0 256 output: \$ javac leftshift_operator.java \$ java leftshift_operator 256 0 9. What will be the output of the following Java program? [b] class rightshift operator ł public static void main(String args[]) Ł Andhra Pradesh int x; x = 10; $\mathbf{x} = \mathbf{x} \gg 1;$ System.out.println(x); } a) 10 **b**) 5 c) 2 d) 20 Explanation: Right shift operator, >>, devides the value by 2. output: \$ javac rightshift operator: \$ java rightshift_operator 10. What will be the output of the following Java program? [a] class Output public static void main (String args []) ł Gudlav int a = 1;int b = 2;int c = 3;a |= 4; b >>= 1;c <<= 1; a ^= c; System out.println(a + b c); } a) 316 b) 2 2 3 c) 2 3 4 d) 3 3 6 output: Ψ javac Output.java \$ \$ java Output 3.1 6 **Relational Operators and Boolean Logic Operators** 1. What is the output of relational operators? [b] b) Boolean c) Characters d) Double a) Integer 2. Which of these is returned by "greater than", "less than" and "equal to" **Operators**? [c] a) Integers b) Floating – point numbers c) Boolean d) None of the mentioned Explanation: All relational operators return a boolean value ie. true and false. 3. Which of the following operators can operate on a boolean variable? [d]

a) 3 & 2 b) 1 & 4 c) 1, 2 & 4 d) 1, 2 & 3 Explanation: Operator Short circuit AND, &&, equal to, ==, ternary if-then-else, ?:, are boolean logical operators. += is an arithmetic operator it can operate only on numeric values. 4. Which of these operators can skip evaluating right hand operand? [d] a) ! b) | c) & d) && Explanation: Operator short circuit and, &&, and short circuit or, \parallel , skip evaluating right hand operand when output can be determined by left operand alone. [d] 5. Which of these statements is correct? a) true and false are numeric values 1 and 0 b) true and false are numeric values 0 and 1 c) true is any non zero value and false is 0 d) true and false are non numeric values Explanation: True and false are keywords, they are non numeric values which do not relate to Lue? Andha Lue? Andha Lue? Andha istict Andha istict Andha istict Andha b) 0 c) true b) 0 c) true b) 0 c) true zero or non zero numbers. true and false are boolean values. advertisement 6. What will be the output of the following Java code? [d] class Relational operator Ł public static void main (String args[]) 3 } a) 1 Explanation: Operator > returns a boolean value. 5 is not greater than 6 therefore false is returned. output: \$ javac Relational operator.java \$ java Relational_operator false 7. What will be the output of the following Java code? [d] bool operator public static void main(String args[]) boolean a = true; boolean b = !true;

boolean a = true; boolean b = !true; boolean c = a | b; boolean d = a & b; boolean e = d ? b : c; System.out.println(d + " " + e); }

a) false false b) true ture c) true false d) false true Explanation: Operator | returns true if any one operand is true, thus 'c = true | false' is true. Operator & returns a true if both of the operand is true thus d is false. Ternary operator ?: assigns left of ':' if condition is true and right hand of ':' if condition is false. d is false thus e = d ? b : c , assigns c to e , e contains true. output:

```
$ javac bool_operator.java
$ java bool_operator
false true
```

8. What will be the output of the following Java code?



[c]

```
public static void main(String args[])
{
    boolean a = true;
    boolean b = false;
    boolean c = a ^ b;
    System.out.println(!c);
}
    - 24 -
```

a) 0 b) 1 c) false d) true output: \$ javac Output.java \$ java Output false **Assignment Operators and Operator Precedence** 1. Which of these have highest precedence? [a] a) () b) ++ c) * d) >>Explanation: Order of precedence is (highest to lowest) $a \rightarrow b \rightarrow c \rightarrow d$. 2. What should be expression evaluate to in using ternary operator as in this line? highigher un expressionl ? expression2 : expression3 [c] a) Integer b) Floating – point numbers c) Boolean d) None of the mentioned Explanation: The controlling condition of ternary operator must evaluate to boolean. 3. What is the value stored in x in the following lines of Java code? [d] Ishna Dist int x, y, z; x = 0;y = 1;x = y = z = 8;d) 8 (c) 9 a) 0 b) 1 4. What is the order of precedence (highest to lowest) of following operators? [a] 1. 5 2. ~ 3 2b) 2 -> 1 -> 3 c) 3 -> 2 -> 1 a) $1 \rightarrow 2 \rightarrow 3$ d) 2 -> 3 -> 1 5. Which of these statements are incorrect? [c] a) Equal to operator has least precedence b) Brackets () have highest precedence c) Division operator, *i*, has higher precedence than multiplication operator d) Addition operator, +, and subtraction operator have equal precedence Explanation: Division operator, /, has equal precedence as of multiplication operator. In expression involving multiplication and division evaluation of expression will begin from the right side when no brackets are used. 6. What will be the output of the following Java code? [c] class operators 1. 2. Ł public static void main(String args[]) 3. 4 int var1 = 5; 5. int var2 = 6;6. 7. int var3; var3 = ++ var2 * var1 / var2 + var2; 8. 9. System.out.print(var3);

10.

11.

}

3

a) 10 b) 11 c) 12 d) 56

Explanation: Operator ++ has the highest precedence than /, * and +. var2 is incremented to 7 and then used in expression, var3 = 7 * 5 / 7 + 7, gives 12. output:

[d]

```
$ javac operators.java
$ java operators
12
```

7. What will be the output of the following Java code?

```
Andhrapradest
 1
         class operators
 2
         ł
 з.
             public static void main(String args[])
 4.
             ł
                  int x = 8;
 5.
                  System.out.println(++x * 3 +
 6.
                                                      + x);
 7.
             3
 8.
        }
a) 24 8
               b) 24 9 c) 27 8
                                     d) 27 9
Explanation: Operator ++ has higher precedence than multiplication operator, *, x is
incremented to 9 than multiplied with 3 giving 27.
                                                Kiishna
output:
$ javac operators.java
$ java operators
279
8. What will be the output of the following Java code?
                                                                   [d]
1.
       class Output
2.
       {
            public static void main(String args[])
3.
4.
5.
               int x=y=z=20;
6.
7.
            }
a) compile and runs fine
                                     b) 20
c) run time error
                                     d) compile time error
9. Which of these lines of Java code will give better performance?
                                                                           [c]
1. a | 4 + c ⇒> b & 7;
  2. (a + (((4 * c) >> b) \& 7))
a) 1 will give better performance as it has no parentheses
b) 2 will give better performance as it has parentheses
c) Both 1 & 2 will give equal performance
d) Dependent on the computer system
Explanation: Parentheses do not degrade the performance of the program. Adding
parentheses to reduce ambiguity does not negatively affect your system.
10. What will be the output of the following Java program?
                                                                   [c]
1.
       class Output
2.
       {
3.
            public static void main(String args[])
4.
```

5. int a,b,c,d;

6. a=b=c=d=207. $a + = b - = c^* = d/=20$ System.out.println(a+" "+b+" "+c+" "+d); 8. 9. 10. } 11. } a) compile time error b) runtime error c) a=20 b=0 c=20 d=1 d) none of the mentioned Explanation: Expression will evaluate from right to left. output: \$ javac Output.java \$ java Output 20020 **Control Statements – 1** 1. Which of these selection statements test only for equality? a) if b) switch c) if & switch d) none of the mentioned Explanation: Switch statements checks for equality between the controlling variable and its constant cases. 2. Which of these are selection statements in Java? [a] **a**) **if**() d) break b) for() c) continue Explanation: Continue and break are jump statements, and for is a looping statement. 3. Which of the following loops will execute the body of loop even when condition controlling the loop is initially false? [a] a) do-while b) while (e) for d) none of the mentioned 4. Which of these jump statements can skip processing the remainder of the code in its body for a particular iteration? [d] a) break b) return c) exit d) continue 5. Which of this statement is incorrect? [b] a) switch statement is more efficient than a set of nested ifs b) two case constants in the same switch can have identical values c) switch statement can only test for equality, whereas if statement can evaluate any type of boolean expression Q_{\cdot} d) it is possible to create a nested switch statements Explanation: No two case constants in the same switch can have identical values. 6. What will be the output of the following Java program? [b] class selection_statements 1. 2. 3. public static void main(String args[]) 5. int var1 = 5; int var2 = 6; 6. 7. if ((var2 = 1) == var1)System.out.print(var2); 8. 9. else 10. System.out.print(++var2); 11. } 12. } a)1 **b**)2 c)3 d)4

Explanation: var2 is initialised to 1. The conditional statement returns false and the else part gets executed. output: \$ javac selection_statements.java \$ java selection statements 2 7. What will be the output of the following Java program? [b] class comma_operator { public static void main(String args[]) AndhraPradest int sum = 0; for (int i = 0, j = 0; i < 5 & j < 5; ++i, j = i + 1) sum += i; System.out.println(sum); } } a) 5 **b**) 6 c) 14 d) compilation error Explanation: Using comma operator, we can include more than one statement in the initialization and iteration portion of the for loop. Therefore both ++i and j = i + 1 is executed i gets the value -0,1,2,3,4 & j gets the values -0,1,2,3,4,5. output: \$ javac comma_operator.java \$ java comma_operator 6 8. What will be the output of the following Java program? [c] class jump statments 1. { public static void main(String args[]) { int x = 2iint y = 0; for 0; y < 10; ++y) if (y % x == 0) continue; else if (y == 8)break; else System.out.print(y + " "); } } } a) 1 3 5 7 c) 1 3 5 7 9 d) 1 2 3 4 5 6 7 8 9 b) 2 4 6 8 Explanation: Whenever y is divisible by x remainder body of loop is skipped by continue statement, therefore if condition y == 8 is never true as when y is 8, remainder body of loop is skipped by continue statements of first if. Control comes to print statement only in cases when y is odd.

output:

```
$ javac jump_statments.java
$ java jump_statments
13579
9. What will be the output of the following Java program?
                                                                    [d]
class Output
       {
            public static void main(String args[])
            {
              final int a=10,b=20;
             while(a<b)
                                                            itict Andrea Pradesh
              {
             System.out.println("Hello");
             System.out.println("World");
            }
       }
                                             c) Hello world a) compile time error
a) Hello
                      b) run time error
Explanation: Every final variable is compile time constant.
10. What will be the output of the following Java program?
                                                                    [d]
 class Output
          {
            public static void main(String args[])
                                  Gudlav
            {
               int a = 5;
               int b = 10;
                               ́лс,
               first:
                {
                 second
                   third:
                      if (a == b >> 1)
                        break second;
         θ
            System.out.println(a);
                 System.out.println(b);
          ļ
a) 5 10 b) 10 5
                      c) 5
                              d) 10
Explanation: b >> 1 in if returns 5 which is equal to a i:e 5, therefore body of if is executed
and block second is exited. Control goes to end of the block second executing the last print
statement, printing 10.
```

output:

\$ javac Output.java
\$ java Output

10

Control Statements – 2

1. What would be the output of the following code snippet if variable a=10? [d] $if(a \le 0)$ if(a==0)System.out.println("1 "); { else System.out.println("2 "); System.out.println("3 "); a) 1 2 b) 2 3 c) 1 3 **d**) 3 Explanation: Since the first if condition is not met, control would not go inside if statement and hence only statement after the entire if block will be executed 2. The while loop repeats a set of code while the condition is not met? [b] a) True **b)** False Explanation: While loop repeats a set of code only until the condition is met. 3. What is true about a break? [b] a) Break stops the execution of entire program b) Break halts the execution and forces the control out of the loop c) Break forces the control out of the loop and starts the execution of next iteration d) Break halts the execution of the loop for certain time frame Explanation: Break halts the execution and forces the control out of the loop. 4. What is true about do statement? [a] a) do statement executes the code of a loop at least once b) do statement does not get execute if condition is not matched in the first iteration c) do statement checks the condition at the beginning of the loop d) do statement executes the code more than once always Explanation: Do statement checks the condition at the end of the loop. Hence, code gets executed at least once. 5. Which of the following is used with the switch statement? [c] b) Exit a) Continue c) break d) do Explanation: Break is used with a switch statement to shift control out of switch. 6. What is the valid data type for variable "a" to print "Hello World"? [d] switch(a) System.out.println("Hello World"); a) int and float b) byte and short c) char and long d) byte and char Explanation: The switch condition would only meet if variable "a" is of type byte or char. 7. Which of the following is not a decision making statement? [d] a) if b) if-else c) switch d) do-while Explanation: do-while is an iteration statement. Others are decision making statements. 8. Which of the following is not a valid jump statement? [b] **b) gotoc**) continue a) break d) return Explanation: break, continue and return transfer control to another part of the program and returns back to caller after execution. However, goto is marked as not used in Java.

9. From where break statement causes an exit? [d] a) Only from innermost loop b) Terminates a program c) Only from innermost switch d) From innermost loops or switches Explanation: The break statement causes an exit from innermost loop or switch. 10. Which of the following is not a valid flow control statement? [a] a) exit() b) break c) continue d) return Explanation: exit() is not a flow control statement in Java. exit() terminates the currently running JVM. **Concepts of OOPs** [d] 5 1. Which of the following is not OOPS concept in Java? d) Compilation a) Inheritance b) Encapsulation c) Polymorphism Explanation: There are 4 OOPS concepts in Java. Inheritance, Encapsulation, Polymorphism and Abstraction. 2. Which of the following is a type of polymorphism in Java? [a] a) Compile time polymorphism b) Execution time polymorphism d) Multilevel polymorphism c) Multiple polymorphism Explanation: There are two types of polymorphism in Java, Compile time polymorphism (overloading) and runtime polymorphism (overriding). 3. When does method overloading is determined? [b] a) At run time **b**) At compile time c) At coding time d) At execution time Explanation: Overloading is determined at compile time. Hence, it is also known as compile time polymorphism. 4. When Overloading does not occur? [d] a) More than one method with same name but different method signature and different number or type of parameters b) More than one method with same name, same signature but different number of signature c) More than one method with same name, same signature, same number of parameters but different type d) More than one method with same name, same number of parameters and type but different signature Explanation: Overloading occurs when more than one method with same name but different constructor and also when same signature but different number of parameters and/or parameter type. advertisement 5. Which concept of Java is a way of converting real world objects in terms of class?[c] a) Polymorphism b) Encapsulation c) Abstraction d) Inheritance Explanation: Abstraction is the concept of defining real world objects in terms of classes or interfaces. 6. Which concept of Java is achieved by combining methods and attribute into a class? [a] a) Encapsulation b) Inheritance c) Polymorphism d) Abstraction Explanation: Encapsulation is implemented by combining methods and attribute into a class. The class acts like a container of encapsulating properties. 7. What is it called if an object has its own lifecycle and there is no owner? [d] a) Aggregation b) Composition c) Encapsulation d) Association Explanation: It is a relationship where all objects have their own lifecycle and there is no

owner. This occurs where many to many relationships are available, instead of one to one or one to many.

8. What is it called where child object gets killed if parent object is killed? [b]

a) Aggregation **b) Composition** c) Encapsulation d) Association Explanation: Composition occurs when child object gets killed if parent object gets killed. Aggregation is also known as strong Aggregation.

9. What is it called where object has its own lifecycle and child object cannot belong to another parent object? [a]

a) Aggregation b) Composition c) Encapsulation d) Association Explanation: Aggregation occurs when objects have their own life cycle and child object can associate with only one parent object.

10. Method overriding is combination of inheritance and polymorphism? [a]

Explanation: In order for method overriding, method with same signature in both superclass and subclass is required with same signature. That satisfies both concepts inheritance and polymorphism.

JDK-JRE-JIT-JVM

1. Which component is used to compile, debug and execute java program?[b]a) JVMb) JDKc) JITd) JRE

Explanation: JDK is a core component of Java Environment and provides all the tools, executables and binaries required to compile, debug and execute a Java Program.

2. Which component is responsible for converting bytecode into machine specific code? [a]

a) JVM b) JDK c) JIT d) JRE Explanation: JVM is responsible to converting bytecode to the machine specific code. JVM is also platform dependent and provides core java functions like garbage collection, memory management, security etc.

3. Which component is responsible to run java program? [d]

a) JVM b) JDK c) JIT d) JRE

Explanation: JRE is the implementation of JVM, it provides platform to execute java programs.

4. Which component is responsible to optimize bytecode to machine code? [c] a) JVM b) JDK c) JIT d) JRE

Explanation: JIT optimizes bytecode to machine specific language code by compiling similar bytecodes at the same time. This reduces overall time taken for compilation of bytecode to machine specific language.

5. Which statement is true about java?

[a]

a) Platform independent programming language

b) Platform dependent programming language

c) Code dependent programming language

d) Sequence dependent programming language

Explanation: Java is called 'Platform Independent Language' as it primarily works on the principle of 'compile once, run everywhere'.

6. Which of the below is invalid identifier with the main method? [c]

a) public b) static c) private d) final

Explanation: main method cannot be private as it is invoked by external method. Other identifier are valid with main method.

7. What is the extension of java code files?	[b]			
a) .class b) .java c) .txt d) .	S			
Explanation: Java files have .java extension.				
8. What is the extension of compiled java classes	s? [a]			
a).class b).java c).txt d).	s			
Explanation: The compiled java files have .class	Explanation: The compiled java files have .class extension.			
9. How can we identify whether a compilation up	nit is class or interface from a .class			
file?	[a]			
a) Java source file header b) H	Extension of compilation unit			
c) We cannot differentiate between class and inte	erface			
d) The class or interface name should be postfixed with unit type				
Explanation: The Java source file contains a head	ler that declares the type of class or			
interface, its visibility with respect to other class	es, its name and any superclass it may			
extend, or interface it implements.				
10. What is use of interpreter?	ж ¹⁰ [b]			
a) They convert bytecode to machine language c	ode Kr			
b) They read high level code and execute them				
c) They are intermediated between JIT and JVM	ALL CONTRACTOR OF CONTRACTOR O			
d) It is a synonym for JIT	O'IS'			
Explanation: Interpreters read high level language (interprets it) and execute the program.				
Interpreters are normally not passing through byte-code and jit compilation.				
Class Fundamentals & Declaring objects				
1. What is the stored in the object obj in following	g lines of Java code? [b]			
box obj;				
a) Memory address of allocated memory of object	et b) NULL			
a) Memory address of allocated memory of objectc) Any arbitrary pointer	ct b) NULL d) Garbage			
a) Memory address of allocated memory of objectc) Any arbitrary pointerExplanation: Memory is allocated to an object us	b) NULL d) Garbage sing new operator. box obj; just declares a			
 a) Memory address of allocated memory of object c) Any arbitrary pointer Explanation: Memory is allocated to an object us reference to object, no memory is allocated to it 	b) NULL d) Garbage sing new operator. box obj; just declares a hence it points to NULL.			
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 a) Memory address of allocated memory of object. Any arbitrary pointer Explanation: Memory is allocated to an object us reference to object, no memory is allocated to it if 2. Which of these keywords is used to make a clate a) class b) struct c) int d) r 3. Which of the following is a valid declaration of a) Box obj = new Box(); b) H c) obj = new Box(); b) H c) obj = new Box(); d) r 4. Which of these operators is used to allocate main a) malloc b) alloc c) new Explanation: Operator new dynamically allocate reference to it. This reference is address in memory 5. Which of these statement is incorrect? a) Every class must contain a main() method b) Applets do not require a main() method in a prood) main() method must be made public Explanation: Every class does not need to have a main() method which is made public. 6. What will be the output of the following Java 1. class main_class 	b) NULL d) Garbage sing new operator. box obj; just declares a hence it points to NULL. ass? ass? [a] one of the mentioned of an object of class Box? [a] Box obj = new Box; eew Box obj; emory for an object? [c] d) give s memory for an object and returns a by new. [a] gram Imain() method, there can be only one program? [c]			

3. public static void main(String args[])

4. { 5. int x = 9; 6. if (x == 9)7. { 8. int x = 8; 9. System.out.println(x); 10. } 11. } 12. } a) 9 c) Compilation error d) Runtime error b) 8 Explanation: Two variables with the same name can't be created in a class. output: \$ javac main_class.java Exception in thread "main" java.lang.Error: Unresolved compilation problem: Duplicate local variable x 7. Which of the following statements is correct? [a] a) Public method is accessible to all other classes in the hierarchy b) Public method is accessible only to subclasses of its parent class c) Public method can only be called by object of its class d) Public method can be accessed by calling object of the public class 8. What will be the output of the following Java program? [b] class box 1. havalleru. 2. { 3. int width; 4. int height; 5. int length; 6. } 7. class mainclass 8. { 9. public static void main(String args[]) 10. ł 11. box obj = new box();12. obj.width = 10;13. obj.height = 2;14. obj.length = 10;159 int y = obj.width * obj.height * obj.length; 16. System.out.print(y); 17. } 18. } a) 12 **b) 200** c) 400 d) 100 output: \$ javac mainclass.java \$ java mainclass 200 9. What will be the output of the following Java program? [a] class box 1. 2. {

```
3.
                    int width;
       4.
                    int height;
       5.
                    int length;
       6.
                 }
       7.
                 class mainclass
       8.
                 {
       9.
                    public static void main(String args[])
       10.
       11.
                      box obj1 = new box();
       12.
                      box obj2 = new box();
                                                           Istrict Andrea Pradesh
       13.
                      obj1.height = 1;
       14.
                      obj1.length = 2;
       15.
                      obj1.width = 1;
                      obj2 = obj1;
       16.
       17.
                      System.out.println(obj2.height);
       18.
                    }
       19.
                 }
a) 1
       b) 2
               c) Runtime error
                                      d) Garbage value
Explanation: When we assign an object to another object of same type, all the elements of
right side object gets copied to object on left side of equal to, =, operator.
output:
1.
          $ javac mainclass.java
$ java mainclass
1
10. What will be the output of the following Java program?
                                                                            [a]
class box
                      Polytechnic,
  {
     int width:
     int height;
     int length;
  }
  class mainclass<sup>C</sup>
  {
     public static void main(String args[])
          Ŷ
       box obj = new box();
       System.out.println(obj);
a) 0
       b) 1
               c) Runtime error d) classname@hashcode in hexadecimal form
Explanation: When we print object internally toString() will be called to return string into
this format classname@hashcode in hexadecimal form.
output:
$ javac mainclass.java
$ java mainclass
box@130671e
Introduction To Methods
```

1. What is the return type of a method that does not return any value? [c]				
a) int b) float c) void d) double				
Explanation: Return type of a method must be made void if it is not returning any value.				
2. What is the process of defining more than one method in a class differentiated by method				
signature? [b]				
a) Function overriding b) Function overloading				
c) Function doubling d) None of the mentioned				
Explanation: Function overloading is a process of defining more than one method in a class				
with same name differentiated by function signature i e return type or parameters type and				
number Example – int volume(int length int width) & int volume(int length int width int				
height) can be used to calculate volume				
3 Which of the following is a method having same name as that of it's class?				
a) finalize b) delete c) class d) constructor				
Explanation: A constructor is a method that initializes an object immediately upon creation				
It has the same name as that of class in which it resides				
A Which method can be defined only once in a program?				
a) main method b) finalize method c) static method d) private method				
Explanation: main() method can be defined only once in a program Program execution				
begins from the main() method by java runtime system				
5 Which of this statement is incorrect?				
a) All object of a class are allotted memory for the allotte variables defined in the class				
b) If a function is defined public it can be accessed by object of other class by inheritation				
c) main() method must be made public				
d) All object of a class are allotted memory for the methods defined in the class				
Explanation. All object of class share a single copy of methods defined in a class. Methods				
are allotted memory only once. All the objects of the class have access to methods of that				
class are allotted memory only for the variables not for the methods				
6 What will be the output of the following Java program?				
class box				
int width:				
int height:				
int length:				
int volume:				
void volume(int height, int length, int width)				
{ ``				
Volume = width*height*length;				
4. 2. 2. 1				
class Prameterized method				
{				
public static void main(String args[])				
{				
box $obj = new box();$				
obj.height = 1;				
obj.length = 5;				
obj.width = 5;				
obj.volume(3,2,1);				
System.out.println(obj.volume);				
• • • • • • • • • • • • • • • • • • • •				
```
}
a) 0
                b) 1
                                 c) 6
                                                 d) 25
output:
$ Prameterized_method.java
$ Prameterized_method
6
7. What will be the output of the following Java program?
                                                                          Answer: b
class equality
      ...ain(String args[])

...ry obj = new equality();

.bj.x = 5;

obj.y = 5;

System.out.println(obj.isequal());

b) true c),QC,

tiput.java

but
  {
     int x;
     int y;
     boolean isequal()
     {
     }
  }
  class Output
  {
     public static void main(String args[])
     {
     }
  }
a) false
output:
$ javac Output.java
$ java Output
True
8. What will be the output of the following Java program?
                                                                                                   [c]
 class box
  {
     int width;
     int height;
     int length;
     int volume;
     void volume()
     ł
         volume = width*height*length;
     }
  }
  class Output
  {
     public static void main(String args[])
        box obj = new box();
```

```
obj.height = 1;
       obj.length = 5;
       obj.width = 5;
       obj.volume();
       System.out.println(obj.volume);
     }
  }
a) 0
               b) 1
                               c) 25
                                              d) 26
output:
                                   ate? pradesh
Andma Pradesh
Andma Pradesh
Gudavallenu, Kristma District, Andma Pradesh
$ javac Output.java
$ java Output
25
9. In the following Java code, which call to sum() method is appropriate?
                                                                                      [d]
class Output
{
     public static int sum(int ...x)
     {
        return;
     }
     static void main(String args[])
     {
        sum(10);
        sum(10,20);
        sum(10,20,30);
        sum(10,20,30,40);
     }
}
a) only sum(10)
                       b) only sum(10,20)
                                              c) only sum(10) & sum(10,20)
d) all of the mentioned
Explanation: sum is a variable argument method and hence it can take any number as an
argument.
10. What will be the output of the following Java program?
                                                                      [d]
  class area
  {
     int width;
     int length;
    int volume;
     area()
       width=5;
       length=6;
     }
     void volume()
        volume = width*length*height;
     }
  }
  class cons_method
```

```
{
     public static void main(String args[])
       area obj = new area();
       obj.volume();
       System.out.println(obj.volume);
     }
  }
a) 0
       b) 1
                      c) 30
                                     d) error
                                                                 Andhra Pradesh
Explanation: Variable height is not defined.
output:
$ javac cons_method.java
$ java cons_method
error: cannot find symbol height
Constructors & Garbage Collection
1. What is the return type of Constructors?
                                                    [d]
                                     d) none of the mentioned
a) int b) float
                      c) void
Explanation: Constructors does not have any return type, not even void.
2. Which keyword is used by the method to refer to the object that invoked it?
                                                                                  [d]
               b) catch
                                             d) this
a) import
                             c) abstract
Explanation: this keyword can be used inside any method to refer to the current object, this is
always a reference to the object on which the method was invoked.
3. Which of the following is a method having same name as that of its class?
                                                                                  [d]
a) finalize
               b) delete
                             c) class
                                             d) constructor
Explanation: A constructor is a method that initializes an object immediately upon creation.
It has the same name as that of class in which it resides.
4. Which operator is used by Java run time implementations to free the memory of an object
when it is no longer needed?
                                                                                  [d]
               b) free 0^{\circ}
                             c) new
a) delete
                                            d) none of the mentioned
Explanation: Java handles deallocation of memory automatically, we do not need to
explicitly delete an element. Garbage collection only occurs during execution of the program.
When no references to the object exist, that object is assumed to be no longer needed, and the
memory occupied by the object can be reclaimed.
5. Which function is used to perform some action when the object is to be destroyed? [a]
a) finalize()
              b) delete()
                             c) main()
                                            d) none of the mentioned
6. What will be the output of the following Java code?
                                                                   [b]
class box
  {
     int width;
```

int width, int height; int length; int volume; box()

```
{
        width = 5;
        height = 5;
        length = 6;
     }
     void volume()
     ł
         volume = width*height*length;
                                             30 a district, Andhra Pradesh
Alleru, Kristna District, Andhra Pradesh
Alleru, Kristna District, Andhra Pradesh
  class constructor_output
   ł
     public static void main(String args[])
        box obj = new box();
        obj.volume();
        System.out.println(obj.volume);
     }
  }
a) 100
                b) 150
                                c) 200
output:
   $ constructor_output.java
$ constructor_output
150
7. What will be the output of the following Java code?
                                                                                 [a]
                                     Gud
class San
                        Polytechnic,
{
   San()throws IOException
   {
   }
}
class Foundry extends San
ł
   Foundry()
   public static void main(String[]args)
   ł
   }
}
a) compile time error
                                b) run time error
                                                        c) compile and runs fine
d) unreported exception java.io.IOException in default constructor
Explanation: If parent class constructor throws any checked exception, compulsory child
class constructor should throw the same checked exception as its parent, otherwise code
```

won't compile.

```
8. What will be the output of the following Java code?
                                                                        [a]
 class box
  {
    int width:
    int height;
    int length;
    int volume;
    void finalize()
     {
                             R.
       volume = width*height*length;
       System.out.println(volume);
     }
    protected void volume()
       volume = width*height*length;
       System.out.println(volume);
    }
  }
  class Output
    public static void main(String args[])
       box obj = new box();
       obj.width=5;
       obj.height=5;
       obj.length=6;
       obj.volume();
     }
  }
a) 150
              b) 200
                             c) Run time error
                                                  d) Compilation error
output:
$ javac Output.java 🔿
$ java Output
150
9. Which of the following statements are incorrect?
                                                                                [c]
a) default constructor is called at the time of object declaration
b) constructor can be parameterized
c) finalize() method is called when a object goes out of scope and is no longer needed
d) finalize() method must be declared protected
Explanation: finalize() method is called just prior to garbage collection. it is not called when
object goes out of scope.
10. What will be the output of the following Java code?
                                                                        [c]
class area
  {
    int width;
    int length;
    int area;
    void area(int width, int length)
```

```
{
       this.width = width;
       this.length = length;
     ł
  class Output
     public static void main(String args[])
                                                                 AndhraPradesh
       area obj = new area();
       obj.area(5, 6);
       System.out.println(obj.length + " " + obj.width);
     }
  }
a) 0 0
               b) 5 6
                              c) 6 5
                                             d) 5 5
Explanation: this keyword can be used inside any method to refer to the current object. this is
always a reference to the object on which the method was invoked.
                                             Ju, Kishna Di
output:
$ javac Output.java
$ java Output
65
Constructor
1. What is true about private constructor?
                                                                    [a]
a) Private constructor ensures only one instance of a class exist at any point of time
b) Private constructor ensures multiple instances of a class exist at any point of time
c) Private constructor eases the instantiation of a class
d) Private constructor allows creating objects in other classes
Explanation: Object of private constructor can only be created within class. Private
constructor is used in singleton pattern.
2. What would be the behaviour if this() and super() used in a method?
                                                                                   [c]
                   (b) Throws exception c) compile time error d) Runs successfully
a) Runtime error
Explanation: this() and super() cannot be used in a method. This throws compile time error.
3. What is false about constructor?
                                                                           [c]
a) Constructors cannot be synchronized in Java
b) Java does not provide default copy constructor
c) Constructor can have a return type
d) "this" and "super" can be used in a constructor
4. What is true about Class.getInstance()?
                                                                   [d]
a) Class.getInstance calls the constructor
b) Class.getInstance is same as new operator
c) Class.getInstance needs to have matching constructor
d) Class.getInstance creates object if class does not have any constructor
Explanation: Class class provides list of methods for use like getInstance().
5. What is true about constructor?
                                                                    [b]
a) It can contain return type
                                             b) It can take any number of parameters
c) It can have any non access modifiers
                                             d) Constructor cannot throw an exception
```

Explanation: Constructor returns a new object with variables defined as in the class. Instance variables are newly created and only one copy of static variables are created.

6. Abstract class cannot have a constructor. [b]

a) True **b) False**

Explanation: No instance can be created of abstract class. Only pointer can hold instance of object.

[b]

7. What is true about protected constructor?

a) Protected constructor can be called directly

b) Protected constructor can only be called using super()

c) Protected constructor can be used outside package

d) protected constructor can be instantiated even if child is in a different package

Explanation: Protected access modifier means that constructor can be accessed by child classes of the parent class and classes in the same package.

8. What is not the use of "this" keyword in Java?

a) Passing itself to another method

b) Calling another constructor in constructor chaining

c) Referring to the instance variable when local variable has the same name

d) Passing itself to method of the same class

Explanation: "this" is an important keyword in java. It helps to distinguish between local variable and variables passed in the method as parameters.

9. What would be the behaviour if one parameterized constructor is explicitly defined? [d]

a) Compilation error b) Compilation succeeds c) Runtime error

d) Compilation succeeds but at the time of creating object using default constructor, it throws compilation error

Explanation: The class compiles successfully. But the object creation of that class gives a compilation error.

10. What would be behaviour if the constructor has a return type? [a]

a) Compilation errorb) Runtime errorc) Compilation and runs successfullyd) Only String return type is allowed

Explanation: The constructor cannot have a return type. It should create and return new object. Hence it would give compilation error.

Heap and Garbage Collection

1. Which of the following has the highest memory requirement? [c]

a) Heap (b) Stack (c) JVM (d) Class

Explanation: JVM is the super set which contains heap, stack, objects, pointers, etc.

2. Where is a new object allocated memory?

a) Young space b) Old space c) Young or Old space depending on space availability d) JVM

Explanation: A new object is always created in young space. Once young space is full, a special young collection is run where objects which have lived long enough are moved to old space and memory is freed up in young space for new objects.

3. Which of the following is a garbage collection technique?

[b]

[a]

a) Cleanup modelb) Mark and sweep modelc) Space management modeld) Sweep model

Explanation: A mark and sweep garbage collection consists of two phases, the mark phase and the sweep phase. I mark phase all the objects reachable by java threads, native handles and other root sources are marked alive and others are garbage. In sweep phase, the heap is traversed to find gaps between live objects and the gaps are marked free list used for allocating memory to new objects.

4. What is -Xms and -Xmx while starting jvm? [a]			
a) Initial; Maximum memory	b) Maximum; Initial memory		
c) Maximum memory	d) Initial memory		
Explanation: JVM will be started with Xms amount of memory and will be able to use a			
maximum of Xmx amount of memory. java -Xmx2048m -Xms256m.			
5. Which exception is thrown when java is	s out of memory?	[c]	
a) MemoryFullException	b) MemoryOutOfBoundsException		
c) OutOfMemoryError	d) MemoryError		
Explanation: The Xms flag has no default value, and Xmx typically has a default value of			
256MB. A common use for these flags is when you encounter a			
java.lang.OutOfMemoryError.	-	~	
6. How to get prints of shared object memory maps or heap memory maps for a given			
process?		[a]	
a) jmap b) memorymap	c) memorypath d) jvmmap		
Explanation: We can use jmap as jmap -J-	d64 -heap pid.		
7. What happens to the thread when garba	ge collection kicks off?	[c]	
a) The thread continues its operation			
b) Garbage collection cannot happen until the thread is running			
c) The thread is paused while garbage collection runs			
d) The thread and garbage collection do not interfere with each other			
Explanation: The thread is paused when garbage collection runs which slows the application			
performance.	Kus		
8. Which of the below is not a Java Profile	er?	[a]	
a) JVM b) JConsole c) JF	Profiler d) Eclipse Profiler		
Explanation: Memory leak is like holding a strong reference to an object although it would			
never be needed anymore. Objects that are reachable but not live are considered memory			
leaks. Various tools help us to identify me	emory leaks.		
9. Which of the below is not a memory lea	ak solution?	[c]	
a) Code changes b) JVM parameter tuning c) Process restart d) GC parameter tuning			
Explanation: Process restart is not a permanent fix to memory leak problem. The problem			
will resurge again.			
10. Garbage Collection can be controlled by a program? [b]			
a) Irue () b) False			
Explanation: Garbage Collection cannot be controlled by a program			
Overloading Methods & Argument Passing			
1. What is the process of defining two or more methods within same class that have same			
name but different parameters declaration? [a]			
a) method overloading b) method o	overriding c) method hiding		
a) none of the mentioned		10.00	
Explanation: I wo or more methods can have same name as long as their parameters			
overloading. Method overloading is a way by which lave implements polymorphism			
2. Which of these can be overloaded?			
2. which of these can be overloaded?	Il of the mentioned () None of th	[C]	
2. Which of these is connect shout messing on anyment by call by value message? [a]			
a) Conv of argument is made into the formal parameter of the subroutine			
a) Copy of argument is made into the formal parameter of the subroutine b) Reference to original argument is passed to formal parameter of the subroutine			
c) Conv of argument is made into the formal parameter of the subroutine and changes made			
on parameters of subrouting have affect on original argument			
on parameters of subroutine have effect on original argument			

d) Reference to original argument is passed to formal parameter of the subroutine and changes made on parameters of subroutine have effect on original argument

Explanation: When we pass an argument by call-by-value a copy of argument is made into the formal parameter of the subroutine and changes made on parameters of subroutine have no effect on original argument, they remain the same.

```
4. What is the process of defining a method in terms of itself, that is a method that calls
itself?
                                                                                       [d]
a) Polymorphism
                       b) Abstraction
                                               c) Encapsulation
                                                                       d) Recursion
5. What will be the output of the following Java code?
                                                                                       [c]
                                   Gudlavalleru, Krishna District, Andhra Pradesh
Gudlavalleru, Krishna District, Andhra Pradesh
ethr
class San
{
public void m1 (int i,float f)
 System.out.println(" int float method");
ł
public void m1(float f,int i);
 System.out.println("float int method");
 public static void main(String[]args)
 {
  San s=new San();
     s.m1(20,20);
 )
}
                       b) float int method
                                               c) compile time error
a) int float method
                                                                               d) run time error
Explanation: While resolving overloaded method, compiler automatically promotes if exact
match is not found. But in this case, which one to promote is an ambiguity.
6. What will be the output of the following Java code?
                                                                                       [c]
Class overload
{
     int x;
       int y:
     void add(int a)
       x = a + 1;
     void add(int a, int b)
       x = a + 2;
  }
  class Overload methods
     public static void main(String args[])
       overload obj = new overload();
```

```
int a = 0;
                           obj.add(6);
                           System.out.println(obj.x);
                    }
        }
a) 5
                                                        b) 6
                                                                                                                 c) 7
                                                                                                                                                                         d) 8000 d) 800
       $ javac Overload_methods.java
$ java Overload_methods
7
                                                                                                                                             Mavalleru, Krishna District, Andhra Pradesh
                                                                                                                                                                                                                                                                                           [c]
7. What will be the output of the following Java code?
class overload
         class overload
          {
                  int x;
                           int y;
                  void add(int a)
                           x = a + 1;
                    }
                  void add(int a , int b)
                    ł
                           x = a + 2;
          }
         class Overload_methods
          {
                  public static void main(String args[])
                    {
                           overload obj = new overload();
                           int a = 0;
                           obj.add(6, 7);
                            System.out.println(obj.x);
                    }
          }
                                                                                     d) 9
a) 6
                            b) 7 ( c) 8
output:
                                    Ψ
       $ javac Overload_methods.java
$ java Overload_methods
8
8. What will be the output of the following Java code?
                                                                                                                                                                                                                                                                                            [d]
       class overload
       {
                  int x;
                           double y;
                  void add(int a , int b)
                    {
                           \mathbf{x} = \mathbf{a} + \mathbf{b};
                    }
                  void add(double c, double d)
```

```
{
       y = c + d;
     overload()
     {
       this.x = 0;
       this.y = 0;
     }
  }
  class Overload_methods
                                             d) 4 6.4 ma District Andhra Pradesh
in line nur
ne nur
  {
     public static void main(String args[])
     ł
       overload obj = new overload();
       int a = 2;
       double b = 3.2;
       obj.add(a, a);
       obj.add(b, b);
       System.out.println(obj.x + " " + obj.y);
     } }
a) 6 6
               b) 6.4 6.4
                               c) 6.4 6
Explanation: For obj.add(a,a); ,the function in line number 4 gets executed and value of x is
4. For the next function call, the function in line number 7 gets executed and value of y is 6.4
output:
                                     Gudlay
$ javac Overload methods.java
$ java Overload_methods
4 6.4
9. What will be the output of the following Java code?
                                                                       [a]
  class test
  {
     int a;
     int b;
     void meth(int j), int j)
       i *= 2:
         /$2;
  class Output
     public static void main(String args[])
     {
       test obj = new test();
          int a = 10;
       int b = 20;
       obj.meth(a, b);
       System.out.println(a + " " + b);
     }
  }
```

```
a) 10 20
               b) 20 10
                              c) 20 40
                                             d) 40 20
Explanation: Variables a & b are passed by value, copy of their values are made on formal
parameters of function meth() that is i & j. Therefore changes done on i & j are not reflected
back on original arguments. a & b remain 10 & 20 respectively.
output:
$ javac Output.java
$ java Output
10 20
10. What will be the output of the following Java code?
                                                                            [b]
                                     udiavalleru, Krishna District, Andhra Pradesh
class test
  {
     int a;
     int b:
     test(int i, int j)
     ł
       a = i;
       \mathbf{b} = \mathbf{i};
     }
     void meth(test o)
     {
       o.a *= 2;
       O.b /= 2;
     }
  }
  class Output
  {
     public static void main(String args[])
       test obj = new test(10, 20);
       obj.meth(obj);
       System.out.println(obj.a + " " + obj.b);
     }
  }
a) 10 20
               b) 20 10
                              c) 20 40
                                             d) 40 20
Explanation: Class objects are always passed by reference, therefore changes done are
reflected back on original arguments. obj.meth(obj) sends object obj as parameter whose
variables a & b are multiplied and divided by 2 respectively by meth() function of class test.
a & b becomes 20 & 10 respectively.
output:
 $ javac Output.java
$ java Output
20 10
Access Control – 1
1. Which of these access specifiers must be used for main() method?
                                                                                    [b]
               b) public
                              c) protected
                                             d) none of the mentioned
a) private
Explanation: main() method must be specified public as it called by Java run time system,
outside of the program. If no access specifier is used then by default member is public within
its own package & cannot be accessed by Java run time system.
2. Which of these is used to access a member of class before object of that class is created?
```

a) public b) private d) protected 3. Which of these is used as a default for a member of a class if no access specifier is used for it? [a] a) private b) public c) public, within its own package d) protected Explanation: When we pass an argument by call-by-value a copy of argument is made into the formal parameter of the subroutine and changes made on parameters of subroutine have no effect on original argument, they remain the same. 4. What is the process by which we can control what parts of a program can access the members of a class? [c] a) Polymorphism b) Abstraction c) Encapsulation d) Recursion 5. Which of the following statements are incorrect? [c] a) public members of class can be accessed by any code in the program b) private members of class can only be accessed by other members of the class c) private members of class can be inherited by a subclass, and become protected members in subclass d) protected members of a class can be inherited by a subclass, and become private members of the subclass Explanation: private members of a class can not be inherited by a subclass. Explanation: private members of a class can not be inherit 6. What will be the output of the following Java code? class access { public int x; private int y; void cal(int a, int b) { x = a + 1; y = b; } [c] } public class access_specifier public static void main(String args[]) access obj = new access(); obj.eal(2, 3);System.out.println(obj.x + " " + obj.y); a) 3 3 c) Runtime Error b) 2 3 d) Compilation Error output: \$ javac access_specifier.java Exception in thread "main" java.lang.Error: Unresolved compilation problem: The field access.y is not visible 7. What will be the output of the following Java code? [b] class access { public int x; private int y;

c) static

[c]

```
void cal(int a, int b)
     {
        x = a + 1;
        y = b;
     }
     void print()
     {
        System.out.println(" " + y);
     }
                                                           District Andhra Pradesh
  public class access_specifier
     public static void main(String args[])
     {
        access obj = new access();
        obj.cal(2, 3);
        System.out.println(obj.x);
        obj.print();
     }
                                                     Compilation Erroroutput:
  }
a) 2 3
                b) 3 3
                                c) Runtime Error
$ javac access_specifier.java

3 3
8. What will be the output of the following Java code? class static out

                            stechnic, cudi
                                                                        [c]
class static_out
   {
     static int x;
        static int y;
     void add(int a, int b)
        x = a + b;
        y = x + b:
     }
   }
   public class static_use
     public static void main(String args[])
        static_out obj1 = new static_out();
        static_out obj2 = new static_out();
        int a = 2;
        obj1.add(a, a + 1);
        obj2.add(5, a);
        System.out.println(obj1.x + " " + obj2.y);
     }
  }
                               c) 7 9
a) 7 7.4
                b) 6 6.4
                                                d) 97
output:
```

\$ javac static_use.java \$ java static use 79 9. Which of these access specifier must be used for class so that it can be inherited by another subclass? [a] a) public b) private d) none of the mentioned c) protected Access Control – 2 1. Which one of the following is not an access modifier? [d] c) Protected a) Public b) Private d) Void Explanation: Public, private, protected and default are the access modifiers. [a] 2. All the variables of class should be ideally declared as? b) public c) protected d) default a) private Explanation: The variables should be private and should be accessed with get and set methods. 3. Which of the following modifier means a particular variable cannot be accessed within the package? [a] a) private b) public c) protected d) default Explanation: Private variables are accessible only within the class. 4. How can a protected modifier be accessed? [c] a) accessible only within the class b) accessible only within package c) accessible within package and outside the package but through inheritance only d) accessible by all Explanation: The protected access modifier is accessible within package and outside the package but only through inheritance. The protected access modifier can be used with data member, method and constructor. It cannot be applied in the class. 5. What happens if constructor of class A is made private? [b] a) Any class can instantiate objects of class A b) Objects of class A can be instantiated only within the class where it is declared c) Inherited class can instantiate objects of class A d) classes within the same package as class A can instantiate objects of class A Explanation: If we make any class constructor private, we cannot create the instance of that class from outside the class. 6. All the variables of interface should be? [c] b) default and static c) public, static and final a) default and final Explanation: Variables of an interface are public, static and final by default because the interfaces cannot be instantiated, final ensures the value assigned cannot be changed with the implementing class and public for it to be accessible by all the implementing classes. 7. What is true of final class? [d] a) Final class cause compilation failure b) Final class cannot be instantiated c) Final class cause runtime failure d) Final class cannot be inherited Explanation: Final class cannot be inherited. This helps when we do not want classes to provide extension to these classes 8. How many copies of static and class variables are created when 10 objects are created of a class? [a] a) 1, 10 b) 10, 10 c) 10, 1 d) 1, 1 Explanation: Only one copy of static variables are created when a class is loaded. Each object instantiated has its own copy of instance variables.

9. Can a class be declared with a protected modifier.	[b]		
a) True b) False			
Explanation: Protected class member (method or variable) is like page	ckage-private (default		
visibility), except that it also can be accessed from subclasses. Since	there is no such concept		
as 'subpackage' or 'package-inheritance' in Java, declaring class pro	otected or package-		
private would be the same thing.			
10. Which is the modifier when there is none mentioned explicitly?	[d]		
a) protected b) private c) public d) default			
Explanation: Default is the access modifier when none is defined explanation	plicitly. It means the		
member (method or variable) can be accessed within the same package.			
Arrays Revisited & Keyword static			
1 Arrays in Java are implemented as?	[b]		
a) class b) object c) variable d) none of the mentioned			
2 Which of these keywords is used to prevent content of a variable t	from being modified?		
2. Which of these keywords is used to prevent content of a variable r	al		
a) final b) last c) constant d) static			
Explanation: A variable can be declared final doing so prevents its of	content from being		
modified Final variables must be initialized when it is declared	content from being		
2. Which of these connet he declared static?			
s. which of these cannot be declared static?			
a) class b) object c) variable d) method	• 1 1 1 • 7		
Explanation: static statements are run as soon as class containing the	en is loaded, prior to any		
object declaration.	F 13		
4. Which of the following statements are incorrect?	[d]		
a) static methods can call other static methods only			
b) static methods must only access static data			
c) static methods can not refer to this or super in any way			
d) when object of class is declared, each object contains its own of	copy of static variables		
Explanation: All objects of class share same static variable, when object of a class are			
declared, all the objects share same copy of static members, no copy	of static variables are		
made.			
5. Which of the following statements are incorrect?	[a]		
a) Variables declared as final occupy memory			
b) final variable must be initialized at the time of declaration			
c) Arrays in java are implemented as an object			
d) All arrays contain an attribute-length which contains the number of	of elements stored in the		
array &			
N.			
N.			
6. Which of these methods must be made static?	al		
a) main() b) delete() c) run() d) finalize()			
Explanation: main() method must be declared static, main() method	is called by Java runtime		
system before any object of any class exists.			
7 What will be the output of the following Javaa	[d]		
class access	~]		
{			
public int x:			
static int v.			
void cal(int a int b)			
l			

```
x += a;
       y \neq b;
     }
  }
  class static_specifier
  {
     public static void main(String args[])
       access obj1 = new access();
                                                 Wishna District, Andhra Pradesh
       access obj2 = new access();
       obj1.x = 0;
       obj1.y = 0;
       obj1.cal(1, 2);
       obj2.x = 0;
       obj2.cal(2, 3);
       System.out.println(obj1.x + " " + obj2.y);
     }
  }
                               c) 3 2
                                              d) 15
a) 1 2
               b) 2 3
output:
  $ javac static_specifier.java
$ java static_specifier
8. What will be the output of the following Java program?
                      .ng
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Polytechnic, Gudlave
                                                                             [c]
  class access
  {
    static int x;
    void increment()
     {
       x++;
     }
   }
  class static_use
  {
     public static void main(String args[])
          Ψ
       access obj1 = new access();
        access obj2 = new access();
        obj1.x = 0;
       obj1.increment();
       obj2.increment();
       System.out.println(obj1.x + " " + obj2.x);
     }
  }
                               c) 2 2
a) 1 2
               b) 1 1
                                              d) Compilation Error
Explanation: All objects of class share same static variable, all the objects share same copy of
static members, obj1.x and obj2.x refer to same element of class which has been incremented
twice and its value is 2.
output:
```

```
$ javac static_use.java
$ java static_use
22
                                                                                         [c]
9. What will be the output of the following Java program?
class static out
  {
     static int x;
        static int y;
     void add(int a , int b)
                                                   Wishna District, Andhra Pradesh
     {
       \mathbf{x} = \mathbf{a} + \mathbf{b};
       y = x + b;
     }
  }
  class static_use
  {
     public static void main(String args[])
     ł
        static_out obj1 = new static_out();
        static_out obj2 = new static_out();
       int a = 2;
       obj1.add(a, a + 1);
       obj2.add(5, a);
                                      " " + obj2.y);
       System.out.println(obj1.x +
     }
  }
                                c) 7 9G<sup>1</sup>
                                                d) 97
a) 7 7
                b) 6 6
output:
  $ javac static_use.java
$ java static_use
79
10. What will be the output of the following Java program?
                                                                                         [b]
  class Output
  {
     public static void main(String args[])
          \vartheta
       int arr[] = \{1, 2, 3, 4, 5\};
       for (int i = 0; i < arr.length - 2; ++i)
          System.out.println(arr[i] + " ");
a) 1 2
                b) 1 2 3
                                c) 1 2 3 4
                                                d) 1 2 3 4 5
Explanation: arr.length() is 5, so the loop is executed for three times.
output:
$ javac Output.java
$ java Output
123
11. What will be the output of the following Java program?
                                                                                 [a]
  class Output
```

```
{
     public static void main(String args[])
       int a1[] = new int[10];
       int a2[] = \{1, 2, 3, 4, 5\};
       System.out.println(a1.length + " " + a2.length);
     }
  }
a) 10 5 b) 5 10 c) 0 10 d) 0 5
Explanation: Arrays in java are implemented as objects, they contain an attribute that is
                                                              ict , Andhra Prades
length which contains the number of elements that can be stored in the array. Hence
al.length gives 10 and a2.length gives 5.
output:
$ javac Output.java
$ java Output
105
String Class
1. String in Java is a?
                                                                                    [a]
                                              d) character array
a) class
               b) object
                              c) variable
2. Which of these method of String class is used to obtain character at specified index? [d]
               b) Charat()
                              c) charat()
                                              d) charAt()
a) char()
3. Which of these keywords is used to refer to member of base class from a subclass?
                                                                                            [b]
                                              d) none of the mentioned
a) upper
               b) super
                              c) this
Explanation: Whenever a subclass needs to refer to its immediate superclass, it can do so by
use of the keyword super.
4. Which of these method of String class can be used to test to strings for equality?
                                                                                            [d]
               b) isequals() c) equal()
                                              d) equals()
a) isequal()
5. Which of the following statements are incorrect?
                                                                                            [b]
a) String is a class
                                      b) Strings in java are mutable
c) Every string is an object of class String
d) Java defines a peer class of String, called StringBuffer, which allows string to be altered
Explanation: Strings in Java are immutable that is they can not be modified.
6. What will be the output of the following Java program?
                                                                                    [d]
 class string_demo
  {
     public static void main(String args[])
       String obj = "I" + "like" + "Java";
       System.out.println(obj);
  }
a) I
                       c) Java
                                      d) IlikeJava
       b) like
Explanation: Java defines an operator +, it is used to concatenate strings.
output:
$ javac string_demo.java
$ java string demo
IlikeJava
7. What will be the output of the following Java program?
                                                                            [a]
 class string_class
```

```
{
     public static void main(String args[])
       String obj = "I LIKE JAVA";
       System.out.println(obj.charAt(3));
     }
  }
a) I
               b) L
                      c) K
                                      d) E
Explanation: charAt() is a method of class String which gives the character specified by the
                                  Gudlavalleru, Krishna District, Andhra Pradesh
index. obj.charAt(3) gives 4th character i:e I.
output:
 $ javac string_class.java
$ java string_class
Ι
8. What will be the output of the following Java program?
                                                                                           [c]
class string_class
  {
     public static void main(String args[])
       String obj = "I LIKE JAVA";
       System.out.println(obj.length());
     }
   ł
a) 9
       b) 10 c) 11 d) 12
output:
 $ javac string_class.java
$ java string_class
11
9. What will be the output of the following Java program?
                                                                                           [c]
  class string class
  {
     public static void main(String args[])
     {
       String obj = "hello";
       String obj1 = "world";
       String obj2 = obj;
      obj2 = " world";
       System.out.println(obj + " " + obj2);
                                             c) hello world
a) hello hello b) world world
                                                                    d) world hello
output:
$ javac string_class.java
$ java string_class
hello world
10. What will be the output of the following Java program?
                                                                                           [d]
 class string_class
  {
     public static void main(String args[])
```

```
{
       String obj = "hello";
       String obj1 = "world";
       String obj2 = "hello";
       System.out.println(obj.equals(obj1) + " " + obj.equals(obj2));
     }
a) false false b) true true
                             c) true false
                                            d) false true
Explanation: equals() is method of class String, it is used to check equality of two String
objects, if they are equal, true is retuned else false.
output:
 $ javac string class.java
$ java string_class
false true
Methods Taking Parameters
1. Which of these is the method which is executed first before execution of any other thing
takes place in a program?
                                                                   d) private method
                                             c) static method
a) main method
                      b) finalize method
Explanation: If a static method is present in the program then it will be executed first, then
main will be executed.
2. What is the process of defining more than one method in a class differentiated by
                                                                                  [b]
parameters?
a) Function overriding
                              b) Function overloading
                                                           c) Function doubling
d) None of the mentioned
Explanation: Function overloading is a process of defining more than one method in a class
with same name differentiated by function signature i:e return type or parameters type and
number. Example - int volume(int length, int width) & int volume(int length, int width, int
height) can be used to calculate xolume.
3. Which of these can be used to differentiate two or more methods having the same
name?
                                                                                  [d]
a) Parameters data type
                                     b) Number of parameters
c) Return type of method
                                     d) All of the mentioned
4. Which of these data type can be used for a method having a return statement in it?
                                                                                          [d]
              b) int c) float
a) void
                                     d) both int and float
5. Which of these statement is incorrect?
                                                                                  [d]
a) Two or more methods with same name can be differentiated on the basis of their
parameters data type
b) Two or more method having same name can be differentiated on basis of number of
parameters
c) Any already defined method in java library can be defined again in the program with
different data type of parameters
d) If a method is returning a value the calling statement must have a variable to store
that value
Explanation: Even if a method is returning a value, it is not necessary to store that value.
6. What will be the output of the following Java program?
                                                                                  [c]
class box
  {
     int width;
     int height;
```

```
int length;
     int volume;
     void volume(int height, int length, int width)
     {
        volume = width * height * length;
     }
   }
   class Prameterized_method{
     public static void main(String args[])
{
                                                                            [b]
   class Output
         9
     public static void main(String args[])
       equality obj = new equality();
       obj.x = 5;
       obj.y = 5;
       System.out.println(obj.isequal);
     }
   Ĵ
 a) false
             b) true
                          c) 0
                                d) 1
 Explanation: None
 output:
  $ javac Output.java
```

```
$ java Output
True
8. What will be the output of the following Java program?
                                                                                        [b]
    class box
  {
     int width;
     int height;
     int length;
     int volume;
                                   Gudavaleru, Kiishna District, Andma Pradesh
Gudavaleru, Kiishna District, Andma Pradesh
ine):
     void volume()
     {
        volume = width * height * length;
     }
     void volume(int x)
     {
        volume = x;
     }
  }
  class Output
  {
     public static void main(String args[])
       box obj = new box();
       obj.height = 1;
       obj.length = 5;
       obj.width = 5;
       obj.volume(5);
       System.out.println(obj.volume);
     }
  }
               c) 25 d) 26
a) 0
       b) 5
output:
$ javac Output.java
$ java Output
5
9. What will be the output of the following Java program?
                                                                                        [d]
class Output
     static void main(String args[])
        int x, y = 1;
        x = 10;
        if(x != 10 \&\& x / 0 == 0)
           System.out.println(y);
        else
           System.out.println(++y);
     }
  }
```

a) 1 b) 2 c) Runtime Error d) Compilation Error

Explanation: main() method must be made public. Without main() being public java run time system will not be able to access main() and will not be able to execute the code. output:

\$ javac Output.java

Error: Main method not found in class Output, please define the main method as: public static void main(String[] args)

```
10. What will be the output of the following Java program? [d] class area
```

```
udlavalleru, Krishna District, Andhra Pradesh
s[])
  {
    int width:
    int length;
    int height;
    area()
     {
    width = 5;
    length = 6;
    height = 1;
     }
    void volume()
     ł
        volume = width * height * length;
  }
  class cons method
    public static void main(String args[])
       area obj = new area();
       obj.volume();
       System.out.println(obj.volume);
  }
a) 0
              c) 25
                    d) 30
       b) 1
output:
   $ javaccons_method.java
$ java cons_method
30
Command Line Arguments – 1
1. Which of this method is given parameter via command line arguments? [a]
              b) recursive() method c) Any method
a) main()
d) System defined methods
Explanation: Only main() method can be given parameters via using command line
arguments.
2. Which of these data types is used to store command line arguments?
                                                                         [c]
a) Array
              b) Stack
                             c) String
                                            d) Integer
3. How many arguments can be passed to main()?
                                                                         [a]
                             c) System Dependent d) None of the mentioned
a) Infinite
              b) Only 1
```

4. Which of these is a correct statement about args in the following line of code? [c]

```
public static void main(String args[])
a) args is a String
                                                  b) args is a Character
c) args is an array of String
                                           d) args in an array of Character
Explanation: args in an array of String.
5. Can command line arguments be converted into int automatically if required? [b]
a) Yes
              b) No
                                    c) Compiler Dependent
d) Only ASCII characters can be converted
Explanation: All command Line arguments are passed as a string. We must convert
numerical value to their internal forms manually.
                                             .dc
6. What will be the output of the following Java program, Command line execution is done
as – "java Output This is a command Line"?
class Output
  {
    public static void main(String args[])
       System.out.print("args[0]");
a) java b) Output
                     c) Thisd) is
Output:
  $ javac Output.javac
java Output This is a command Line
This
7. What will be the output of the following Java program, Command line exceution is done
as – "java Output This is a command Line"?
                                                                 [d]
 class Output
  {
    public static void main(String args[])
       System.out.print(
                         args[3]");
a) java b) is
              c) This d) command
Output:
 $ javac Output.javac
java Output This is a command Line
command
8. What will be the output of the following Java program, Command line execution is done
as "java Output This is a command Line"?
                                                          [c]
class Output
  ł
     public static void main(String args[])
       System.out.print("args");
     ļ
a) This
                             b) java Output This is a command Line
c) This is a command Line d) Compilation Error
Output:
```

```
$ javac Output.javac
java Output This is a command Line
This is a command Line
9. What will be the output of the following Java program, Command line execution is done
as – "java Output command Line 10 A b 4 N"?
                                                                         [c]
 class Output
  {
     public static void main(String args[])
       System.out.print("(int)args[2] * 2");
                                                               And the Pradesh
a) java b) 10 c) 20
                             d) b
Output:
$ javac Output.javac
java Output command Line 10 A b 4 N
20
                                 .n, C
Gudlavalleru, Krishna Dis
10. What will be the output of the following Java program, Command line execution is done
as - "java Output command Line 10 A b 4 N"?
                                                                  [d]
class Output
  {
     public static void main(String args[])
       System.out.print("args[6]");
a) java b) 10 c) b
                      d) N
                              ínic,
Output:
$ javac Output.javac
java Output command Line 10 A b 4 N
                      00
Ν
Command Line Arguments – 2
1. What will be the output of the following Java snippet, if attempted to compile and run this
code with command line argument "java abc Rakesh Sharma"?
                                                                  [a]
public class abc
         Ψ
{
      a = 2000;
    public static void main(String argv[])
         System.out.println(argv[1]+" :-Please pay Rs."+a);
     ł
}
a) Compile time error
b) Compilation but runtime error
c) Compilation and output Rakesh :-Please pay Rs.2000
d) Compilation and output Sharma :-Please pay Rs.2000
Explanation: Main method is static and cannot access non static variable a.
2. What will be the output of the following Java snippet, if attempted to compile and
execute?
                                                                                [d]
```

```
class abc
  public static void main(String args[])
    if(args.length>0)
     System.out.println(args.length);
  }
}
a) The snippet compiles, runs and prints 0
b) The snippet compiles, runs and prints 1
c) The snippet does not compile
d) The snippet compiles and runs but does not print anything
Explanation: As no argument is passed to the code, the length of args is 0. So the code will
not print.
                                       red
And
Lavalleru, Krishna District, And
3. What will be the output of the following Java snippet, if compiled and executed with
command line argument "java abc 1 2 3"?
                                                                            [b]
public class abc
 static public void main(String [] xyz)
  ł
    for(int n=1;n<xyz.length; n++)
      System.out.println(xyz[n]+"");
  }
}
                              c) 1 23
                                             d) Compilation error
a) 1 2
               b) 2 3
Explanation: The index of array starts with 0. Since the loop is starting with 1 it will print 2
3.
4. What will be the output of the following Java code snippet running with "java demo I
write java code"?
                                                                                    [d]
public class demo
 public static void main(String args[])
  ł
     System.out.println(args[0]+""+args[args.length-1]);
  ł
}
a) The snippet compiles, runs and prints "java demo"
b) The snippet compiles, runs and prints "java code"
c) The snippet compiles, runs and prints "demo code"
d) The snippet compiles, runs and prints "I code"
Explanation: The index of array starts with 0 till length -1. Hence it would print "I code".
5. What will be the output of the following Java snippet, if compiled and executed with
command line "hello there"?
                                                                            [a]
public class abc
  String[] xyz;
```

```
public static void main(String argv[])
    xyz=argv;
  public void runMethod()
    System.out.println(argv[1]);
a) Compile time error
                                           b) Output would be "hello"
c) Output would be "there"
                                           d) Output would be "hello there"
Explanation: Error would be "Cannot make static reference to a non static variable". Even if
main method was not static, the array argy is local to the main method and would not be
visible within runMethod.
6. How do we pass command line argument in Eclipse?
                                                                       [a]
a) Arguments tab
                            b) Variable tab
c) Cannot pass command line argument in eclipse
d) Environment variable tab
Explanation: Arguments tab is used to pass command line argument in eclipse.
7. Which class allows parsing of command line arguments?
                                                                [b]
                            c) Command Line
a) Argsb) JCommander
                                                         d) Input
Explanation: JCommander is a very small Java framework that makes it trivial to parse
command line parameters.
8. Which annotation is used to represent command line input and assigned to correct data
type?
                                                         [d]
              b) @Variable c) @Command Line d) @Parameter
a) @Input
Explanation: @Parameter, @Parameter(names = { "-log", "-verbose" }, description = "Level
of verbosity"), etc are various forms of using @Parameter
9. What will be the output of the following Java code snippet run as $ java Demo –length 512
-breadth 2 -h 3?
                                                         [c]
class Demo {
  @Parameter(names={"--length"})
  int length;
  @Parameter(names={"--breadth"})
  int breadth;
  @Parameter(names={"--height","-h"})
  int height;
  public static void main(String args[])
    Demo demo = new Demo();
    new JCommander(demo, args);
    demo.run();
  ł
  public void run()
```

System.out.println(length+" "+ breadth+" "+height);

}

{

}

a) 2 512 3 b) 2 2 3 c) 512 2 3 d) 512 512 3

Explanation: JCommander helps easily pass command line arguments. @Parameter assigns input to desired parameter.

[b]

[b]

10. What is the use of @syntax?

a) Allows multiple parameters to be passed

b) Allows one to put all your options into a file and pass this file as a parameter

c) Allows one to pass only one parameter

d) Allows one to pass one file containing only one parameter

Explanation: JCommander supports the @syntax, which allows us to put all our options into ishna District, Andhra a file and pass this file as a parameter.

/tmp/parameters

-verbose

file1

file2

\$ java Main @/tmp/parameter

Recursion

1. What is Recursion in Java?

a) Recursion is a class

b) Recursion is a process of defining a method that calls other methods repeatedly

c) Recursion is a process of defining a method that calls itself repeatedly

d) Recursion is a process of defining a method that calls other methods which in turn call again this method

Explanation: Recursion is the process of defining something in terms of itself. It allows us to define a method that calls itself.

2. Which of these data types is used by operating system to manage the Recursion in Java? [b]

c) Queue a) Array b) Stack $^{\circ}$ d) Tree

Explanation: Recursions are always managed by using stack.

3. Which of these will happen if recursive method does not have a base case? [a]

a) An infinite loop occurs

b) System stops the program after some time

c) After 1000000 calls it will be automatically stopped

d) None of the mentioned

Explanation: If a recursive method does not have a base case then an infinite loop occurs which results in Stack Overflow. [d]

4. Which of these is not a correct statement?

a) A recursive method must have a base case

b) Recursion always uses stack

c) Recursive methods are faster that programmers written loop to call the function repeatedly using a stack

d) Recursion is managed by Java Runtime environment

Explanation: Recursion is always managed by operating system.

5. Which of these packages contains the exception Stack Overflow in Java? [a]

a) java.lang b) java.util c) java.io d) java.system

6. What will be the output of the following Java program? [d]

```
class recursion
  {
     int func (int n)
     {
       int result;
       result = func (n - 1);
       return result;
     }
  }
  class Output
                                                                  Andhra Pradesh
  {
     public static void main(String args[])
       recursion obj = new recursion();
       System.out.print(obj.func(12));
     }
  }
a) 0
       b) 1
               c) Compilation Error
                                             d) Runtime Error
Explanation: Since the base case of the recursive function func() is not defined hence infinite
loop occurs and results in Stack Overflow.
Output:
 $ javac Output.javac
$ java Output
Exception in thread "main" java.lang.StackOverflowError
7. What will be the output of the following Java program?
                                                                    [b]
                           technic, Gud
class recursion
  {
     int func (int n)
     {
       int result;
       if (n == 1)
          return 1;
       result = func (n - 1);
       return result;
          9+
  }
  class Output
     public static void main(String args[])
       recursion obj = new recursion();
       System.out.print(obj.func(5));
     }
a) 0
       b) 1
                              d) None of the mentioned
              c) 120
Output:
 $ javac Output.javac
$ java Output
1
```

```
8. What will be the output of the following Java program?
                                                                            [c]
  class recursion
  {
     int fact(int n)
     {
       int result;
       if (n == 1)
          return 1;
       result = fact(n - 1) * n;
                                                    stria District, Andhra Pradesh
       return result;
     }
  }
  class Output
     public static void main(String args[])
       recursion obj = new recursion();
       System.out.print(obj.fact(5));
     }
  }
a) 24 b) 30 c) 120 d) 720
Explanation: fact() method recursively calculates factorial of a number, when value of n
reaches 1, base case is excuted and 1 is returned
                                   Gudlavall
Output:
$ javac Output.javac
$ java Output
120
9. What will be the output of the following Java program?
                                                                             [a]
                       Polytect
  class recursion
  {
     int fact(int n)
     {
       int result;
       if (n == 1)
          return 1;
       result = fact(n - 1) * n;
       return result;
  class Output
     public static void main(String args[])
       recursion obj = new recursion();
       System.out.print(obj.fact(1));
     }
  }
a) 1
               b) 30
                              c) 120
                                              d) Runtime Error
Explanation: fact() method recursively calculates factorial of a number, when value of n
```

```
reaches 1, base case is excuted and 1 is returned.
Output:
$ javac Output.javac
$ java Output
1
10. What will be the output of the following Java program?
                                                                                                                                                                    [d]
class recursion
      {
            int fact(int n)
                                                        (v);
(v));
(d) 720 Gudanaleru, Kishna District, Andrea Pradesh
(v));
(d) 720 Gudanaleru, Kishna District, Andrea Pradesh
(v));
            {
                 int result;
                 if (n == 1)
                        return 1;
                 result = fact(n - 1) * n;
                 return result;
            }
      }
      class Output
            public static void main(String args[])
            ł
                 recursion obj = new recursion();
                 System.out.print(obj.fact(6));
            }
      }
a) 1
                 b) 30 c) 120
 Output:
      $ javac Output.javac
$ java Output
720
Method overriding
1. Which of this keyword can be used in a subclass to call the constructor of superclass? [a]
a) super
                                    b) this c) extent
                                                                                           d) extends
2. What is the process of defining a method in a subclass having same name & type signature
as a method in its superclass?
                                                                                                                                                                                       [b]
a) Method overloading
                                                                        b) Method overriding
                                                                                                                                                  c) Method hiding
d) None of the mentioned
3. Which of these keywords can be used to prevent Method overriding?
                                                                                                                                                                                                         [d]
a) static
                                    b) constant
                                                                        c) protected
                                                                                                            d) final
 Explanation: To disallow a method from being overridden, specify final as a modifier at the
start of its declaration. Methods declared as final cannot be overridden.
4. At line number 2 in the following code, choose 3 valid data-type attributes/qualifiers
among "final, static, native, public, private, abstract, protected"
                                                                                                                                                                                       [d]
public interface Status
    {
           /* insert qualifier here */ int MY_VALUE = 10;
     }
```

```
a) final, native, private
                                      b) final, static, protected
c) final, private, abstract
                                      d) final, static, public
Explanation: Every interface variable is implicitly public static and final.
5. Which of these is supported by method overriding in Java?
                                                                            [c]
a) Abstraction
                      b) Encapsulation
                                             c) Polymorphism
                                                                    d) None of the mentioned
6. What will be the output of the following Java program?
                                                                            [c]
class Alligator
{
 public static void main(String[] args)
                                                                  Andhrapradesh
 int []x[] = \{\{1,2\}, \{3,4,5\}, \{6,7,8,9\}\};
 int [][]y = x;
 System.out.println(y[2][1]);
  }
}
                                      Jolavallent, Krishna District,
a) 2
               c) 7 d) Compilation Error
       b) 3
Explanation: Both x, and y are pointing to the same array.
                                                                    [d]
8. What will be the output of the following Java program?
final class A
  {
     int i:
  class B extends A
  {
    int j;
    System.out.println(j
  }
  class inheritance
     public static void main(String args[])
       B obj = new B()
       obj.display();
     }
  }
a) 2 2 b) 3-3 c) Runtime Error
                                      d) Compilation Error
Explanation: class A has been declared final hence it cannot be inherited by any other class.
Hence class B does not have member i, giving compilation error.
output:
$ javac inheritance.java
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
       i cannot be resolved or is not a field
9. What will be the output of the following Java program? [d]
class Abc
 {
   public static void main(String[]args)
   {
      String[] elements = { "for", "tea", "too" };
      String first = (elements.length > 0) ? elements[0]: null;
```

```
}
 }
a) Compilation error
                                        b) An exception is thrown at run time
c) The variable first is set to null
                                        d) The variable first is set to elements[0]
Explanation: The value at the 0th position will be assigned to the variable first.
10. What will be the output of the following Java program?
                                                                                [b]
   class A
  {
     int i:
   .utln(j);
...ss Dynamic_dispatch
public static void main(String args[]);
{
B obj2 = new B();
obj2.i = 1;
obj2.j = 2;
A r;
' = obj2;
disp<sup>1</sup>
     public void display()
  }
  class B extends A
  {
  }
  class Dynamic_dispatch
  {
                       Polytechnic, Cud
       r.display();
     }
  }
       b) 2 \cdot c) 3
                       d) 4
a) 1
Explanation: r is reference of type A, the program assigns a reference of object obj2 to r and
uses that reference to call function display() of class B.
output:
$ javac Dynamic_dispatch.java
$ java Dynamic_dispatch
2
The Object Class
1. Which of these class is superclass of every class in Java?
                                                                                         [b]
a) String class
                        b) Object class
                                                c) Abstract class
                                                                        d) ArrayList class
Explanation: Object class is superclass of every class in Java.
2. Which of these method of Object class can clone an object?
                                                                                        [c]
a) Objectcopy()
                        b) copy()
                                        c) Object clone()
                                                                d) clone()
3. Which of these method of Object class is used to obtain class of an object at run time? [c]
                b) void getclass()
                                        c) Class getclass()
                                                                d) None of the mentioned
a) get()
```

4. Which of these keywords can be used to prevent inheritance of a class? [d] a) super b) constant c) class d) final Explanation: Declaring a class final implicitly declared all of its methods final, and makes the class inheritable. 5. Which of these keywords cannot be used for a class which has been declared final? [a] a) abstract b) extends c) abstract and extends d) none of the mentioned Explanation: A abstract class is incomplete by itself and relies upon its subclasses to provide a complete implementation. If we declare a class final then no class can inherit that class, an abstract class needs its subclasses hence both final and abstract cannot be used for a same class. 6. Which of these class relies upon its subclasses for complete implementation of its nnic, Gudavaleru, Kristna District, Andria [b] methods? ్రో [b] d) None of the mentioned a) Object class b) abstract class 7. What will be the output of the following Java program? abstract class A { int i: abstract void display(); } class B extends A { int j; void display() System.out.println(j); } class Abstract_demo public static void main(String args[]) B obj = new B()obj.j=2; obj.display(); ł a) 0 **b**) 2 c) Runtime Error d) Compilation Error Explanation: class A is an abstract class, it contains a abstract function display(), the full implementation of display() method is given in its subclass B, Both the display functions are the same. Prototype of display() is defined in class A and its implementation is given in class B. output: \$ javac Abstract_demo.java \$ java Abstract_demo 2 8. What will be the output of the following Java program? [a] class A {

int i;

```
int j;
     A()
     {
       i = 1;
       j = 2;
     }
  }
 class Output
  {
     public static void main(String args[])
                                                                   Andhra Pradesh
     {
        A obj1 = new A();
        A obj2 = new A();
          System.out.print(obj1.equals(obj2));
     }
  }
a) false
                                      d) Compilation Error
               b) true
                              c) 1
Explanation: obj1 and obj2 are two different objects. equals() is a method of Object class,
Since Object class is superclass of every class it is available to every object.
output:
 $ javac Output.java
$ java Output
False
9. What will be the output of the following Java code?
                                                                             [c]
class Output
  {
    public static void main(String args[])
        Object obj = new Object();
          System.out.print(obj.getclass());
     }
  }
a) Object
               b) class Object
                                      c) class java.lang.Object
                                                                     d) Compilation Error
output:
$ javac Output.java
$ java Output
class java.lang.Object
10. What will be the output of the following Java code?
                                                                             [c]
class A
  {
    int i;
       int j;
     A()
     {
       i = 1;
       i = 2;
     ļ
  }
 class Output
```
```
{
     public static void main(String args[])
        A obj1 = new A();
          System.out.print(obj1.toString());
     }
  }
a) true
               b) false
                              c) String associated with obj1
                                                                    d) Compilation Error
Explanation: toString() is method of class Object, since it is superclass of every class, every
object has this method. toString() returns the string associated with the calling object.
output:
  $ javac Output.java
$ java Output
A@1cd2e5f
Abstract Class and Super
1. Which of these keywords are used to define an abstract class?
                                                                            [b]
a) abst b) abstract c) Abstract
                                      d) abstract class
2. Which of these is not abstract?
                                                                            [a]
                                                     d) None of the Mentioned
a) Thread
               b) AbstractList
                                      c) List
Explanation: Thread is not an abstract class.
3. If a class inheriting an abstract class does not define all of its function then it will be
known as?
                                                                            [a]
               b) A simple class
a) Abstract
                                      c) Static class d) None of the mentioned
Explanation: Any subclass of an abstract class must either implement all of the abstract
method in the superclass or be itself declared abstract.
                                                                            [c]
4. Which of these is not a correct statement?
a) Every class containing abstract method must be declared abstract
b) Abstract class defines only the structure of the class not its implementation
c) Abstract class can be initiated by new operator
d) Abstract class can be inherited
Explanation: Abstract class cannot be directly initiated with new operator, Since abstract
class does not contain any definition of implementation it is not possible to create an abstract
                  S
object.
5. Which of these packages contains abstract keyword?
                                                                                    [a]
                              c) java.io
a) java.lang b) java.util
                                              d) java.system
6. What will be the output of the following Java code?
                                                                                           [d]
 class A
     public int i;
     private int j;
  class B extends A
     void display()
       super.i = super.i + 1;
       System.out.println(super.i + " " + super.j);
     }
  }
```

```
class inheritance
  {
     public static void main(String args[])
       B obj = new B();
       obj.i=1;
       obj.j=2;
       obj.display();
     }
  }
a) 2 2
               b) 3 3
                               c) Runtime Error
                                                      d) Compilation Error
Explanation: Class contains a private member variable j, this cannot be inherited by subclass
B and does not have access to it.
output:
 $ javac inheritance.java
                 .pilat.
pilat.
s.R. Polytechnic, Gudlavalleru, Mishna District,
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
       The field A.j is not visible
7. What will be the output of the following Java code?
                                                                              [a]
class A
  {
     public int i;
     public int j;
     A()
    {
       i = 1;
       j = 2;
       }
  }
  class B extends A
  {
     int a;
       B()
     {
       super(
          9+
  class super_use
     public static void main(String args[])
       B obj = new B();
       System.out.println(obj.i + " " + obj.j)
     }
  }
a) 12 b) 21 c) Runtime Error
                                      d) Compilation Error
Explanation: Keyword super is used to call constructor of class A by constructor of class B.
Constructor of a initializes i & j to 1 & 2 respectively.
```

```
output:
```

\$ javac super_use.java

```
$ java super_use
12
8. What will be the output of the following Java code?
                                                                             [c]
class A
  {
     int i;
     void display()
     {
       System.out.println(i);
                              mic, Gudavaleru, Kishna District, Andhra Pradesh
ilar;
  }
  class B extends A
  {
    int j;
     void display()
     {
       System.out.println(j);
     }
  }
  class method_overriding
  {
     public static void main(String args[])
     {
       B obj = new B();
       obj.i=1;
       obj.j=2;
       obj.display();
     }
  }
                       d) Compilation Error
a) 0
       b) 1
               c) 2
Explanation: class A & class B both contain display() method, class B inherits class A, when
display() method is called by object of class B, display() method of class B is executed rather
than that of Class A.
output:
  $ javac method_overriding.java
$ java method_overriding
2
      0
9. What will be the output of the following Java code?
                                                                             [a]
class A
  {
    public int i;
     protected int j;
  }
  class B extends A
  {
    int j;
     void display()
     {
       super.j = 3;
```

```
System.out.println(i + " " + j);
  }
  class Output
     public static void main(String args[])
     {
       B obj = new B();
       obj.i=1;
       obj.j=2;
       obj.display();
                                                                          212dest
  }
a) 1 2
               b) 2 1
                              c) 1 3
                                             d) 3 1
Explanation: Both class A & B have member with same name that is immember of class B
will be called by default if no specifier is used. I contains 1 & j contains 2, printing 1 2.
output:
  $ javac Output.java
$ java Output
12
Inheritance – 1
1. Which of this keyword must be used to inherit a class?
                                                                           [d]
               b) this
                              c) extent
                                             d) extends
a) super
2. A class member declared protected becomes a member of subclass of which type?
                                                                           [b]
a) public member
                      b) private member
                                            c) protected member d) static member
Explanation: A class member declared protected becomes a private member of subclass.
3. Which of these is correct way of inheriting class A by class B?
                                                                           [c]
a) class B + class A { }
                                      b) class B inherits class A { }
c) class B extends A {}
                                      d) class B extends class A { }
4. Which two classes use the Shape class correctly?
                                                                           [a]
A. public class Circle implements Shape
  private int radius;
B. public abstract class Circle extends Shape
  private int radius;
C. public class Circle extends Shape
  private int radius;
 public void draw();
D. public abstract class Circle implements Shape
  private int radius;
  public void draw();
  ļ
```

```
E. public class Circle extends Shape
 {
  private int radius;
  public void draw()
  ł
   /* code here */
  ļ
F. public abstract class Circle implements Shape
                                                               Andhra Pradesh
   private int radius;
   public void draw()
   ł
   /* code here */
a) B,E
              b) A,C
                             c) C.E
                                            d) T,H
Explanation: If one is extending any class, then they should use extends keyword not
implements.
                     .ogra
5. What will be the output of the following Java program?
                                                                         [c]
class A
  {
    int i;
     void display()
     {
       System.out.println(i);
     }
  }
  class B extends A
  {
     int j;
     void display()
     {
       System.out.println(j);
         9+
  class inheritance_demo
     public static void main(String args[])
       B obj = new B();
       obj.i=1;
       obj.j=2;
       obj.display();
     ł
  }
```

a) 0 b) 1 c) 2 d) Compilation Error Explanation: Class A & class B both contain display() method, class B inherits class A,

```
when display() method is called by object of class B, display() method of class B is executed
rather than that of Class A.
output:
$ javac inheritance_demo.java
$ java inheritance_demo
2
6. What will be the output of the following Java program?
                                                                     [c]
class A
  {
                             J) entre Gudavaleru, Kishna District, Andhra Pradesh
     int i;
  }
  class B extends A
  {
     int j;
     void display()
     {
       super.i = j + 1;
       System.out.println(j + " " + i);
     }
  }
  class inheritance
  {
     public static void main(String args[])
     {
       B obj = new B();
       obj.i=1;
       obj.j=2;
       obj.display();
     }
  }
                              c) 2 3
a) 2 2
               b) 3 3
                                              d) 3 2
Explanation: None
output:
                  \mathcal{S}
  $ javac inheritance.java
$ java inheritance
23
          Ψ
7. What will be the output of the following Java program?
                                                                     [a]
 class A
P{
     public int i;
     public int j;
     A()
     {
       i = 1;
       j = 2;
       }
  }
  class B extends A
  {
```

```
int a:
     B()
     {
       super();
  }
  class super use
     public static void main(String args[])
                                                                      Inta Pradesh
       B obj = new B();
       System.out.println(obj.i + " " + obj.j)
  }
a) 1 2
               b) 2 1 c) Runtime Error
                                             d) Compilation Error
Explanation: Keyword super is used to call constructor of class A by constructor of class B.
                                                Kiishna District
Constructor of a initializes i & j to 1 & 2 respectively.
output:
$ javac super_use.java
$ java super_use
12
Inheritance – 2
                                             [þ])
1. What is not type of inheritance?
a) Single inheritance b) Double inheritance
                                                     c) Hierarchical inheritance
d) Multiple inheritance
Explanation: Inheritance is way of acquiring attributes and methods of parent class. Java
supports hierarchical inheritance directly.
2. Using which of the following, multiple inheritance in Java can be implemented?[a]
a) Interfaces b) Multithreading` c) Protected methods
                                                            d) Private methods
Explanation: Multiple inheritance in java is implemented using interfaces. Multiple interfaces
can be implemented by a class.
3. All classes in Java are inherited from which class?
                                                                           [d]
a) java.lang.class 5
                                     b) java.class.inherited
c) java.class.object
                              d) java.lang.Object
Explanation: All classes in java are inherited from Object class. Interfaces are not inherited
from Object Class.
4. In order to restrict a variable of a class from inheriting to subclass, how variable should be
declared?
                                     [b]
a) Protected
                      b) Private
                                     c) Public
                                                     d) Static
Explanation: By declaring variable private, the variable will not be available in inherited to
subclass.
5. If super class and subclass have same variable name, which keyword should be used to use
super class?
                                                                    [a]
a) super
               b) this c) upper
                                     d) classname
Explanation: Super keyword is used to access hidden super class variable in subclass.
6. Static members are not inherited to subclass.
                                                                    [b]
               b) False
a) True
Explanation: Static members are also inherited to subclasses.
```

7. Which of the following is used for implementing inheritance through an interface?

[d]

a) inherited b) using c) extends d) implements Explanation: Interface is implemented using implements keyword. A concrete class must implement all the methods of an interface, else it must be declared abstract.

8. Which of the following is used for implementing inheritance through class? [c] a) inherited b) using c) extends d) implements

Explanation: Class can be extended using extends keyword. One class can extend only one class. A final class cannot be extended.

9. What would be the result if a class extends two interfaces and both have a method with same name and signature? Lets assume that the class is not implementing that method.

[b]

a) Runtime errorb) Compile time errorc) Code runs successfullyc) Code runs successfully

Explanation: In case of such conflict, compiler will not be able to link a method call due to ambiguity. It will throw compile time error.

10. Does Java support multiple level inheritance?

[a]

[c]

a) True b) False Explanation: Java supports multiple level inheritance through implementing multiple interfaces.

String Handling Basics

1. Which of these class is superclass of String and StringBuffer class?[b]a) java.utilb) java.langc) ArrayListd) None of the mentioned2. Which of these operators can be used to concatenate two or more String objects?[a]

a) + b) += c) & d) || Explanation: Operator + is used to concatenate strings, Example String s = "i " + "like " + "java"; String s contains "I like java".

3. Which of this method of class String is used to obtain a length of String object? [d] a) get()b) Sizeof() c) lengthof() d) length()

Explanation: Method length() of string class is used to get the length of the object which invoked method length().

4. Which of these method of class String is used to extract a single character from a String object? [c]

a) CHARAT() b) chatat() c) charAt() d) ChatAt()

- 5. Which of these constructors is used to create an empty String object? [a]
- a) String() b) String(void)c) String(0) d) None of the mentioned
- 6. Which of these is an incorrect statement?
- a) String objects are immutable, they cannot be changed

b) String object can point to some other reference of String variable

c) StringBuffer class is used to store string in a buffer for later use

d) None of the mentioned

{

Explanation: StringBuffer class is used to create strings that can be modified after they are created.

7. What will be the output of the following Java program? [d] class String_demo

public static void main(String args[])
{

```
char chars[] = \{ a', b', c' \};
       String s = new String(chars);
       System.out.println(s);
     }
  }
                       d) abc
a) a
       b) b
               c) c
Explanation: String(chars) is a constructor of class string, it initializes string s with the values
stored in character array chars, therefore s contains "abc".
output:
                                                 Kiisha Distict, Andhra Piblesh
BCr
$ javac String_demo.java
$ java String_demo
Abc
8. What will be the output of the following Java program?
 class String_demo
  {
     public static void main(String args[])
       int ascii[] = \{65, 66, 67, 68\};
       String s = new String(ascii, 1, 3);
       System.out.println(s);
     }
  }
                                              d) ABCD
a) ABC
               b) BCD
                              c) CDA
Explanation: ascii is an array of integers which contains ascii codes of Characters A, B, C,
D. String(ascii, 1, 3) is an constructor which initializes s with Characters corresponding to
ascii codes stored in array ascii, starting position being given by 1 & ending position by 3,
Thus s stores BCD.
output:
 $ javac String_demo.java
$ java String demo
BCD
9. What will be the output of the following Java program?
                                                                                    [d]
  class String_demo
  {
     public static void main(String args[])
         9
      char chars[] = \{ a', b', c' \};
       String s = new String(chars);
       String s1 = "abcd";
       int len1 = s1.length();
       int len2 = s.length();
       System.out.println(len1 + " " + len2);
     }
  }
a) 3 0
               b) 0 3
                              c) 3 4
                                             d) 43
output:
$ javac String demo.java
$ java String_demo
43
```

Character Extraction

```
1. Which of these method of class String is used to extract more than one character at a time
a String object?
                                                                                  [d]
a) getchars()
                                                                 d) getChars()
                         b) GetChars() c) Getchars()
2. Which of these methods is an alternative to getChars() that stores the characters in an array
of bytes?
                                                                          [a]
a) getBytes() b) GetByte()
                                                                 d) Give Bytes()
                                         c) giveByte()
Explanation: getBytes() stores the character in an array of bytes. It uses default character to
byte conversions provided by the platform.
3. In the following Java code, what can directly access and change the value of the variable
name?
                                                                          [c]
package test;
 class Target
 public String name = "hello";
                         b) only the Target class
                                                         c) any class in the test package
a) any class
d) any class that extends Target
Explanation: Any class in the test package can access and change name.
Explanation: Any class in the test package can access and
4. What will be the output of the following Java code?
public class Boxer1
{
Integer i;
int x;
public Boxer1(int y)
{
x = i+y;
                                                                                  [d]
     System.out.println(x);
  }
  public static void main(String[] args)
  {
     new Boxer1 (new Integer(4));
   }
}
a) The value "4" is printed at the command line
b) Compilation fails because of an error in line
c) A NullPointerException occurs at runtime
d) An IllegalStateException occurs at runtime
Explanation: Because we are performing operation on reference variable which is null.
5. Which of these methods can be used to convert all characters in a String into a character
array?
                                                                          [c]
a) charAt()
                b) both getChars() & charAt()c) both toCharArray() & getChars()
d) all of the mentioned
Explanation: charAt() return one character only not array of character.
6. What will be the output of the following Java code?
                                                                                          [d]
class output
   {
     public static void main(String args[])
```

```
String c = "Hello i love java";
       int start = 2;
       int end = 9;
       char s[]=new char[end-start];
       c.getChars(start,end,s,0);
       System.out.println(s);
     }
  }
a) Hello, i love java
                                                      c) lo i lo
                               b) i love ja
                                                                              d) llo i l
Explanation: getChars(start,end,s,0) returns an array from the string c, starting index of array
is pointed by start and ending index is pointed by end. s is the target character array where
                                                 Kiishna District, Andhra Prac
the new string of letters is going to be stored and the new string will be stored from 0th
position in s.
Output:
  $ javac output.java
$ java output
llo i l
7. What will be the output of the following Java code?
                                                                                      [a]
  class output
  {
     public static void main(String args[])
       String a = "hello i love java";
       System.out.println(a.indexOf('i')+"
                                            "+a.indexOf('o') +" "+a.lastIndexOf('i')+"
"+a.lastIndexOf('o'));
                                              d) 4 3 6 9
                               c) 7889
a) 6 4 6 9
               b) 5 4 5 9
Explanation: indexof('c') and lastIndexof('c') are pre defined function which are used to get
the index of first and last occurrence of
the character pointed by Oin the given array.
Output:
$ javac output.java
$ java output
6469
8. What will be the output of the following Java code?
                                                                                      [c]
class output
     public static void main(String args[])
       char c[]={'a', '1', 'b', '', 'A', '0'};
       for (int i = 0; i < 5; ++i)
        {
            if(Character.isDigit(c[i]))
               System.out.println(c[i]+" is a digit");
            if(Character.isWhitespace(c[i]))
               System.out.println(c[i]+" is a Whitespace character");
            if(Character.isUpperCase(c[i]))
               System.out.println(c[i]+" is an Upper case Letter");
```

```
if(Character.isLowerCase(c[i]))
                System.out.println(c[i]+" is a lower case Letter");
          i=i+3;
         }
      }
   }
a)a is a lower case Letter
                                                           b)b is a lower case Letter
    is White space character
                                                                is White space character
c) a is a lower case Letter
                                                           d) a is a lower case Letter
   A is an upper case Letter
                                                                   0 is a digit
Explanation:
Character.isDigit(c[i]),Character.isUpperCase(c[i]),Character.isWhitespace(c[i]) are the
function of library java.lang. They are used to find weather the given character is of specified
A is an Upper Case Letter

9. What will be the output of the following Java code? A fistict in Andria

class output

{

public static void main(String args[])

{

char ch;

ch = "hello".charAt(1);

System.out.println(ch);

}
                                                                                            [b]
a) h
                 b) e
                                                   d) o
Explanation: "hello" is a String literal, method charAt() returns the character specified at the
index position. Character at index position 1 is e of hello, hence ch contains e.
output:
$ javac output.java
$ java output
           9+
e
String Comparison
1. Which of these method of class String is used to compare two String objects for their
equality?
                                                                                    [a]
a) equals()
                         b) Equals()
                                          c) isequal()
                                                           d) Isequal()
2. Which of these methods is used to compare a specific region inside a string with another
specific region in another string?
                                                           [d]
a) regionMatch()
                         b) match()
                                          c) RegionMatches()
                                                                           d) regionMatches()
3. Which of these methods of class String is used to check whether a given object starts with
a particular string literal?
                                                                            [a]
a) startsWith()
                         b) endsWith() c) Starts()
                                                           d) ends()
 Explanation: Method startsWith() of string class is used to check whether the String in
question starts with a specified string. It is a specialized form of method regionMatches().
```

```
4. What is the value returned by function compareTo() if the invoking string is less than the
string compared?
                                                                            [b]
a) zero
                                             b) value less than zero
                                             d) none of the mentioned
c) value greater than zero
Explanation: compareTo() function returns zero when both the strings are equal, it returns a
value less than zero if the invoking string is less than the other string being compared and
value greater than zero when invoking string is greater than the string compared to.
5. Which of these data type value is returned by equals() method of String class? [c]
a) char b) int c) Boolean
                              d) all of the mentioned
                                                .n th
Andhra Prades
Explanation: equals() method of string class returns boolean value true if both the string are
equal and false if they are unequal.
6. What will be the output of the following Java code?
                                                                                           [b]
class output
  {
     public static void main(String args[])
       String c = "Hello i love java";
       boolean var;
       var = c.startsWith("hello");
      System.out.println(var);
     }
   }
a) true
               b) false
                              c) 0
                                      d) 1
Explanation: startsWith() method is case sensitive "hello" and "Hello" are treated differently,
hence false is stored in var.
Output:
                               inic.
$ javac output.java
$ java output
False
7. What will be the output of the following Java code?
                                                                                   [d]
class output
  {
     public static void main(String args[])
      String s1 = "Hello i love java";
      String s2 = new String(s1);
      System.out.println((s1 == s2) + "" + s1.equals(s2));
a) true true
                      b) false false
                                             c) true false
                                                                    d) false true
Explanation: The == operator compares two object references to see whether they refer to the
same instance, where as equals() compares the content of the two objects.
Output:
 $ javac output.java
$ java output
false true
```

[c]

8. What will be the output of the following Java code?

```
class output
  {
     public static void main(String args[])
       String s1 = "Hello";
       String s2 = new String(s1);
       String s3 = "HELLO";
       System.out.println(s1.equals(s2) + " " + s2.equals(s3));
     }
a)true true
               b) false false
                                      c) true false
                                                             d) false true
Output:
 $ javac output.java
$ java output
true false
9. In the following Java code, which code fragment should be inserted at line 3 so that the
                                                          District
output will be: "123abc 123abc"?
                                                                     [d]
StringBuilder sb1 = new StringBuilder("123");
String s1 = "123";
// insert code here
System.out.println(sb1 + " " + s1);
                                                b) sb1.append("abc"); s1.concat("abc");
a) sb1.append("abc"); s1.append("abc");
c) sb1.concat("abc"); s1.append("abc");
d) sb1.append("abc"); s1 = s1.concat("abc");
Explanation: append() is stringbuffer method and concat is String class method.
append() is stringbuffer method and concat is String class method.
10. What will be the output of the following Java code?
                                                                             [d]
  class output
  {
     public static void main(String args[])
        String chars = { "a", "b", "c", "a", "c" };
        for (int i = 0; i < \text{chars.length}; ++i)
          for (int j = i + 1; j < \text{chars.length}; ++j)
           if(chars[i].compareTo(chars[j]) == 0)
                System.out.print(chars[j]);
a) ab
               b) bc
                              c) ca
                                              d) ac
Explanation: compareTo() function returns zero when both the strings are equal, it returns a
value less than zero if the invoking string is less than the other string being compared and
value greater than zero when invoking string is greater than the string compared to.
output:
$ javac output.java
$ java output
Ac
Searching & Modifying a String
```

1. Which of this method of class String is used to extract a substring from a String object? [a] a) substring() b) Substring() c) SubString() d) None of the mentioned 2. What will s2 contain after following lines of Java code? [c] String s1 = "one"; String s2 = s1.concat("two") a) one b) two c) onetwo d) twoone Explanation: Two strings can be concatenated by using concat() method. 3. Which of these method of class String is used to remove leading and trailing whitespaces? [b] d) doTrim() a) startsWith() b) trim() c) Trim() 4. What is the value returned by function compareTo() if the invoking string is greater than the string compared? [c] a) zero b) value less than zero c) value greater than zero d) none of the mentioned Explanation: if (s1 == s2) then 0, if(s1 & gt; s2) & gt; 0, if (s1 & lt; s2) then & lt; 0. 5. Which of the following statement is correct? [a] a) replace() method replaces all occurrences of one character in invoking string with another character b) replace() method replaces only first occurrences of a character in invoking string with another character c) replace() method replaces all the characters in invoking string with another character d) replace() replace() method replaces last occurrence of a character in invoking string with another character Explanation: replace() method replaces all occurrences of one character in invoking string with another character. 6. What will be the output of the following Java program? [c] class output { public static void main(String args[]) String c = " Hello World "; String s = c.trim();System.out.println("\""+s+"\""); } } 1. a) ""Hello World"" b) ""Hello World" c) "Hello World" d) Hello world Explanation: trim() method is used to remove leading and trailing whitespaces in a string. Output: \$ javac output.java \$ java output "Hello World" 7. What will be the output of the following Java program? [c] class output ł public static void main(String args[]) String s1 = "one";String s2 = s1 + "two";System.out.println(s2);

```
}
a) one
                              c) one two
                                                     d) compilation error
               b) two
Output:
$ javac output.java
$ java output
one two
8. What will be the output of the following Java program?
                                                                                   [d]
class output
  {
                                                                 Andhra Pradesh
     public static void main(String args[])
      String s1 = "Hello";
      String s2 = s1.replace('l','w');
      System.out.println(s2);
     }
  }
                                                            d) hewwo
a)hello
               b) helwo
                                      c) hewlo
Explanation: replace() method replaces all occurrences of one character in invoking string
with another character. s1.replace('l','w') replaces every occurrence of 'l' in hello by 'w',
                                      Havalleru, Krish
giving hewwo.
Output:
$ javac output.java
$ java output
hewwo
9. What will be the output of the following Java program?
                                                                                           [a]
class output
  {
     public static void main(String args[])
      String s1 = "Hello World";
      String s_2 = s_1.substring(0, 4);
      System.out.println(s2);
  }
a) Hell
               b) Hello
                                     c) Worl
                                                            d) World
Explanation: substring(0,4) returns the character from 0 th position to 3 rd position.
output:
 $ javac output.java
$ java output
Hell
10. What will be the output of the following Java program?
                                                                                   [c]
class output
  {
     public static void main(String args[])
              String s = "Hello World";
     {
        int i = s.indexOf('o');
        int j = s.lastIndexOf('l');
```

System.out.print(i + " " + j) }

c) 4 9

b) 5 9

d) 5 8

Explanation: indexOf() method returns the index of first occurrence of the character where as lastIndexOf() returns the index of last occurrence of the character.

output:

a) 4 8

\$ javac output.java

\$ java output

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StringBuffer Class

1. Which of these class is used to create an object whose character sequence is mutable? [b]
a) String() b) StringBuffer() c) String() & StringBuffer() d) None of the mentioned Explanation: StringBuffer represents growable and writable character sequence.

2. Which of this method of class StringBuffer is used to concatenate the string representation to the end of invoking string? [b]

a) concat() b) append() c) join() d) concatenate()

3. Which of these method of class StringBuffer is used to find the length of current character sequence? [a]

a) length() b) Length() c) capacity() d) Capacity()

4. What is the string contained in s after following lines of Java code? [b]StringBuffer s new StringBuffer("Hello");

s.deleteCharAt(0);

a) Hell **b) ello** c) Hel d) llo

Explanation: deleteCharAt() method deletes the character at the specified index location and returns the resulting StringBuffer object.

[a]

[d]

5. Which of the following statement is correct?

a) reverse() method reverses all characters b) reverseall() method reverses all characters c) replace() method replaces first occurrence of a character in invoking string with another character

d) replace() method replaces last occurrence of a character in invoking string with another character

Explanation: reverse() method reverses all characters. It returns the reversed object on which it was called.

6. What will be the output of the following Java program? class output

{

public static void main(String args[])

String a = "hello i love java";

System.out.println(a.indexOf('e')+" "+a.indexOf('a')+" "+a.lastIndexOf('l')+" "+a.lastIndexOf('v'));

}

a) 6 4 6 9

b) 5 4 5 9 c) 7 8 8 9 d) **1 14 8 15**

Explanation: indexof('c') and lastIndexof('c') are pre defined function which are used to get the index of first and last occurrence of

the character pointed by c in the given array.

Output:

\$ javac output.java

\$ java output

```
1 14 8 15
7. What will be the output of the following Java program?
                                                                              [d]
 class output
  {
    public static void main(String args[])
       StringBuffer c = new StringBuffer("Hello");
       c.delete(0,2);
       System.out.println(c); } }
a) He b) Hel c) lo d) llo
      Explanation: delete(0,2) is used to delete the characters from 0 th position to 1 st position.
Output:
 $ javac output.java
$ java output
Llo
8. What will be the output of the following Java program?
                                                                              [d]
 class output
  {
    public static void main(String args[])
    {
     }
                            c) Helloworld
a) Hello
              b) World
                                                 d) Hello World
Explanation: append() method of class StringBuffer is used to concatenate the string
representation to the end of invoking string.
Output:
$ javac output.java
$ java output
Hello World
9. What will be the output of the following Java program?
                                                                              [b]
class output \.
         8
    public static void main(String args[])
      StringBuffer s1 = new StringBuffer("Hello");
      StringBuffer s2 = s1.reverse();
      System.out.println(s2);
     }
a) Hello
              b) olleH
                            c) HelloolleH d) olleHHello
Explanation: reverse() method reverses all characters. It returns the reversed object on which
it was called.
Output:
 $ javac output.java
$ java output
```

olleH

```
10. What will be the output of the following Java program?
                                                                                           [c]
  class output
  {
    class output
      public static void main(String args[])
        char c[]={'A', '1', 'b', '', 'a', '0'};
        for (int i = 0; i < 5; ++i)
               Character.isUpperCase(c[i]))
System.out.println(c[i]+" is a Whitespace character"), thrappade
Character.isUpperCase(c[i]))
System.out.println(c[i]+" is an Upper c
Character.isLowerCase(c______
System c______
        {
             i++;
             if(Character.isDigit(c[i]))
             if(Character.isWhitespace(c[i]))
             if(Character.isUpperCase(c[i]))
             if(Character.isLowerCase(c[i]))
                System.out.println(c[i]+" is a lower case Letter");
             i++;\}\}
a)a is a lower case Letter
                                                  b)b is a lower case Letter
                                                    is White space character
is White space character
c) 1 is a digit
                                                da is a lower case Letter
                                                   0 is a digit
a is a lower case Letter
Explanation: Character.isDigit(c[4]), Character.isUpperCase(c[i]),
Character.isWhitespace(c[i]) are the function of library java.lang they are used to find
whether the given character is of specified type or not. They return true or false i:e Boolean
variable.
Output:
$ javac output.java
$ java output
1 is a digit \checkmark
a is a lower-case Letter
StringBuffer Methods
1. Which of these methods of class StringBuffer is used to extract a substring from a String
object?
                                                                                           [a]
a) substring()
                                                                          d) None of the mentioned
                        b) Substring()
                                                 c) SubString()
2. What will s2 contain after following lines of Java code?
                                                                                           [c]
StringBuffer s1 = "one";
StringBuffer s2 = s1.append("two")
a) one
                b) two
                                 c) onetwo
                                                          d) twoone
Explanation: Two strings can be concatenated by using append() method.
3. Which of this method of class StringBuffer is used to reverse sequence of characters? [a]
a) reverse()
                        b) reverseall()
                                                 c) Reverse()
                                                                          d) reverseAll()
Explanation: reverse() method reverses all characters. It returns the reversed object on which
it was called.
```

```
4. Which of this method of class StringBuffer is used to get the length of the sequence of
characters?
                                                                                   [a]
a) length()
                      b) capacity()
                                             c) Length()
                                                            d) Capacity()
Explanation: length()- returns the length of String the StringBuffer would create whereas
capacity() returns a total number of characters that can be supported before it is grown.
5. Which of the following are incorrect form of StringBuffer class constructor?
                                                                                   [d]
a) StringBuffer()
                      b) StringBuffer(int size)
                                                     c) StringBuffer(String str)
d) StringBuffer(int size, String str)
6. What will be the output of the following Java code?
                                                                                   [b]
  class output
                                                            tict Andhra Pradesh
  {
     public static void main(String args[])
        StringBuffer c = new StringBuffer("Hello");
        System.out.println(c.length());
   }
a) 4
               b) 5
                              c) 6
                                             d) 7
Explanation: length() method is used to obtain length of StringBuffer object, length of
                                                Kishna
"Hello" is 5.
Output:
$ javac output.java
                                            lleru,
$ java output
5
7. What will be the output of the following Java code?
                                                                                   [c]
 class output
 {
   public static void main(String args[])
    {
      StringBuffer sb=new StringBuffer("Hello");
      sb.replace(1,3,"Java");
      System.out.println(sb);
    }
 }
                      b) Hellojava
                                             c) HJavalo
a) Hello java
                                                                    d) Hiava
Explanation: The replace() method replaces the given string from the specified beginIndex
and endIndex.
$ javac output.java
$ java output
HJavalo
8. What will be the output of the following Java code?
                                                                                   [c]
class output
  {
     public static void main(String args[])
       StringBuffer s1 = new StringBuffer("Hello");
       s1.setCharAt(1,'x');
       System.out.println(s1);
```

```
}
a) xello
              b) xxxxx
                                     c) Hxllo
                                                           d) Hexlo
Output:
  $ javac output.java
$ java output
Hxllo
9. What will be the output of the following Java code?
                                                                                 [d]
  class output
  {
    public static void main(String args[])
                                                                 Indhia Pradesh
      StringBuffer s1 = new StringBuffer("Hello World");
      s1.insert(6, "Good ");
      System.out.println(s1);
     }
  }
a) HelloGoodWorld b) HellGoodoWorld c) HellGood oWorld d) Hello Good World
Explanation: The insert() method inserts one string into another. It is overloaded to accept
values of all simple types, plus String and Objects. Sting is inserted into invoking object at
specified position. "Good " is inserted in "Hello World", T index 6 giving "Hello Good
World".
                                           lern'tri
output:
$ javac output.java
$ java output
Hello Good World
10. What will be the output of the following Java code?
                                                                          [d]
 class output
  {
    public static void main(String args[])
      StringBuffer s1 ⇒ new StringBuffer("Hello");
      s1.insert(1,"Java");
      System.out.println(s1);
     }
a) hello  😌
              b) java
                             c) Hello Java
                                                   d) HJavaello
Explanation: Insert method will insert string at a specified position
Output:
$ javac output.java
$ java output
HJavaello
Java.lang Introduction
1. Which of these classes is not included in java.lang?
                                                                                         [C]
                                            d) Class
a) Byte
              b) Integer
                             c) Array
Explanation: Array class is a member of java.util.
2. Which of these is a process of converting a simple data type into a class?
                                                                                         [a]
a) type wrapping
                     b) type conversion c) type casting
                                                                  d) none of the Mentioned
```

```
3. Which of these is a super class of wrappers Double & Integer?
                                                                                           [d]
                                             d) Number
a) Long
               b) Digits
                              c) Float
Explanation: Number is an abstract class containing subclasses Double, Float, Byte, Short,
Integer and Long.
4. Which of these is a wrapper for simple data type float?
                                                                                           [c]
a) float
               b) double
                              c) Float
                                             d) Double
5. Which of the following is a method of wrapper Float for converting the value of an object
into byte?
                                                                                           [b]
a) bytevalue()
                      b) byte byteValue() c) Bytevalue()
                                                                    d) Byte Bytevalue()
6. Which of these methods is used to check for infinitely large and small values?
                                                                                           [a]
a) isInfinite()
                      b) isNaN()
                                             c) Isinfinite()
                                                                    d) IsNaN()
Explanation: isinfinite() method returns true is the value being tested is infinitely large or
small in magnitude.
                                       Javalleru, Kishna District, Andhri
7. Which of the following package stores all the simple data types in java \%
                                                                                           [a]
a) lang
               b) java
                              c) util
8. What will be the output of the following Java code?
                                                                                           [c]
 class isinfinite output
  {
     public static void main(String args[])
       Double d = new Double(1 / 0.);
       boolean x = d.isInfinite();
       System.out.print(x);
     }
  }
a) 0
               b) 1
                              c) true 🟑
Explanation: isInfinite() method returns true is the value being tested is infinitely large or
small in magnitude. 1/0. is infinitely large in magnitude hence true is stored in x.
Output:
 $ javac isinfinite_output.java
$ java isinfinite_outputo
True
9. What will be the output of the following Java code?
                                                                                    [d]
 class isNaN_output
  {
     public static void main(String args[])
       Double d = new Double(1 / 0.);
       boolean x = d.isNaN();
       System.out.print(x);
a) 0
               b) 1
                              c) true
                                             d) false
Explanation: isisNaN() method returns true is the value being tested is a number. 1/0. is
infinitely large in magnitude, which cannot be defined as a number hence false is stored in x.
Output:
 $ javac isNaN_output.java
$ java isNaN_output
False
```

```
[d]
10. What will be the output of the following Java code?
 class binary
  {
     public static void main(String args[])
        int num = 17;
        System.out.print(Integer.toBinaryString(num));
     }
  }
a) 1001
               b) 10011
                              c) 11011
                                             d) 10001
                                                             itct Andhra Pradesh
output:
$ javac binary.java
$ java binary
10001
Java.lang – Integer, Long & Character Wrappers
1. Which of these is a wrapper for data type int?
                                                                                          [a]
a) Integer
               b) Long
                              c) Byte
                                             d) Double
2. Which of the following methods is a method of wrapper integer for obtaining hash code
for the invoking object?
                                                                                          [c]
a) int hash()
              b) int hashcode()
                                     c) int hashCode()
                                                            d) Integer hashcode()
3. Which of these is a super class of wrappers Long, Character & Integer?
                                                                                          [d]
               b) Digits
                              c) Float
                                             d) Number
a) Long
Explanation: Number is an abstract class containing subclasses Double, Float, Byte, Short,
Integer and Long.
4. Which of these is a wrapper for simple data type char?
                                                                                          [b]
a) Float
               b) Character
                                   C) String
                                                            d) Integer
5. Which of the following is method of wrapper Integer for converting the value of an object
into int?
                                                                                          [b]
a) bytevalue()
                      b) int intValue();
                                             c) Bytevalue()
                                                                   d) Byte Bytevalue()
6. Which of these methods is used to obtain value of invoking object as a long?
                                                                                          [b]
a) long value()
                    (b) long longValue() c) Long longvalue() d) Long Longvalue()
Explanation: long long Value() is used to obtain value of invoking object as a long.
7. What will be the output of the following Java program?
                                                                                          [b]
class Output
     public static void main(String args[])
       char a[] = {'a', '5', 'A', ' '};
       System.out.print(Character.isDigit(a[0]) + " ");
       System.out.print(Character.isWhitespace(a[3]) + " ");
       System.out.print(Character.isUpperCase(a[2])); } }
a) true false true
                      b) false true true
                                             c) true true false
                                                                   d) false false false
Explanation: Character.isDigit(a[0]) checks for a[0], whether it is a digit or not, since a[0] i:e
'a' is a character false is returned. a[3] is a whitespace hence Character.isWhitespace(a[3])
returns a true. a[2] is an uppercase letter i:e 'A' hence Character.isUpperCase(a[2]) returns
true.
Output:
```

\$ javac Output.java

```
$ java Output
false true true
8. What will be the output of the following Java program?
                                                                                  [b]
class Output
  {
     public static void main(String args[])
     {
       Integer i = new Integer(257);
       byte x = i.byteValue();
       System.out.print(x); } }
a) 0
              b) 1
                    c) 256
                                  d) 257
Explanation: i.byteValue() method returns the value of wrapper i as a byte value? i is 257,
range of byte is 256 therefore i value exceeds byte range by 1 hence 1 is returned and stored
in x.
                                  .m.
Krishna
                                                                                  [d]
       Integer i = new Integer(257);
                      d) 257.0
       float x = i.floatValue();
       System.out.print(x); } }
a) 0
       b) 1 c) 257
Output:
$ javac Output.java
$ java Output
257.0
10. What will be the output of the following Java program?
                                                                                  [a]
class Output
  {
     public static void main(String args[])
         Ŷ
       Long i = new Long(256);
       System.out.print(i.hashCode());
a) 256
              b) 256.0
                                  c) 256.00
                                                       d) 257.00
 Output:
  $ javac Output.java
$ java Output
256
Void, Process & System Class
1. Which of these class have only one field 'TYPE'?
                                                                                  [a]
a) Void
                     b) Process
                                         c) System
                                                       d) Runtime
```

Explanation: The Void class has one field, TYPE, which holds a reference to the Class object for the type void. 2. Which of the following method of Process class can terminate a process? [b] c) void terminate() a) void kill() b) void destroy() d) void exit() Explanation: Kills the subprocess. The subprocess represented by this Process object is forcibly terminated. 3. Standard output variable 'out' is defined in which class? [d] a) Void b) Process c) Runtime d) System Explanation: Standard output variable 'out' is defined in System class. out is usually used in print statement i:e System.out.print(). 4. Which of these class can encapsulate an entire executing program? [b] c) Runtime a) Void b) Process d) System 5. Which of the following is method of System class is used to find how long a program takes to execute? [**c**] b) currentTime() c) currentTimeMillis() d) currenttimeMillis() a) currenttime() 6. Which of these class holds a collection of static methods and variables? [d] b) Process c) Runtime a) Void d) System Explanation: System class holds a collection of static methods and variables. The standard input, output and error output of java runtime is stored in the in, out and err variables of System class. 7. What will be the output of the following Java code? [d] class Output { public static void main(String args[]) long start, end; start = System.currentTimeMillis(); for (int i = 0; i < 10000000; i++); end = System.currentTimeMillis(); System.out.print(end - start); } } b) 1 a) 0 c) 1000 d) System Dependent Explanation: end time is the time taken by loop to execute it can be any non zero value depending on the System. Output: \$ javac Output.java \$ java Output 78 5 8. What will be the output of the following Java code? [a] class Output ł public static void main(String args[]) byte a[] = { 65, 66, 67, 68, 69, 70 }; byte b[] = { 71, 72, 73, 74, 75, 76 }; System.arraycopy(a, 0, b, 0, a.length); System.out.print(new String(a) + " " + new String(b));} } a) ABCDEF ABCDEF b) ABCDEF GHIJKL c) GHIJKL ABCDEF d) GHIJKL GHIJKL

```
Explanation: System.arraycopy() is a method of class System which is used to copy a string
into another string.
Output:
 $ javac Output.java
$ java Output
ABCDEF ABCDEF
9. What will be the output of the following Java code?
                                                                                       [b]
class Output
  {
                                                 ana District, Andrea Pradesh
    public static void main(String args[])
       byte a[] = { 65, 66, 67, 68, 69, 70 };
       byte b[] = { 71, 72, 73, 74, 75, 76 };
       System.arraycopy(a, 2, b, 1, a.length-2);
       System.out.print(new String(a) + " " + new String(b));}
                                    b) ABCDEF GCDEFL
a) ABCDEF GHIJKL
c) GHIJKL ABCDEF
                                    d) GCDEFL GHIJKL
Output:
 $ javac Output.java
$ java Output
ABCDEF GCDEFL
10. What will be the output of the following Java code?
                                                                                       [a]
 class Output
  {
    public static void main(String args[])
       byte a[] = { 65, 66, 67, 68, 69, 70 };
       byte b[] = { 71, 72, 73, 74, 75, 76 };
       System.arraycopy(a, 1, b, 3, 0);
       System.out.print(new String(a) + " " + new String(b));}
a) ABCDEF GHIJKLO
                                    b) ABCDEF GCDEFL
c) GHIJKL ABCDEE
                                    d) GCDEFL GHIJKL
Explanation: Since last parameter of System.arraycopy(a,1,b,3,0) is 0 nothing is copied from
array a to array b, hence b remains as it is.
Output:
 $ javac Output.java
$ java Output
ABCDEF GHIJKL
Java.lang - Object & Math Class
1. Which of these class is a superclass of all other classes?
                                                                                       [d]
a) Math
              b) Process
                            c) System
                                           d) Object
Explanation: The object class class is a superclass of all other classes.
2. Which of these method of Object class can generate duplicate copy of the object on which
it is called?
                                                                                       [a]
a) clone()
                     b) copy()
                                           c) duplicate()
                                                                 d) dito()
3. What is the value of double consonant 'E' defined in Math class?
                                                                                       [c]
a) approximately 3
                     b) approximately 3.14 c) approximately 2.72 d) approximately 0
4. Which of these method is a rounding function of Math class?
                                                                                       [d]
              b) min()
                            c) abs()
                                           d) all of the mentioned
a) max()
```

```
Explanation: max(), min() and abs() are all rounding functions.
5. Which of these class contains only floating point functions?
                                                                                           [a]
               b) Process
                              c) System
                                             d) Object
a) Math
Explanation: Math class contains all the floating point functions that are used for geometry,
trigonometry, as well as several general purpose methods. Example : sin(), cos(), exp(), sqrt()
etc.
6. Which of these class encapsulate the runtime state of an object or an interface?
                                                                                           [a]
                              c) Runtime
a) Class
               b) Object
                                             d) System
7. What is the value of "d" in the following Java code snippet?
                                                                                           [a]
 double d = Math.round (2.5 + Math.random());
       b) 3
               c) 4
                      d) 2.5
a) 2
Explanation: The Math.random() method returns a number greater than or equal to 0 and less
                                                 Kishna District , Andhri
than 1. so 2.5 will be greater than or equal to 2.5 and less than 3.5, we can be sure that
Math.round() will round that number to 3.
8. What will be the output of the following Java program?
                                                                                           [b]
 class Output
  {
     public static void main(String args[])
     {
        int x = 3.14;
        int y = (int) Math.abs(x);
                                  Gudlavalle 13.
        System.out.print(y); } }
a)0
               b) 3
                              c) 3.0
Output:
$ javac Output.java
$ java Output
3
9. What will be the output of the following Java program?
                                                                                           [d]
  class Output
  {
     public static void main(String args[])
     {
       double x = 3.1;
       double y = 4.5;
       double z = Math.max(x, y);
      System.out.print(z);}}
a) true
               b) flase
                                             d) 4.5
                              c) 3.1
Output:
$ javac Output.java
$ java Output
4.5
10. What will be the output of the following Java program?
                                                                                           [c]
  class Output
     public static void main(String args[])
     {
       double x = 2.0;
       double y = 3.0;
```

double z = Math.pow(x, y);System.out.print(z); } } a) 2.0 b) 4.0 c) 8.0 d) 9.0 Explanation: Math.pow(x, y) methods returns value of y to the power x, i:e x y , 2.0 3 .0 = 8.0. Output: \$ javac Output.java \$ java Output 8.0 Java.lang – Double & Float Wrappers 1. Which of these is a super class of wrappers Double and Float? [d] d) Number a) Long b) Digits c) Float Explanation: Number is an abstract class containing subclasses Double, Float, Byte, Short, Integer and Long. 2. Which of the following methods return the value as a double? [a] d) getDoubleValue() a) doubleValue() b) converDouble() c) getDouble() 3. Which of these methods can be used to check whether the given value is a number or not? [a] c) checkNaN() a) isNaN() b) isNumber() d) checkNumber() Explanation: isNaN() methods returns true if num specified is not a number, otherwise it returns false. 4. Which of these method of Double wrapper can be used to check whether a given value is infinite or not? [b] c) checkInfinite() d) None of the mentioned a) Infinite() **b**) **isInfinite**() Explanation: isInfinite() methods returns true if the specified value is an infinite value otherwise it returns false. 5. Which of these exceptions is thrown by compareTo() method defined in a double wrapper? [d] b) SystemException c) CastException` a) IOException d) ClassCastException Explanation: compareTo() methods compare the specified object to be double, if it is not then ClassCastException is thrown. advertisement 6. What will be the output of the following Java code? [b] class Output public static void main(String args[]) Double i = new Double(257.5);boolean x = i.isNaN(); System.out.print(x); } } a) true b) false c) 0 d) 1 Explanation: i.isNaN() method returns returns true if i is not a number and false when i is a number. Here false is returned because i is a number i:e 257.5. Output: \$ javac Output.java \$ java Output False

```
[d]
7. What will be the output of the following Java code?
class Output
  {
     public static void main(String args[])
     ł
       Double i = new Double(257.578);
       int x = i.intValue();
       System.out.print(x);
     }
a) 0
       b) 1
              c) 256
                             d) 257
                                                  ser. i
ser. i
prac
Andhra Prac
Explanation: i.intValue() method returns the value of wrapper i as a Integer. i is 257.578 is
double number when converted to an integer data type its value is 257.
Output:
  $ javac Output.java
$ java Output
257
8. What will be the output of the following Java code?
                                                                                          [c]
  class Output
  {
     public static void main(String args[])
          Double i = new Double(257.578123456789);
       float x = i.floatValue();
       System.out.print(x);
  }
              b) 257.0
                             c) 257.57812
a) 0
                                                    d) 257.578123456789
Explanation: floatValue() converts the value of wrapper i into float, since float can measure
till 5 places after decimal hence 257.57812 is stored in floating point variable x.
Output:
$ javac Output.java
$ java Output
257.57812
9. What will be the output of the following Java code?
                                                                                  [b]
class Output
    public static void main(String args[])
       Double y = new Double(257.57812);
          Double i = new Double(257.578123456789);
       try
       ł
            int x = i.compareTo(y);
          System.out.print(x);
       catch(ClassCastException e)
          System.out.print("Exception");}}}
```

a) 0 **b**) 1 c) Exception d) None of the mentioned Explanation: i.compareTo() methods two double values, if they are equal then 0 is returned and if not equal then 1 is returned, here 257.57812 and 257.578123456789 are not equal hence 1 is returned and stored in x. Output: \$ javac Output.java \$ java Output 1 **Java.io Introduction** 1. Which of these packages contain classes and interfaces used for input & output operations of a program? [c] a) java.util b) java.lang c) java.io d) all of the mentioned Explanation: java.io provides support for input and output operations. 2. Which of these class is not a member class of java.io package? [a] a) String b) StringReader c) Writer d) File 3. Which of these interface is not a member of java.io package? [c] c) ObjectFilter d) EileFilter a) DataInput b) ObjectInput 4. Which of these class is not related to input and output stream in terms of functioning? [c] c) InputStream a) File b) Writer d) Reader Explanation: A File describes properties of a file, a File object is used to obtain or manipulate the information associated with a disk file, such as the permissions, time date, and directories path, and to navigate subdirectories. 5. Which of these is specified by a File object? [c] a) a file in disk b) directory path (a) directory in disk d) none of the mentioned 6. Which of these is method for testing whether the specified element is a file or a directory? [b] b) isFile() c) Isfile() d) isfile() a) IsFile() Explanation: isFile() returns true (called on a file and returns false when called on a directory. 7. What will be the output of the following Java code? import java.io.*; class files { public static void main(String args[]) File obj = new File("/java/system"); \$vstem.out.print(obj.getName());}} a) java b) system c) java/system d) /java/system Explanation: obj.getName() returns the name of the file. Output: \$ javac files.java \$ java files System 8. What will be the output of the following Java program? (Note: file is made in c drive.) [d] import java.io.*; class files public static void main(String args[])

```
File obj = new File("/java/system");
       System.out.print(obj.getAbsolutePath());}}
a) java
               b) system
                              c) java/system
                                                     d) \java\system
Output:
$ javac files.java
$ java files
\java\system
9. What will be the output of the following Java program? (Note: file is made in c drive.) [d]
  import java.io.*;
                                                   sma District, Andhra Pradesh
  class files
  {
     public static void main(String args[])
       File obj = new File("/java/system");
       System.out.print(obj.canWrite());
       System.out.print(" " + obj.canRead());}}
a) true false
               b) false true c) true true
                                             d) false false
Output:
$ javac files.java
$ java files
false false
10. What will be the output of the following Java program? (Note: file is made in c drive.)[c]
  import java.io.*;
  class files
  {
     public static void main(String args[])
       File obj = new File("/java/system");
       System.out.print(obj.getParent());
       System.out.print(" " obj.isFile());}}
               b) java false c) \java false d) \java true
a) java true
Explanation: getparent() giver the parent directory of the file and isfile() checks weather the
present file is a directory or a file in the disk.
Output:
$ javac files.java
$ java files
\java false
Javalio Byte Streams
Which of these classes is used for input and output operation when working with bytes?[a]
a) InputStream
                      b) Reader
                                     c) Writer
                                                    d) All of the mentioned
Explanation: InputStream & OutputStream are designed for byte stream. Reader and writer
are designed for character stream.
2. Which of these class is used to read and write bytes in a file?
                                                                                           [c]
a) FileReader b) FileWriter c) FileInputStream d) InputStreamReader
3. Which of these method of InputStream is used to read integer representation of next
available byte input?
                                                                                           [a]
a) read()
               b) scanf()
                              c) get()
                                             d) getInteger()
4. Which of these data type is returned by every method of OutputStream?
                                                                                           [d]
a) int
               b) float
                              c) byte
                                             d) none of the mentioned
```

Explanation: Every method of OutputStream returns void and throws an IOExeption in case of errors.

```
5. Which of these is a method to clear all the data present in output buffers?
                                                                                                 [b]
a) clear()
                b) flush()
                                c) fflush()
                                                d) close()
6. Which of these method(s) is/are used for writing bytes to an outputstream?
                                                                                                 [b]
a) put()
                b) print() and write()
                                                c) printf()
                                                                         d) write() and read()
Explanation: write() and print() are the two methods of OutputStream that are used for
printing the byte data.
7. What will be the output of the following Java program? (Note: inputoutput.java is stored in
the disk.)
                                                                                                 [c]
       InputStream obj = new FileInputStream("inputoutput.java"), Tuthta Pradest
System.out.print(obj.available());}
b) false c) prints number of bytes in filest
tion: obj crutic
  import java.io.*;
  class filesinputoutput
  {
     public static void main(String args[])
     ł
a) true b) false c) prints number of bytes in fil d) prints number of characters in the file
Explanation: obj.available() returns the number of bytes
                                               leru, Kilst
Output:
$ javac filesinputoutput.java
$ java filesinputoutput
1422
(Output will be different in your case)
8. What will be the output of the following Java program?
                                                                                                 [a]
  import java.io.*;
  public class filesinputoutput
  {
        public static void main(String[] args)
     {
          String obj @"abc";
       byte b[] = obj.getBytes();
       ByteArrayInputStream obj1 = new ByteArrayInputStream(b);
       for (int i = 0; i < 2; ++i)
          Ψ
          int c:
          while ((c = obj1.read())! = -1)
                  if(i == 0)
                     System.out.print((char)c); }}}
a)abc b) ABC
                        c) ab
                                        d) AB
Output
$ javac filesinputoutput.java
$ java filesinputoutput
abc
```

```
[b]
9. What will be the output of the following Java program?
 import java.io.*;
  public class filesinputoutput
       public static void main(String[] args)
     {
         String obj = "abc";
       byte b[] = obj.getBytes();
       ByteArrayInputStream obj1 = new ByteArrayInputStream(b);
      for (int i = 0; i < 2; ++ i)
                                                                   Johna Pradesh
       {
         int c;
         while ((c = obj1.read()) != -1)
         {
                if (i == 0)
              System.out.print(Character.toUpperCase((char)c)); }}}}
            {
                                                Kiishna Distri
a) abc
               b) ABC
                             c) ab d) AB
Output:
$ javac filesinputoutput.java
$ java filesinputoutput
ABC
10. What will be the output of the following Java program?
                                                                                          [d]
import java.io.*;
  public class filesinputoutput
  {
       public static void main(String[] args)
     {
         String obj = "abc";
      byte b[] = obj.getBytes();
      ByteArrayInputStream obj1 = new ByteArrayInputStream(b);
       for (int i = 0; i < 2; ++i)
       {
         int c;
         while ((c = obj1.read()) != -1)
                if (i == 0)
            {
              System.out.print(Character.toUpperCase((char)c));
              obj2.write(1);
                 }
         System.out.print(obj2);
       }
     }
  }
a) AaBaCa
               b) ABCaaa
                             c) AaaBaaCaa
                                                    d) AaBaaCaaa
Output:
```

\$ javac filesinputoutput.java \$ java filesinputoutput AaBaaCaaa Java.io Character Stream 1. Which of these stream contains the classes which can work on character stream? [c] a) InputStream b) OutputStream c) Character Stream d) All of the mentioned Explanation: InputStream & OutputStream classes under byte stream they are not streams. Character Stream contains all the classes which can work with Unicode. 2. Which of these class is used to read characters in a file? [a] a) FileReader b) FileWriter c) FileInputStream d) InputStreamReader 3. Which of these method of FileReader class is used to read characters from a file? [a] a) read() b) scanf() c) get() d) getInteger() 4. Which of these class can be used to implement the input stream that uses a character array as the source? [c] d) FileArrayReader a) BufferedReader b) FileReader c) CharArrayReader Explanation: CharArrayReader is an implementation of an input stream that uses character array as a source. Here array is the input source. 5. Which of these classes can return more than one character to be returned to input stream? [b] a) BufferedReader **b)** Bufferedwriter c) PushbachReader d) CharArrayReader Explanation: PushbackReader class allows one or more characters to be returned to the input stream. This allows looking ahead in input stream and performing action accordingly. 6. What will be the output of the following Java program? [**d**] import java.io.*; class Chararrayinput { public static void main(String[largs) String obj = "abcdef"; int length = obj.length(); char c[] = new char[length]; obj.getChars(0,length,c,0); CharArrayReader input1 = new CharArrayReader(c);CharArrayReader input2 = new CharArrayReader(c, 0, 3); int i; try while ((i = input1.read()) != -1)System.out.print((char)i); catch (IOException e) { // TODO Auto-generated catch block e.printStackTrace();}} b) abcd d) abcdef a) abc c) abcde Output:

```
$ javac Chararrayinput.java
```

```
$ java Chararrayinput
Abcdef
7. What will be the output of the following Java program?
                                                                                         [a]
 import java.io.*;
  class Chararrayinput
  {
    public static void main(String[] args)
         String obj = "abcdef";
                                              Wishna District Andhra Pradesh
       int length = obj.length();
       char c[] = new char[length];
       obj.getChars(0, length, c, 0);
       CharArrayReader input1 = new CharArrayReader(c);
       CharArrayReader input2 = new CharArrayReader(c, 0, 3);
       int i;
       try
       {
              while ((i = input2.read()) != -1)
          {
            System.out.print((char)i);
          }
          }
       catch (IOException e)
       {
            // TODO Auto-generated catch block
         e.printStackTrace();}}}
                             c) abcde
a) abc
              b) abcd
                                            d) abcdef
                              nnici
Output:
$ javac Chararrayinput.java
$ java Chararrayinput
Abc
8. What will be the output of the following Java program?
                                                                                         [d]
  import java.io.*5
  class Chararrayinput
  ł
    public static void main(String[] args)
         String obj = "abcdefgh";
       int length = obj.length();
       char c[] = new char[length];
       obj.getChars(0, length, c, 0);
       CharArrayReader input1 = new CharArrayReader(c);
       CharArrayReader input2 = new CharArrayReader(c, 1, 4);
       int i;
       int j;
       try
       {
              while ((i = input1.read()) == (j = input2.read()))
          {
```

```
System.out.print((char)i);
       catch (IOException e)
       ł
            // TODO Auto-generated catch block
         e.printStackTrace();}}}
a) abc
              b) abcd
                             c) abcde
                                                   d) none of the mentioned
Explanation: No output is printed. CharArrayReader object input1 contains string
"abcdefgh" whereas object input2 contains string "bcde", when
while((i=input1.read())==(j=input2.read())) is executed the starting character of each object
is compared since they are unequal control comes out of loop and nothing is printed on the
                                                               Andria Prat
screen.
Output:
$ javac Chararrayinput.java
$ java Chararrayinput
Memory Management
1. Which of the following is not a segment of memory in java?
                                                                                [d]
                      b) Heap Segment
                                           c) Code Segment
a) Stack Segment
                                                                 d) Register Segment
Explanation: There are only 3 types of memory segment. Stack Segment, Heap Segment and
Code Segment.
2. Does code Segment loads the java code?
                                                                                [a]
              b) False
a) True
Explanation: Code Segment loads compiled java bytecode. Bytecode is platform
independent.
3. What is JVM?
                                                                                [b]
                                  (c) Extension d) Compiler
a) Bootstrap b) Interpreter
Explanation: JVM is Interpreter, It reads .class files which is the byte code generated by
compiler line by line and converts it into native OS code.
4. Which one of the following is a class loader?
                                                                                [a]
a) Bootstrap b) Compiler c) Heap
                                            d) Interpreter
Explanation: Bootstrap is a class loader. It loads the classes into memory.
5. Which class loader loads jar files from JDK directory?
                                                                                [b]
a) Bootstrap b) Extension c) System
                                            d) Heap
Explanation: Extension loads jar files from lib/ext directory of the JRE. This gives the basic
functionality available.
6. Which of the following is not a memory classification in java?
                                                                                [d]
                                                   d) Temporary
a) Young
              b) Old
                             c) Permanent
Explanation: Young generation is further classified into Eden space and Survivor space. Old
generation is also the tenured space. The permanent generation is the non heap space.
7. What is the Java 8 update of PermGen?
                                                                                        [c]
a) Code Cache
                      b) Tenured Space
                                           c) Metaspace d) Eden space
Explanation: Metaspace is the replacement of PermGen in Java 8. It is very similar to
PermGen except that it resizes itself dynamically. Thus, it is unbounded.
8. Classes and Methods are stored in which space?
                                                                                        [d]
a) Eden space
                      b) Survivor space
                                           c) Tenured space
                                                                 d) Permanent space
Explanation: The permanent generation holds objects which JVM finds convenient to have
the garbage collector. Objects describing classes and methods, as well as the classes and
methods themselves, are a part of Permanent generation.
```
9. Where is String Pool stored?		[b]
a) Java Stack b) Java Heap c) Permanent Generat Explanation: When a string is created; if the string	ion d) Metaspace already exists in the pool, the reference	e of
the existing string will be returned, else a new object	ct is created and its reference is returne	ed.
10. The same import package/class be called twice	in java?	[a]
a) True b) False		
Explanation: We can import the same package or sa nor JVM complains will complain about it. JVM w	me class multiple times. Neither comp ill internally load the class only once n	oiler o
matter how many times we import the same class or	r package.	
Java's Built in Exceptions		
1. Which of these exceptions handles the situations invoke a method?	when an illegal argument is used to	[c]
a) IllegalException b) Argument Exception	c) IllegalArgumentException	[-]
d) IllegalMethodArgumentException	·)gg	
2. Which of these exceptions will be thrown if we d	eclare an array with negative size?	[b]
a) Illegal Array Exception	b) IllegalArraySizeExeption	[~]
c) Negative Array Exception	d) Negative Array Size Exention	
Explanation: Array size must always be positive if	we declare an array with negative size	
then built in exception "Negative ArraySizeException	on" is thrown by the java's run time	
system	In Istinown by the java's full time	
3 Which of these packages contain all the Java's h	uilt in exceptions?	[6]
a) java jo b) java util c) java lang d) java	net	
A Which of these exceptions will be thrown if we u	use null reference for an arithmetic	
4. Which of these exceptions will be thrown have t		[6]
a) ArithmeticEvention (b) NullDeinterEvention		נט
a) AntimeticException b) NullPointerException	on c) megalAccessException	
d) IllegalOperationException		
Explanation: If we use null reference anywhere in t	he code where the value stored in that	
reference is used then NullPointerException occurs		
5. Which of these class is used to create user define	d exception?	[b]
a) java.lang b) Exception c) RunTime	d) System	
Explanation: Exception class contains all the metho	ds necessary for defining an exception	l.
The class contains the Throwable class.		
6. What will be the output of the following Java pro	ogram? [b]	
class exception_handling		
public static void main(String args[])		
L.		
r, try		
$\inf a[] = \{1, 2, 3, 4, 5\};$		
for $(int i = 0; i < 7; ++1)$		
System.out.print(a[1]);		
}		
catch(ArrayIndexOutOfBoundsException e))	
System.out.print("0"); }}		
a) 12345 b) 123450 c) 1234500 d) Cor	npilation Error	

```
Explanation: When array index goes out of bound then ArrayIndexOutOfBoundsException
exception is thrown by the system.
Output:
$ javac exception_handling.java
$ java exception handling
123450
7. What will be the output of the following Java program?
  class exception handling
  {
                                         alleru, Krishna District, Andhra Pradesh
    public static void main(String args[])
       try
       {
         int a[] = \{1, 2, 3, 4, 5\};
         for (int i = 0; i < 5; ++i)
            System.out.print(a[i]);
         int x = 1/0:
       }
       catch(ArrayIndexOutOfBoundsException e)
       System.out.print("A");
       }
       catch(ArithmeticException e)
         System.out.print("B");}}
a)12345
              b) 12345A
                             c) 12345B
                                            d) Compilation Error
Explanation: There can be more than one catch of a single try block. Here Arithmetic
exception occurs instead of Array index out of bound exception hence B is printed after
12345
Output:
$ javac exception_handling.java
$ java exception_handling
12345B
                 S
8. What will be the output of the following Java program?
  class exception handling
      static void throwexception() throws ArithmeticException
         System.out.print("0");
         throw new ArithmeticException ("Exception");
       public static void main(String args[])
       {
       try
       {
         throwexception();
       }
       catch (ArithmeticException e)
       {
```

System.out.println("A");}} a) A b) 0 c) 0A d) Exception Output: \$ javac exception_handling.java \$ java exception_handling 0A 9. What will be the output of the following Java program? [a] class exception_handling Gudlavalleru, Krishna District, Andhra Pradesh { public static void main(String args[]) ł try { int a = 1; int b = 10 / a;try { if (a == 1) a = a / a - a;if (a == 2){ int $c[] = \{1\};$ c[8] = 9; } finally { System.out.print("A"); } } catch (NullPointerException e) { System.out.println("B");}} () ·b) B a) A c) AB d) BA Explanation: The inner try block does not have a catch which can tackle ArrayIndexOutOfBoundException hence finally is executed which prints 'A' the outer try block does have catch for NullPointerException exception but no such exception occurs in it hence its catch is never executed and only 'A' is printed. Output: \$ javac exception_handling.java \$ java exception_handling А 10. What will be the output of the following Java program? [d] class exception_handling { public static void main(String args[]) try

```
{
         int a = args.length;
         int b = 10 / a;
         System.out.print(a);
         try
         {
            if (a == 1)
               a = a / a - a;
            if (a == 2)
                                          Heru, Kisha District, Andria Pradesh
               int c = \{1\};
               c[8] = 9;
             }
          }
         catch (ArrayIndexOutOfBoundException e)
          {
            System.out.println("TypeA");
          }
         catch (ArithmeticException e)
          {
            System.out.println("TypeB");
          }
     }
  }
Note: Execution command line: $ java exception_handling one two
                             c) 0TypeA
a) TypeA
              b) TypeB
                                            d) 0TypeB
Explanation: Execution command line is "$ java exception handling one two" hence there
are two input making args.length \stackrel{\frown}{=} 2, hence "c[8] = 9" in second try block is executing
which throws ArrayIndexOutOfBoundException which is caught by catch of nested try
block. Hence OTypeB is printed.
Output:
$ javac exception_handling.java
$ java exception handling
0TypeB
Java.lang – Rounding Functions
1. Which of these class provides various types of rounding functions?
                                                                                         [d]
a) Math
              b) Process
                             c) System
                                            d) Object
2. Which of these methods return a smallest whole number greater than or equal to variable
X^{?}
                                                                                         [a]
a) double ceil(double X)
                             b) double floor(double X)
                                                           c) double max(double X)
d) double min(double X)
Explanation: ceil(double X) returns the smallest whole number greater than or equal to
variable X.
3. Which of these method returns a largest whole number less than or equal to variable X?[b]
a) double ceil(double X)
                             b) double floor(double X) c) double max(double X)
d) double min(double X)
Explanation: double floor(double X) returns a largest whole number less than or equal to
variable X.
```

```
4. Which of function return absolute value of a variable?
                                                                                      [a]
a) abs()
               b) absolute() c) absolutevariable() d) none of the mentioned
Explanation: abs() returns the absolute value of a variable.
5. What will be the output of the following Java code?
                                                                                      [b]
class A
{
int x;
int y;
void display()
                                            Alleru, Krishna District, Andhra Pradesh
Alleru, Krishna District, Andhra Pradesh
d)
System.out.print(x + "" + y);
}
}
class Output
public static void main(String args[])
A obj1 = new A();
A obj2 = new A();
obj1.x = 1;
obj1.y = 2;
obj2 = obj1.clone();
obj1.display();
obj2.display();}}
                               c) 0 0 0 0 c d System Dependent
a) 1 2 0 0
               b) 1 2 1 2
Explanation: clone() method of object class is used to generate duplicate copy of the object
on which it is called. Copy of obj1 is generated and stored in obj2.
Output:
$ javac Output.java
$ java Output
1212
6. What will be the output of the following Java code?
                                                                                              [b]
class Output
  {
     public static void main(String args[])
          Ψ
        double x = 3.14;
        int y = (int) Math.abs(x);
        System.out.print(y);
a) 0
               b) 3
                       c) 3.0
                                      d) 3.1
Output:
$ javac Output.java
$ java Output
3
                                                                                              [d]
7. What will be the output of the following Java code?
 class Output
  {
```

```
public static void main(String args[])
        double x = 3.14;
        int y = (int) Math.ceil(x);
        System.out.print(y);
      }
  }
a) 0
               b) 3
                               c) 3.0
                                              d) 4
Explanation: ciel(double X) returns the smallest whole number greater than or equal to
                                         Andhra Pradesh
variable x.
Output:
 $ javac Output.java
$ java Output
4
8. What will be the output of the following Java code?
                                                                                             [b]
class Output
  {
     public static void main(String args[])
        double x = 3.14;
        int y = (int) Math.floor(x);
        System.out.print(y);
      }
  }
A)0
       b) 3
               c) 3.0
                               d) 4
Explanation: double floor(double X) returns a largest whole number less than or equal to
variable X. Here the smallest whole number less than 3.14 is 3.
Output:
  $ javac Output.java
$ java Output
3
Java.lang – Byte & Short Wrappers
1. Which of these methods of Byte wrapper can be used to obtain Byte object from a string?
                                                                                             [c]
a) toString() \land
                       b) getString()
                                              c) decode()
                                                                      d) encode()
Explanation: decode() methods returns a Byte object that contains the value specified by
string.
2. Which of the following methods Byte wrapper return the value as a double?
                                                                                             [b]
a) doubleValue()
                       b) converDouble() c) getDouble()
                                                                     d) getDoubleValue()
Explanation: doubleValue() returns the value of invoking object as double.
3. Which of these is a super class of wrappers Byte and short wrappers?
                                                                                             [d]
               b) Digits
                               c) Float
                                              d) Number
a) Long
Explanation: Number is an abstract class containing subclasses Double, Float, Byte, Short,
Integer and Long.
4. Which of these methods is not defined in both Byte and Short wrappers?
                                                                                             [d]
a) intValue()
                       b) isInfinite() c) toString() d) hashCode()
Explanation: isInfinite() methods is defined in Integer and Long Wrappers, returns true if
specified value is an infinite value otherwise it returns false.
```

```
5. What will be the output of the following Java code?
                                                                            [b]
class Output
  {
    public static void main(String args[])
      Double i = new Double(257.5);
      Double x = i.MAX VALUE;
      System.out.print(x);
    }
a) 0 b) 1.7976931348623157E308 c) 1.7976931348623157E30 d) None of the mentioned
Explanation: The super class of Double class defines a constant MAX VALUE above which
                               a number is considered to be infinity. MAX VALUE is 1.7976931348623157E308.
Output:
  $ javac Output.java
$ java Output
1.7976931348623157E308
6. What will be the output of the following Java program?
                                                                                   [b]
class Output
  {
    public static void main(String args[])
      Double i = new Double(257.5);
      Double x = i.MIN_VALUE;
      System.out.print(x);
    }
  }
a) 0
      b) 4.9E-324 c) 1.7976931348623157E308
                                                       d) None of the mentioned
Explanation: The super class of Byte class defines a constant MIN_VALUE below which a
number is considered to be negative infinity. MIN_VALUE is 4.9E-324.
Output:
$ javac Output.java
$ java Output
4.9E-324
7. What will be the output of the following Java program?
                                                                                   [c]
 class Output
     2
  {
    public static void main(String args[])
         Double i = new Double(257.578123456789);
      float x = i.floatValue();
      System.out.print(x);
    }
a) 0
                    c) 257.57812 d) 257.578123456789
      b) 257.0
Explanation: floatValue() converts the value of wrapper i into float, since float can measure
till 5 places after decimal hence 257.57812 is stored in floating point variable x.
Output:
```

\$ javac Output.java \$ java Output 257.57812 Java.lang – Character Wrapper Advance 1. Which of these methods of Character wrapper can be used to obtain the char value contained in Character object. [c] a) get() b) getVhar() c) charValue() d) getCharacter() Explanation: To obtain the char value contained in a Character object, we use charValue() method. 2. Which of the following constant are defined in Character wrapper? [d] a) MAX RADIX b) MAX_VALUE c) TYPE d) All of the mentioned Explanation: Character wrapper defines 5 constants – MAX_RADIX, MIN_RADIX, MAX_VALUE, MIN_VALUE & TYPE. 3. Which of these is a super class of Character wrapper? [d] b) Digits c) Float d) Number a) Long Explanation: Number is an abstract class containing subclasses Double, Float, Byte, Short, Character, Integer and Long. 4. Which of these methods is used to know whether a given Character object is part of Java's Identifiers? [c] a) isIdentifier() b) isJavaIdentifier() c) isJavaIdentifierPart()d) none of the mentioned 5. Which of these coding techniques is used by method isDefined()? [d] b) ASCII c) ANSI d) UNICODE a) Latin Explanation: isDefined() returns true if ch is defined by Unicode. Otherwise, it returns false. 6. What will be the output of the following Java program? [c] class Output { public static void main(String args[]) int a = Character.MAX_VALUE; System.out.print((char)a);]] d) \$ a) < b) > 00 c)? Explanation: Character.MAX VALUE returns the largest character value, which is of character '?'. Output: \$ javac Output.java \$ java Output ? 7. What will be the output of the following Java program? [d] class Output ł public static void main(String args[]) int a = Character.MIN_VALUE; System.out.print((char)a); } } a) < b) ! c) @ **d**) Space Explanation: Character.MIN_VALUE returns the smallest character value, which is of space character ' '. Output: \$ javac Output.java

```
$ java Output
8. What will be the output of the following Java program?
                                                                                                   [b]
class Output
   {
      public static void main(String args[])
         char a[] = {'a', '5', 'A', ''};
         System.out.print(Character.isDigit(a[0])+ " ");
         System.out.print(Character.isWhitespace(a[3])+ " ");
         System.out.print(Character.isUpperCase(a[2]));}
a) true false true=
                         b) false true true
                                                 c) true true false
                                                                          d) false false false
Explanation: Character.isDigit(a[0]) checks for a[0], whether it is a digit or not since a[0] i.e.
'a' is a character false is returned. a<sup>[3]</sup> is a whitespace hence Character.isWhitespace(a<sup>[3]</sup>)
returns a true. a[2] is an uppercase letter i:e 'A' hence Character.isUpperCase(a[2]) returns
ralse true true
9. What will be the output of the following Java program?
class Output
{
public static void main(C)
{
                                                                                                   [c]
        char a = (char) 98;
a = Character.toUpperCase(a);
System.out.print(a);
                        d) Chechnic,
      }
   }
a) b
        b) c
                 c) B
Output:
$ javac Output.java <
$ java Output
В
10. What will be the output of the following Java program?
                                                                                                   [b]
  class Output
       2
   {
      public static void main(String args[])
           char a = '@';
        boolean x = Character.isLetter(a);
        System.out.print(x); } }
                 b) false
a) true
                                         c) @
                                                          d) B
Output:$ javac Output.java
$ java Output
False
```

Java.lang – Boolean Wrapper Advance

```
1. Which of these methods of Boolean wrapper returns boolean equivalent of an object.
                                                                                         [b]
              b) booleanValue() c) getbooleanValue() d) getboolValue()
a) getBool()
2. Which of the following constant are defined in Boolean wrapper?
                                                                                         [d]
a) TRUE
              b) FALSE
                             c) TYPE
                                            d) All of the mentioned
Explanation: Boolean wrapper defines 3 constants – TRUE, FALSE & TYPE.
3. Which of these methods return string equivalent of Boolean object?
                                                                                         [b]
a) getString() b) toString() c) converString()
                                                   d) getStringObject()
4. Which of these methods is used to know whether a string contains "true"?
                                                                                         [a]
a) valueOf() b) valueOfString()
                                    c) getString() d) none of the mentioned
Explanation: valueOf() returns true if the specified string contains "true" in lower or
uppercase and false otherwise.
5. Which of these class have only one field?
                                                                                         [d]
a) Character b) Boolean
                             c) Byte
                                            d) void
Explanation: Void class has only one field – TYPE, which holds a reference to the Class
object for type void. We do not create an instance of this class.
                                          JIETU, Kiishna Distric
6. What will be the output of the following Java program?
                                                                                         [a]
   class Output
  {
    public static void main(String args[])
       String str = "true";
       boolean x = Boolean.valueOf(str);
       System.out.print(x); } }
                             c) Compilation Error
a)True
              b) False
                                                           d) Runtime Error
Explanation: valueOf() returns true if the specified string contains "true" in lower or
uppercase and false otherwise.
Output:
$ javac Output.java
$ java Output
True
7. What will be the output of the following Java program?
                                                                                         [b]
class Output
  {
     public static void main(String args[])
       String str = "true false true";
       boolean x = Boolean.valueOf(str);
       System.out.print(x);
a) True
              b) False
                             c) Compilation Error
                                                           d) Runtime Error
Explanation: valueOf() returns true if the specified string contains "true" in lower or
uppercase and false otherwise.
Output:
  $ javac Output.java
$ java Output
False
```

```
8. What will be the output of the following Java program?
                                                                                          [a]
class Output
  {
     public static void main(String args[])
       String str = "TRUE";
       boolean x = Boolean.valueOf(str);
       System.out.print(x);
     }
a) True
               b) False
                              c) Compilation Error
                                                            d) Runtime Error
Explanation: valueOf() returns a Boolean instance representing the specified boolean value.
If the specified boolean value is true, this method returns Boolean.TRUE; if it is false, this
method returns Boolean.FALSE. If a new Boolean instance is not required, this method
should generally be used in preference to the constructor Boolean(boolean), as this method is
                                                         Distict '
likely to yield significantly better space and time.
Output:
$ javac Output.java
$ java Output
true
9. What will be the output of the following Java program?
                                                                                          [b]
class Output
  {
     public static void main(String args[])
          String str = "true false";
       boolean x = Boolean.parseBoolean(str);
       System.out.print(x);
     }
                              c) System Dependent
               b) False<sup>C</sup>
a) True
                                                            d) Compilation Error
Explanation: parseBoolean() Parses the string argument as a boolean. The boolean returned
represents the value true if the string argument is not null and is equal, ignoring case, to the
string "true".
Example: Boolean.parseBoolean("True") returns true.
Example: Boolean.parseBoolean("yes") returns false.
Output:
  $ javac Output.java
$ java Output
false
10. What will be the output of the following Java program?
                                                                                          [b]
 class Output
  {
     public static void main(String args[])
         String x = Boolean.toString(false);}}
                              c) System Dependent
               b) False
                                                            d) Compilation Error
a) True
```

Explanation: toString() Returns a String object representing the specified boolean. If the specified boolean is true, then the string "true" will be returned, otherwise the string "false" will be returned.

Output:

\$ javac Output.java
\$ java Output

False

Java.lang – Class

```
1. Which of these classes encapsulate runtime state of an object?
                                                                                               [a]
a) Class
               b) System
                               c) Runtime
                                               d) Cache
2. Which of these methods returns the class of an object?
                                                                                               [a]
                                                                               d) WhoseObject()
a) getClass()
                       b) Class()
                                               c) WhoseClass()
3. Which of these methods return a class object given its name?
                                                                                               [d]
a) getClass() b) findClass() c) getSystemClass() d) findSystemClass()
Explanation: findSystemClass() returns a class object given its name.
                               nic, Gudlavalleru, Krishna Distilict
4. Which of these class defines how the classes are loaded?
                                                                                               [d]
a) Class
               b) System
5. What will be the output of the following Java program?
                                                                                               [a]
  class X
  {
     int a;
     double b;
  }
  class Y extends X
  {
       int c;
  }
  class Output
     public static void main(String args[])
       X a = new XQ;
        Y b = new \mathcal{Y}();
       Class obj;
       obj = a.getClass();
        System.out.print(obj.getName()); } }
\mathbf{a} \mathbf{X} \mathbf{b} \mathbf{Y} \mathbf{c} \mathbf{a}
                       d) b
Explanation: getClass() is used to obtain the class of an object, here 'a' is an object of class
X'. hence a.getClass() returns 'X' which is stored in class Class object obj.
Output:
$ javac Output.java
$ java Output
Х
                                                                                               [c]
6. What will be the output of the following Java program?
class X
  {
     int a;
     double b;
  }
```

```
class Y extends X
  {
       int c;
  }
  class Output
  {
     public static void main(String args[])
       X a = new X();
       Y b = new Y();
                                                                   Andhra Pradesh
       Class obj;
       obj = b.getClass();
       System.out.print(obj.getSuperclass());
     }
  }
a) X
       b) Y
               c) class X
                               d) class Y
Explanation: getSuperClass() returns the super class of an object. b is an object of class Y
which extends class X, Hence Super class of b is X. therefore class X is printed.
Output:
                                                  Kishn
$ javac Output.java
$ java Output
class X
7. What will be the output of the following Java program? \frac{1}{2}
                      .ng
Gudlave
Polytechnic, Gudlave
                                                                                             [d]
class X
  {
     int a;
     double b;
  }
  class Y extends X
  {
       int c;
   }
  class Output
  {
     public static void main(String args[])
       X a = new X();
        Y b = new Y();
       Class obj;
       obj = b.getClass();
       System.out.print(obj.isLocalClass());
     }
a) 0
       b) 1
                               d) false
               c) true
Output:
  $ javac Output.java
$ java Output
False
```

Java.lang – ThreadGroup class & Runnable Interface

1. Which of the interface contains all the methods used for handling thread related operations in Java? [a] a) Runnable interface b) Math interface c) System interface d) ThreadHandling interface Explanation: Runnable interface defines all the methods for handling thread operations in Java. 2. Which of these class is used to make a thread? [c] a) String b) System c) Thread d) Runnable Explanation: Thread class is used to make threads in java, Thread encapsulates a thread of execution. To create a new thread the program will either extend Thread or implement the Runnable interface. 3. Which of this interface is implemented by Thread class? [c] a) Runnable b) Connections c) Set d) MapConnections rea, Andhi Ileru, Kiishna District, Andhi 4. Which of these methods of a Thread class is used to suspend a thread for a period of time? [a] b) terminate() c) suspend() a) sleep() 5. What will be the output of the following Java program? [d] class newthread implements Runnable ł Thread t1.t2; newthread() { t1 = new Thread(this,"Thread_1"); t2 = new Thread(this,"Thread_2"); hic' Gudlat t1.start(); t2.start(); } public void run() { t2.setPriority(Thread.MAX_PRIORITY); System.out.print(t1.equals(t2)); } } class multithreaded_programing public static void main(String args[]) new newthread(); d) falsefalse a) true b) false c) truetrue

Explanation: Threads t1 & t2 are created by class newthread that is implementing runnable interface, hence both the threads are provided their own run() method specifying the actions to be taken. When constructor of newthread class is called first the run() method of t1 executes than the run method of t2 printing 2 times "false" as both the threads are not equal one is having different priority than other, hence falsefalse is printed. Output:

\$ javac multithreaded_programing.java

\$ java multithreaded_programing

```
Falsefalse
6. What will be the output of the following Java program?
                                                                                       [d]
class newthread implements Runnable
       Thread t;
    newthread()
       t = new Thread(this,"New Thread");
       t.start();
                                              Kishna District, Andhra Pradesh
       public void run()
     {
       t.setPriority(Thread.MAX PRIORITY);
       System.out.println(t);
       }
  }
  class multithreaded programing
    public static void main(String args[])
     {
       new newthread();
     ļ
                                    b) Thread [New Thread, 1, main]
a) Thread [New Thread, 0, main]
                                    d) Thread[New Thread,10,main]
c) Thread[New Thread,5,main]
Explanation: Thread t has been made with default priority value 5 but in run method the
priority has been explicitly changed to MAX PRIORITY of class thread, that is 10 by code
't.setPriority(Thread.MAX PRIORITY);' using the setPriority function of thread t.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
Thread[New Thread, 10, main]
7. What will be the output of the following Java program?
                                                                                       [c]
class newthread implements Runnable
  {
       Thread t:
    newthread()
       t = new Thread(this,"My Thread");
       t.start();
       }
  class multithreaded_programing
    public static void main(String args[])
       new newthread();
                           } }
a) My Thread b) Thread[My Thread,5,main] c) Compilation Error
                                                                        d) Runtime Error
```

Explanation: Thread t has been made by using Runnable interface, hence it is necessary to

use inherited abstract method run() method to specify instructions to be implemented on the thread, since no run() method is used it gives a compilation error. Output:

\$ javac multithreaded_programing.java
The type newthread must implement the inherited abstract method Runnable.run()
8. What will be the output of the following Java program? [a]
class newthread implements Runnable

```
{
       Thread t:
                                 Gudlavalleru, Mishna District, Andhra Pradesh
    newthread()
     {
       t = new Thread(this,"My Thread");
       t.start();
       }
       public void run()
     {
         System.out.println(t.getName());
  }
  class multithreaded_programing
  {
    public static void main(String args[])
     {
       new newthread();
  }
a) My Thread
                      b) Thread [My Thread, 5, main] c) Compilation Errord) Runtime Error
Output:
  $ javac multithreaded programing.java
$ java multithreaded_programing
My Thread
                 S
9. What will be the output of the following Java program?
                                                                                        [b]
class newthread implements Runnable
         Ψ
      Thread t;
    newthread()
       t = new Thread(this,"My Thread");
       t.start();
       }
       public void run()
     {
         System.out.println(t);
  }
  class multithreaded_programing
```

public static void main(String args[]) { new newthread(); }} a) My Thread b) Thread[My Thread,5,main] c) Compilation Error d) Runtime Error Output: \$ javac multithreaded_programing.java \$ java multithreaded_programing Thread[My Thread,5,main] Java.lang – ThreadGroup class & Runnable Interface 1. Which of the interface contains all the methods used for handling thread related operations in Java? [a] a) Runnable interface b) Math interface c) System interface d) ThreadHandling interface Explanation: Runnable interface defines all the methods for handling thread operations in Java. 2. Which of these class is used to make a thread? [c] a) String b) System c) Thread d) Runnable Explanation: Thread class is used to make threads in java, Thread encapsulates a thread of execution. To create a new thread the program will either extend Thread or implement the Runnable interface. 3. Which of this interface is implemented by Thread class [a] a) Runnable b) Connections d) MapConnections c) Set 4. Which of these methods of a Thread class is used to suspend a thread for a period of time? [a] b) terminate() d) stop() a) sleep() c) suspend() 5. What will be the output of the following Java program? class newthread implements Runnable [d] { Thread t1,t2; newthread() { t1 = new Thread(this,"Thread_1"); t2 = new Thread(this,"Thread_2"); t1.start(); 9 t2.start(); 1 public void run() t2.setPriority(Thread.MAX_PRIORITY); System.out.print(t1.equals(t2)); class multithreaded programing public static void main(String args[]) new newthread(); }} b) false c) truetrue d) falsefalse a) true Explanation: Threads t1 & t2 are created by class newthread that is implementing runnable interface, hence both the threads are provided their own run() method specifying the actions

```
to be taken. When constructor of newthread class is called first the run() method of t1
executes than the run method of t2 printing 2 times "false" as both the threads are not equal
one is having different priority than other, hence falsefalse is printed.
Output:
 $ javac multithreaded programing.java
$ java multithreaded_programing
Falsefalse
6. What will be the output of the following Java program?
                                                                                  [d]
class newthread implements Runnable
   {
  }
  class multithreaded_programing
a) Thread[New Thread,0,main]
c) Thread [New Thread, 5, main]
Explanation: Thread t has been made with default priority value 5 but in run method the
priority has been explicitly changed to MAX_PRIORITY of class thread, that is 10 by code
't.setPriority(Thread.MAX PRIORITY);' using the setPriority function of thread t.
Output:
                S
 $ javac multithreaded_programing.java
$ java multithreaded_programing
Thread[New Thread, 10, main]
7. What will be the output of the following Java program?
                                                                                  [c]
  class newthread implements Runnable
      Thread t;
    newthread()
      t = new Thread(this,"My Thread");
      t.start();
       ļ
  }
  class multithreaded_programing
    public static void main(String args[])
```

{ new newthread(); } }

a) My Thread b) Thread[My Thread,5,main] c) Compilation Error d) Runtime Error Explanation: Thread t has been made by using Runnable interface, hence it is necessary to use inherited abstract method run() method to specify instructions to be implemented on the thread, since no run() method is used it gives a compilation error.

Output:

\$ javac multithreaded_programing.java

The type newthread must implement the inherited abstract method Runnable.run() 8. What will be the output of the following Java program?

class newthread implements Runnable

```
[a] Andhra Pradesh
  {
       Thread t;
    newthread()
    {
      t = new Thread(this,"My Thread");
      t.start();
       }
       public void run()
    {
         System.out.println(t.getName());
  }
  class multithreaded_programing
    public static void main(String args[])
      new newthread();
a) My Thread
                     b) Thread [My Thread, 5, main]
                                                        c) Compilation Error
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
My Thread
9. What will be the output of the following Java program?
                                                                                     [b]
  class newthread implements Runnable
      Thread t:
    newthread()
     ł
       t = new Thread(this,"My Thread");
       t.start();
       }
       public void run()
    {
         System.out.println(t);
  }
```

class multithreaded_programing public static void main(String args[]) new newthread(); a) My Thread b) **Thread[My Thread,5,main]** c) Compilation Error d) Runtime Error Output: \$ javac multithreaded_programing.java \$ java multithreaded_programing Thread[My Thread,5,main] Serialization – 1 1. Which of these is a process of writing the state of an object to a byte stream? [a] a) Serialization b) Externalization c) File Filtering d) All of the mentioned Explanation: Serialization is the process of writing the state of an object to a byte stream. This is used when you want to save the state of your program to a persistent storage area. 2. Which of these process occur automatically by the java runtime system? [a] a) Serialization b) Garbage collection c) File Filtering d) All of the mentioned Explanation: Serialization and deserialization occur automatically by java runtime system, Garbage collection also occur automatically but is done by CPU or the operating system not by the java runtime system. 3. Which of these is an interface for control over serialization and deserialization? [b] a) Serializable **b) Externalization** (S) FileFilter d) ObjectInput 4. Which of these interface extends DataOutput interface? [c] c) ObjectOutput a) Serializable b) Externalization d) ObjectInput Explanation: ObjectOutput interface extends the DataOutput interface and supports object serialization. 5. Which of these is a method of ObjectOutput interface used to finalize the output state so that any buffers are cleared? [b] c) fflush() a) clear() b) flush 0° d) close() 6. Which of these is method of ObjectOutput interface used to write the object to input or output stream as required? [**d**] b) Write() a) write() c) StreamWrite() d) writeObject() Explanation: writeObject() is used to write an object into invoking stream, it can be input stream or output stream. 7. What will be the output of the following Java program? [a] import java.io.*; Lass serialization public static void main(String[] args) { try Myclass object1 = new Myclass("Hello", -7, 2.1e10); FileOutputStream fos = new FileOutputStream("serial"); ObjectOutputStream oos = new ObjectOutputStream(fos); oos.writeObject(object1); oos.flush();

```
oos.close();
          }
          catch(Exception e)
       {
            System.out.println("Serialization" + e);
          System.exit(0);
       ł
          try
                                  .ole Jeru, Kishna District, Andma Pradesh
          Myclass object2;
            FileInputStream fis = new FileInputStream("serial");
            ObjectInputStream ois = new ObjectInputStream(fis);
          object2 = (Myclass)ois.readObject();
          ois.close();
            System.out.println(object2);
          }
          catch (Exception e)
       {
          System.out.print("deserialization" + e);
            System.exit(0);
          }
     }
  }
  class Myclass implements Serializable
  {
       String s;
       int i;
       double d;
     Myclass (String s, int i, double d)
     {
          this.d = d;
          this.i = i;
          this.s = \{s, s\}
a) s=Hello; i=-7; d=2.1E10 b) Hello; -7; 2.1E10 c) s; i; 2.1E10
                                                                           d) Serialization
Output:
 $ javac serialization.java
$ java serialization
s=Hello; i=-7; d=2.1E10
8. What will be the output of the following Java program?
                                                                                           [d]
import java.io.*;
  class serialization
  {
     public static void main(String[] args)
     {
       try
       {
          Myclass object1 = new Myclass("Hello", -7, 2.1e10);
            FileOutputStream fos = new FileOutputStream("serial");
            ObjectOutputStream oos = new ObjectOutputStream(fos);
```

```
oos.writeObject(object1);
         oos.flush();
         oos.close();
         }
         catch(Exception e)
       {
           System.out.println("Serialization" + e);
         System.exit(0);
       ł
try
         this.d = \oplus
         this.i = \bar{i};
         this.s = s; \} \}
a) -7
         Ъ
            b) Hello
                           c) 2.1E10
                                         d) deserialization
Explanation: x = ois.readInt(); will try to read an integer value from the stream 'serial'
created before, since stream contains an object of Myclass hence error will occur and it will
be catched by catch printing deserialization.
Output:
 $ javac serialization.java
$ java serialization
Deserialization
9. What will be the output of the following Java program?
                                                                     [d]
import java.io.*;
  class Chararrayinput
  ł
    public static void main(String[] args)
    {
```

```
String obj = "abcdefgh";
       int length = obj.length();
       char c[] = new char[length];
       obj.getChars(0, length, c, 0);
       CharArrayReader input1 = new CharArrayReader(c);
       CharArrayReader input2 = new CharArrayReader(c, 1, 4);
       int i;
       int j;
       try
                                                   ina Distict, Andria Pradesh
       {
               while ((i = input1.read()) == (j = input2.read()))
          {
            System.out.print((char)i);
          }
       catch (IOException e)
          e.printStackTrace();
          }
       }
  }
                                     d) None of the mentioned
a) abc b) abcd
                      c) abcde
Explanation: No output is printed. CharArrayReader object input1 contains string "abcdefgh"
whereas object input2 contains string "bcde", when
while((i=input1.read())==(j=input2.read())) is executed the starting character of each object
is compared since they are unequal control comes out of loop and nothing is printed on the
screen.
Output:
$ javac Chararrayinput.java
$ java Chararrayinput
10. What will be the output of the following Java program?
                                                                                  [b]
import java.io.*;
  class streams
  {
     public static void main(String[] args)
          ઝ
       try
            FileOutputStream fos = new FileOutputStream("serial");
            ObjectOutputStream oos = new ObjectOutputStream(fos);
          oos.writeFloat(3.5);
          oos.flush();
          oos.close();
          }
          catch(Exception e)
       {
            System.out.println("Serialization" + e);
          System.exit(0);
```

```
try
       {
            float x;
            FileInputStream fis = new FileInputStream("serial");
            ObjectInputStream ois = new ObjectInputStream(fis);
          x = ois.readInt();
          ois.close();
            System.out.println(x);
          }
          catch (Exception e)
                                                                 Andhra Pradesh
       {
          System.out.print("deserialization");
            System.exit(0);
          }
     }
  }
a) 3
       b) 3.5 c) serialization`
                                     d) deserialization
Explanation: oos.writeFloat(3.5); writes in output stream which is extracted by x =
                                           Wh, Dis
ois.readInt(); and stored in x hence x contains 3.5.
Output:
 $ javac streams.java
$ java streams
3.5
<u>Serialization – 2</u>
1. How an object can become serializable
                                                                                           [b]
a) If a class implements java.io.Serializable class
b) If a class or any superclass implements java.io.Serializable interface
c) Any object is serializable
                                \frac{1}{2}
                                                     d) No object is serializable
Explanation: A Java object is serializable if class or any its superclass implements
java.io.Serializable or its subinterface java.io.Externalizable.
2. What is serialization?
                                                                                           [a]
a) Turning object in memory into stream of bytes
b) Turning stream of bytes into an object in memory
c) Turning object in memory into stream of bits
d) Turning stream of bits into an object in memory
Explanation: Serialization in Java is the process of turning object in memory into stream of
bytes.
3. What is deserialization?
                                                                                           [b]
a) Turning object in memory into stream of bytes
b) Turning stream of bytes into an object in memory
c) Turning object in memory into stream of bits
d) Turning stream of bits into an object in memory
Explanation: Deserialization is the reverse process of serialization which is turning stream of
bytes into an object in memory.
4. How many methods Serializable has?
                                                                                           [d]
a) 1
       b) 2
               c) 3
                      d) 0
Explanation: Serializable interface does not have any method. It is also called a marker
interface.
```

5. What type of members are not serialized? [c]
a) Private b) Protected c) Static d) Throwable
Explanation: All static and transient variables are not serialized.
6. If member does not implement serialization, which exception would be thrown? [c]
a) RuntimeException b) SerializableException
c) NotSerializableException d) UnSerializedException
Explanation: If member of a class does not implement serialization,
NotSerializationException will be thrown.
7. Default Serialization process cannot be overridden. [b]
a) True b) False
Explanation: Default serialization process can be overridden.
8. Which of the following methods is used to avoid serialization of new class whose super
class already implements Serialization? [a]
a) writeObject() b) readWriteObject() c) writeReadObject() d) unSerializaedObject()
Explanation: writeObject() and readObject() methods should be implemented to avoid Java
serialization.
9. Which of the following methods is not used while Serialization and DeSerialization? [c]
a) readObject() b) readExternal() c) readWriteObject() d) writeObject()
Explanation: Using readObject(), writeObject(), readExternal() and writeExternal() methods
Serialization and DeSerialization are implemented.
10. Serializaed object can be transferred via network. [a]
a) Irue D) Faise
Explanation: Serialized object can be transferred via network because Java serialized object
Temains in form of bytes which can be transmitted over network.
Java.utii – ArrayList Class
a) AbstractList b) LinkodList a) ArroyList d) AbstractSet
a) AbstractList b) LinkeuList c) ArrayList d) AbstractSet
2. Which of these class can generate an array which can increase and decrease in size
automatically?
automatically: a) ArrayList() b) DynamicList() c) LinkedList() d) MallocList()
3 Which of these method can be used to increase the capacity of ArrayI ist object manually?
[d]
a) Capacity() (\mathbf{d}) ensure Capacity() (\mathbf{d}) ensure Capacity()
Explanation: When we add an element, the capacity of ArrayList object increases
automatically, but we can increase it manually to specified length x by using function
ensureCapacity(x):
4. Which of these method of ArravList class is used to obtain present size of an object? [a]
a) size() b) length() c) index() d) capacity()
5. Which of these methods can be used to obtain a static array from an ArrayList object? [c]
a) Array() b) covertArray() c) toArray() d) covertoArray()
6. Which of these method is used to reduce the capacity of an ArrayList object? [d]
a) trim() b) trimSize() c) trimTosize() d) trimToSize()
Explanation: trimTosize() is used to reduce the size of the array that underlines an ArrayList
object.
7. What will be the output of the following Java program? [b]
import java.util.*;
along Amoviliat
class Allaylist

```
public static void main(String args[])
      {
        ArrayList obj = new ArrayList();
        obj.add("A");
        obj.add("B");
        obj.add("C");
        obj.add(1, "D");
        System.out.println(obj);
      }
   }
a) [A, B, C, D]
                        b) [A, D, B, C]
                                                c) [A, D, C] d) [A, B, C]
Explanation: obj is an object of class ArrayList hence it is an dynamic array which can
increase and decrease its size. obj.add("X") adds to the array element X and obj.add(1,"X")
adds element x at index position 1 in the list, Hence obj.add(1,"D") stores D at index position
[A, D, B, C].
8. What will be the output of the following Java program?
import java.util.*;
class Output
{
public stot
                                            gra
Jalleru, Kiishi
                                                                                               [c]
        ArrayList obj = new ArrayList()
        obj.add("A");
        obj.add(0, "B");
        System.out.println(obj.size());}
a) 0
        b) 1
                c) 2
                        d) Any Garbage Value
 Output:
$ javac Output.java 🗸
$ java Output
2
9. What will be the output of the following Java program?
                                                                                               [a]
   import fava.util.*;
   class Output
      public static void main(String args[])
        ArrayList obj = new ArrayList();
        obj.add("A");
        obj.ensureCapacity(3);
        System.out.println(obj.size());
      }
a) 1
        b) 2
                        d) 4
                c) 3
```

Explanation: Although obj.ensureCapacity(3); has manually increased the capacity of obj to 3 but the value is stored only at index 0, therefore obj.size() returns the total number of elements stored in the obj i:e 1, it has nothing to do with ensureCapacity(). Output: \$ javac Output.java \$ java Output 1 10. What will be the output of the following Java program? [b] class Output Shna District, Andhra Pradesh { public static void main(String args[]) ArrayList obj = new ArrayList(); obj.add("A"); obj.add("D"); obj.ensureCapacity(3); obj.trimToSize(); System.out.println(obj.size()); } } a) 1 **b**) 2 c) 3 d) 4 Explanation: trimTosize() is used to reduce the size of the array that underlines an ArrayList Gudlavalleru, object. Output: \$ javac Output.java \$ java Output 2 **Data Structures-HashMap** 1. Map implements collection interface? [b] a) True b) False Explanation: Collection interface provides add, remove, search or iterate while map has clear, get, put, remove, etc. 2. Which of the below does not implement Map interface? [d] b) Hashtable c) EnumMap d) Vector a) HashMap Explanation: Vector implements AbstractList which internally implements Collection. Others come from implementing the Map interface. 3. What is the premise of equality for IdentityHashMap? [a] a) Reference equality b) Name equality c) Hashcode equality d) Length equality Explanation: IdentityHashMap is rarely used as it violates the basic contract of implementing equals() and hashcode() method. 4. What happens if we put a key object in a HashMap which exists? [a] a) The new object replaces the older object b) The new object is discarded c) The old object is removed from the map d) It throws an exception as the key already exists in the map Explanation: HashMap always contains unique keys. If same key is inserted again, the new object replaces the previous object. 5. While finding the correct location for saving key value pair, how many times the key is hashed? [b]

Explanation: The key is hashed twice; first by hashCode() of Object class and then by internal hashing method of HashMap class. 6. Is hashmap an ordered collection. [b] a) True b) False Explanation: Hashmap outputs in the order of hashcode of the keys. So it is unordered but will always have same result for same set of keys. 7. If two threads access the same hashmap at the same time, what would happen? [a] b) NullPointerException a) ConcurrentModificationException c) ClassNotFoundException d) RuntimeException Explanation: The code will throw ConcurrentModificationException if two threads access the Andhra Prat same hashmap at the same time. 8. How to externally synchronize hashmap? [c] a) HashMap.synchronize(HashMap a); b)HashMap a = new HashMap(); a.synchronize(); c) Collections.synchronizedMap(new HashMap<String, String>()); d) Collections.synchronize(new HashMap<String, String>())? Explanation: Collections.synchronizedMap() synchronizes entire map. ConcurrentHashMap provides thread safety without synchronizing entire map. 9. What will be the output of the following Java code snippet? [a] public class Demo public static void main(String[] args) Map<Integer, Object>SampleMap = new TreeMap<Integer, Object>(); sampleMap.put(1, null); sampleMap.put(5, null); sampleMap.put(3, null); sampleMap.put(2, null); sampleMap.put(4, null); System.out.println(sampleMap); } } a) {1=null, 2=null, 3=null, 4=null, 5=null} b) $\{5=null\}$ c) Exception is thrown d) {1=null, 5=null, 3=null, 2=null, 4=null} Explanation: HashMap needs unique keys. TreeMap sorts the keys while storing objects. 10. If large number of items are stored in hash bucket, what happens to the internal structure? [a] a) The bucket will switch from LinkedList to BalancedTree b) The bucket will increase its size by a factor of load size defined c) The LinkedList will be replaced by another hashmap

d) Any further addition throws Overflow exception

Explanation: BalancedTree will improve performance from O(n) to O(log n) by reducing hash collisions.

<u> Java.util – Array Class</u>

1. Which of these standard collection classes implements all the standard functions on list data structure? [a]

a) Array b) LinkedList c) HashSet d) AbstractSet

2. Which of this method is used to make all elements of an equal to specified value? [b] a) add() **b**) **fill**() c) all() d) set() Explanation: fill() method assigns a value to all the elements in an array, in other words, it fills the array with specified value. 3. Which of these method of Array class is used sort an array or its subset? [c] a) binarysort() b) bubblesort() c) sort() d) insert() 4. Which of these methods can be used to search an element in a list? [d] a) find() b) sort() d) binaryserach() c) get() Explanation: binaryserach() method uses binary search to find a specified value. This method Kishna District, Andhra Pradesh must be applied to sorted arrays. 5. What will be the output of the following Java program? [c] import java.util.*; class Arraylist { public static void main(String args[]) ArrayList obj1 = new ArrayList(); ArrayList obj2 = new ArrayList(); obj1.add("A"); obj1.add("B"); obj2.add("A"); obj2.add(1, "B"); System.out.println(obj1.equals(obj2));}} d) false a) 0 b) 1 c) true Explanation: obj1 and obj2 are an object of class ArrayList hence it is a dynamic array which can increase and decrease its size. obj.add("X") adds to the array element X and obj.add(1,"X") adds element x at index position 1 in the list, Both the objects obj1 and obj2 contain same elements i:e A & B thus obj1.equals(obj2) method returns true. Output: \$ javac Arraylist.java \$ java Arraylist true 6. What will be the output of the following Java program? [a] import java.util.*; class Array public static void main(String args[]) int array[] = new int [5]; for (int i = 5; i > 0; i - -) array[5 - i] = i;Arrays.sort(array); for (int i = 0; i < 5; ++i) System.out.print(array[i]);; } } a) 12345 b) 54321 c) 1234 d) 5432 Explanation: Arrays.sort(array) method sorts the array into 1,2,3,4,5. Output:

```
$ javac Array.java
$ java Array
12345
7. What will be the output of the following Java program?
                                                                                             [b]
  import java.util.*;
  class Array
  {
     public static void main(String args[])
                                                 Wishna District, Andhra Pradesh
Wishna District, Andhra Pradesh
Wishna District, Andhra Pradesh
Ses 2
       int array[] = new int [5];
       for (int i = 5; i > 0; i--)
          array[5 - i] = i;
       Arrays.sort(array);
       System.out.print(Arrays.binarySearch(array, 4));
     }
  }
a) 2
       b) 3
               c) 4
                       d) 5
Output:
$ javac Array.java
$ java Array
3
Event Handling Basics
.1. Which of these packages contains all the classes and methods required for even handling
in Java?
                                                                                             [d]
                              c) java.event d) java.awt.event
a) java.applet b) java.awt
Explanation: Most of the event to which an applet response is generated by a user. Hence
they are in Abstract Window Kit package, java.awt.event.
2. What is an event in delegation event model used by Java programming language?
                                                                                             [a]
a) An event is an object that describes a state change in a source
b) An event is an object that describes a state change in processing
c) An event is an object that describes any change by the user and system
d) An event is a class used for defining object, to create events
Explanation: An event is an object that describes a state change in a source.
3. Which of these methods are used to register a keyboard event listener?
                                                                                             [c]
a) KeyListener() b) addKistener() c) addKeyListener()
                                                              d) eventKeyboardListener()
4. Which of these methods are used to register a mouse motion listener?
                                                                                             [c]
a) addMouse()
                       b) addMouseListener()
                                                      c) addMouseMotionListner()
d) eventMouseMotionListener()
5. What is a listener in context to event handling?
                                                                                             [b]
a) A listener is a variable that is notified when an event occurs
b) A listener is a object that is notified when an event occurs
c) A listener is a method that is notified when an event occurs
d) None of the mentioned
Explanation: A listener is a object that is notified when an event occurs. It has two major
requirements first, it must have been registered with one or more sources to receive
notification about specific event types, and secondly it must implement methods to receive
and process these notifications.
```

6. Event class is defined in which of these libraries?	[d]	
a) java.io b) java.lang c) java.net d) java.util		
7. Which of these methods can be used to determine the type of event?	[a]	
a) getID() b) getSource() c) getEvent() d) getEventObject()		
Explanation: getID() can be used to determine the type of an event.	r - 1	
8. which of these class is super class of all the events?	[a]	
a) EventObject b) EventClass c) ActionEvent d) itemEvent Eventobject class is a super class of all the events and is defined in investig		
Explanation. Eventobject class is a super class of an the events and is defined in java.util		
9. Which of these events will be notified if scroll bar is manipulated?	[0]	
a) ActionEvent b) ComponentEvent c) AdjustmentEvent d) WindowEvent		
Explanation: AdjustmentEvent is generated when a scroll bar is manipulated		
10 Which of these events will be generated if we close an applet's window?	[b]	
a) ActionEvent b) ComponentEvent c) AdjustmentEvent d) WindowEvent	լսյ	
Explanation: WindowEvent is generated when a window is activated closed deactivated		
deiconfied iconfied opened or quit	•	
Answers – Excention Handling		
1 Which of the following keywords is used for throwing exception manually?	[c]	
a) finally b) try c) throw d) catch		
Explanation: "throw' keyword is used for throwing exception manually in java program		
User defined exceptions can be thrown too.		
2. Which of the following classes can catch all exceptions which cannot be caught?	[b]	
a) RuntimeException b) Error c) Exception d) ParentException	[]	
Explanation: Runtime errors cannot be caught generally. Error class is used to catch such		
errors/exceptions.		
3. Which of the following is a super class of all exception type classes?	[d]	
a) Catchable b) RuntimeExceptionsc) String d) Throwable		
Explanation: Throwable is built in class and all exception types are subclass of this class.	It is	
the super class of all exceptions.		
4. Which of the following operators is used to generate instance of an exception which can	n be	
thrown using throw? $\sqrt{2}$	[d]	
a) thrown b) alloc c) malloc d) new		
Explanation: new operator is used to create instance of an exception. Exceptions may have	e	
parameter as a String or have no parameter.		
advertisement		
5. Which of the following keyword is used by calling function to handle exception thrown	ı by	
called function?	[a]	
a) throws b) throw c) try d) catch		
Explanation: A method specifies behaviour of being capable of causing exception. Throw	S	
clause in the method declaration guards caller of the method from exception.		
6. Which of the following handles the exception when a catch is not used?	[c]	
a) finally b) throw handler c) default handler d) java run time system		
Explanation: Default handler is used to handle all the exceptions if catch is not used to handle	ndle	
exception. Finally is called in any case.		
7. Which part of code gets executed whether exception is caught or not?	[a]	
a) finally b) try c) catch d) throw		
Explanation: Finally block of the code gets executed regardless exception is caught or not.		
File close, database connection close, etc are usually done in finally.		

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 8. Which of the following should be true of the object thrown by a thrown statement? a) Should be assignable to String type b) Should be assignable to Exception type c) Should be assignable to Throwable type d) Should be assignable to Error type Explanation: The throw statement should be assignable to the throwable type. Throwable if the super class of all exceptions 	[c] is
9 At runtime error is recoverable	ГЬТ
a) True b) False	[ո]
Explanation: Error is not recoverable at runtime. The control is lost from the application.	
Exceptions Types	
1. Which of these is a super class of all exceptional type classes? a) String b) RuntimeExceptionsc) Throwable d) Cacheable Explanation: All the exception types are subclasses of the built in class Throwable.	[c]
 2. Which of these class is related to all the exceptions that can be caught by using catch? a) Error b) Exception c) RuntimeExecption c) All of the mentioned Explanation: Error class is related to java run time error that can't be caught usually. 	[b]
RuntimeExecption is subclass of Exception class which contains all the exceptions that ca	n
3. Which of these class is related to all the exceptions that cannot be caught?	[a]
a) Error b) Exception c) RuntimeExecption d) All of the mentioned	[]
Explanation: Error class is related to java run time error that can't be caught usually,	
RuntimeExecption is subclass of Exception class which contains all the exceptions that ca	n
be caught.	
4. Which of these handles the exception when no catch is used?	[a]
a) Default handler b) finally c) throw handler d) Java run time system	
5. What exception thrown by parseint() method?	[a]
a) ArithmeticException b) ClassNotFoundException c) NullPointerException	
a) NumberFormatexception	
method is NumberFormatException	
advertisement	
6. What will be the output of the following Java code?	[d]
class exception handling	L . J
public static void main(String args[])	
$\left\{ \begin{array}{c} \mathcal{A} \end{array} \right\}$	
try	
System.out.print("Hello" + "" + $1/0$);	
finally	
{	
System.out.print("World"): }}	
a) Hello b) World c) Compilation Error d) First Exception then Wor	·ld
Output:	
\$ javac exception_handling.java	
\$ java exception_handling	
Exception in thread "main" java.lang.ArithmeticException: / by zero World	

```
7. What will be the output of the following Java code?
                                                                                          [c]
  class exception_handling
  {
     public static void main(String args[])
       try
       {
          int i, sum;
          sum = 10;
                                                  istna District, Andhra Pradesh
          for (i = -1; i < 3; ++i)
          {
            sum = (sum / i);
          System.out.print(i);
          }
       catch(ArithmeticException e)
          System.out.print("0");
     }
  }
a) -1
       b) 0
               c) -10
                              d) -101
Explanation: For the 1st iteration -1 is displayed. The 2nd exception is caught in catch block
and 0 is displayed.
Output:
$ javac exception_handling.java
$ java exception handling
Throw, Throws & Nested Try
1. Which of these keywords is used to generate an exception explicitly?
                                                                                          [c]
a) try b) finally
                      c) throw
                                     d) catch
2. Which of these class is related to all the exceptions that are explicitly thrown?
                                                                                          [c]
               b) Exception c) Throwable
a) Error
                                                    d) Throw
3. Which of these operator is used to generate an instance of an exception than can be
thrown by using throw?
                                                                                          [a]
a) new .
               b) malloc
                              c) alloc
                                             d) thrown
Explanation: new is used to create an instance of an exception. All of java's built in run-time
exceptions have two constructors: one with no parameters and one that takes a string
parameter.
4. Which of these keywords is used to by the calling function to guard against the exception
that is thrown by called function?
                                                                                          [c]
a) try
               b) throw
                              c) throws
                                                    d) catch
Explanation: If a method is capable of causing an exception that it does not handle. It must
specify this behaviour the behaviour so that callers of the method can guard themselves
against that exception. This is done by using throws clause in methods declaration.
5. What will be the output of the following Java code?
                                                                                          [c]
advertisement
  class exception_handling
  ł
```

```
public static void main(String args[])
     ł
       try
       {
         int a = args.length;
         int b = 10 / a;
         System.out.print(a);
         try
          {
                                              Wishna District, Andhra Pradesh
            if (a == 1)
              a = a / a - a;
            if (a == 2)
            {
              int []c = \{1\};
              c[8] = 9;
            }
          }
         catch (ArrayIndexOutOfBoundException e)
          {
            System.out.println("TypeA");
          }
         catch (ArithmeticException e)
         {
            System.out.println("TypeB");}
                             c) Compile Time Error
a) TypeA
              b) TypeB
                                                           d) 0TypeB
Explanation: Because we can't go beyond array limit
6. What will be the output of the following Java code?
                                                                                         [d]
  class exception_handling
  {
    public static void main(String args[])
     {
       try
       {
         System.out.print("A");
         throw new NullPointerException ("Hello");
         \vartheta
       catch(ArithmeticException e)
         System.out.print("B");
                             d) Runtime Exception
a) A
       b) B
              c) Hello
Output:
$ javac exception_handling.java
$ java exception_handling
Exception in thread "main" java.lang.NullPointerException: Hello
       at exception_handling.main
```

```
7. What will be the output of the following Java code?
                                                                                              [a]
public class San
{
  public static void main(String[] args)
     try
     ł
       return;
     finally
                                                                        Inta Pradesh
     {
       System.out.println( "Finally" );
  }
}
               b) Compilation fails c) The code runs with no output
a) Finally
                                                                              d) An exception is
      su
.ava code? histrict
.a.(String args[])
.u.(String args[])
kiishna histrict
kiishna histrict
ally
ystem.out.pr<sup>:</sup>
thrown at runtime
Explanation: Because finally will execute always.
8. What will be the output of the following Java code?
                                                                                              [b]
public class San
  public static void main(String args[])
  {
     try
     ł
     }
     finally
     {
  }
}
a) The program will not compile because no exceptions are specified
b) The program will not compile because no catch clauses are specified
c) Hello world
                                               d) Hello world Finally executing
Finally & Built in Exceptions
1. Which of these clause will be executed even if no exceptions are found?
                                                                                      [b]
a) throws
               b) finally
                               c) throw
                                               d) catch
Explanation: finally keyword is used to define a set of instructions that will be executed
irrespective of the exception found or not.
2. A single try block must be followed by which of these?
                                                                                      [c]
                               c) finally & catch
a) finally
               b) catch
                                                       d) none of the mentioned
Explanation: try block can be followed by any of finally or catch block, try block checks for
exceptions and work is performed by finally and catch block as per the exception.
3. Which of these exceptions handles the divide by zero error?
                                                                                      [a]
a) ArithmeticException
                               b) MathException
                                                      c) IllegalAccessException
d) IllegarException
```

```
4. Which of these exceptions will occur if we try to access the index of an array beyond its
length?
                                                                                 [d]
a) ArithmeticException
                                    b) ArrayException
c) ArrayIndexException
                                    d) ArrayIndexOutOfBoundsException
Explanation: ArrayIndexOutOfBoundsException is a built in exception that is caused when
we try to access an index location which is beyond the length of an array.
5. What will be the output of the following Java code?
                                                                                [b]
Advertisement
class exception_handling
                                             Wishna District, Andhra Pradesh
  {
    public static void main(String args[])
     ł
       try
       {
         int a = args.length;
         int b = 10 / a;
         System.out.print(a);
       }
       catch (ArithmeticException e)
       {
            System.out.println("1");
       }
     }
  }
Note : Execution command line : $ java exception_handling
                             c) Compilation Error
a) 0
              b) 1
                                                          d) Runtime Error
Output:
$ javac exception_handling.java
$ java exception_handling
1
6. What will be the output of the following Java code?
                                                                                        [d]
  class exception handling
  {
    public static void main(String args[])
         ઝ
       try
         throw new NullPointerException ("Hello");
       catch(ArithmeticException e)
       System.out.print("B");
                                                          d) Runtime Error
a) A
              b) B
                             c) Compilation Error
```
Explanation: Try block is throwing NullPointerException but the catch block is used to counter Arithmetic Exception. Hence NullPointerException occurs since no catch is there which can handle it, runtime error occurs. Output: \$ javac exception_handling.java \$ java exception_handling Exception in thread "main" java.lang.NullPointerException: Hello 7. What will be the output of the following Java code? [a] class exception_handling Gudlavalleru, Krishna District, Andhra Pradesh { public static void main(String args[]) try { int a = 1; int b = 10 / a; try { if (a == 1) a = a / a - a;if (a == 2){ int $c[] = \{1\};$ c[8] = 9;} } finally { System.out.print("A"); } } catch (Exception e) System.out.println("B"); }] } } a) A b) B c) AB d) BA Explanation: The inner try block does not have a catch which can tackle ArrayIndexOutOfBoundException hence finally is executed which prints 'A' the outer try block does have catch for ArrayIndexOutOfBoundException exception but no such exception occurs in it hence its catch is never executed and only 'A' is printed. Output: \$ javac exception_handling.java \$ java exception_handling А [c] 8. What will be the output of the following Java code? class exception_handling {

```
public static void main(String args[])
     ł
       try
       {
          int a = args.length;
          int b = 10 / a;
          System.out.print(a);
          try
          {
                                        ); alleru, Mishna District, Andhra Pradesh
             if (a == 1)
               a = a / a - a;
             if (a == 2)
             {
               int []c = \{1\};
               c[8] = 9;
             }
          }
          catch (ArrayIndexOutOfBoundException e)
          {
            System.out.println("TypeA");
       catch (ArithmeticException e)
       {
            System.out.println("TypeB");
       }
     }
  }
Note: Execution command line: $ Java exception_handling one two
                             Compilation Error
a) TypeA
               b) TypeB
                                                           d) Runtime Error
Explanation: try without catch or finally
Output:
$ javac exception_handling.java
$ java exception_handling
Main.java:9: error: 'try' without 'catch', 'finally' or resource declarations
Try & Catch
1. What is the use of try & catch?
                                                                                  [d]
a) It allows us to manually handle the exception
                                                    b) It allows to fix errors
c) It prevents automatic terminating of the program in cases when an exception occurs
d) All of the mentioned
2. Which of these keywords are used for the block to be examined for exceptions? [a]
               b) catch
                             c) throw
                                             d) check
a) try
Explanation: try is used for the block that needs to checked for exception.
3. Which of these keywords are used for the block to handle the exceptions generated by try
block?
                                                                                  [b]
a) try
               b) catch
                             c) throw
                                             d) check
4. Which of these keywords are used for generating an exception manually?
                                                                                  [c]
               b) catch
                             c) throw
                                             d) check
a) try
```

```
5. Which of these statements is incorrect?
                                                                                   [d]
a) try block need not to be followed by catch block
b) try block can be followed by finally block instead of catch block
c) try can be followed by both catch and finally block
d) try need not to be followed by anything
Explanation: try must be followed by either catch or finally block.
6. What will be the output of the following Java code?
                                                                                          [b]
class Output
  {
     public static void main(String args[])
                                                    ina District, Andhra Pradesh
       try
         int a = 0;
         int b = 5;
         int c = b / a;
         System.out.print("Hello");
       }
       catch(Exception e)
       {
         System.out.print("World");}}}
                                                   (Vd) Compilation Error
               b) World
a) Hello
                              c) HelloWOrld
                                   Gudlavalleru
Output:
advertisement
$ javac Output.javac
java Output
World
7. What will be the output of the following Java code?
                                                                                          [a]
  class Output
  {
     public static void main(String args[])
     {
       try
       {
         int a = 0;
         int b = 5;
        Nint c = a / b;
         System.out.print("Hello");
       catch(Exception e)
       ł
         System.out.print("World");}}}
               b) World
a) Hello
                              c) HelloWOrld
                                                    d) Compilation Error
Output:
$ javac Output.javac
java Output
Hello
8. What will be the output of the following Java code?
                                                                                   [d]
  class Output
```

```
{
     public static void main(String args[])
     ł
       try
         int a = 0;
         int b = 5;
         int c = b / a;
         System.out.print("Hello");}}
                                                    d) Compilation Error
a) Hello
               b) World
                              c) HelloWOrld
Explanation: try must be followed by either catch or finally
Output:
$ javac Output.javac
                                      Javalleru, Kishna District, Andrie
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
       Syntax error, insert "Finally" to complete BlockStatements
9. What will be the output of the following Java code?
                                                                                          [c]
  class Output
  {
     public static void main(String args[])
     {
       try
       {
         int a = 0;
         int b = 5;
         int c = a / b;
         System.out.print("Hello");
       }
       finally
       {
         System.out.print("World");}}}
               b) World
                              c) HelloWOrld
a) Hello
                                                    d) Compilation Error
Explanation: finally block is always executed after try block, no matter exception is found or
not.
Output:
$ javac Output.javac
java Output
HelloWorld
10. What will be the output of the following Java code?
                                                                                          [d]
Class Output
     public static void main(String args[])
     {
       try
         int a = 0;
         int b = 5;
         int c = b / a;
         System.out.print("Hello");
       }
```

```
catch(Exception e)
         System.out.print("World");
       }
      finally
         System.out.print("World");}}}
a)Hello
              b) World
                             c) HelloWOrld
                                                   d) WorldWorld
Explanation: finally block is always executed after tryblock, no matter exception is found or
not. catch block is executed only when exception is found. Here divide by zero exception is
                                                                 undhra Pradest
found hence both catch and finally are executed.
Output:
  $ javac Output.javac
java Output
WorldWorld
Creating Exceptions.
1. Which of these classes is used to define exceptions?
                                                                                        [A]
                      b) Throwable
                                                                  d) System
a) Exception
                                            c) Abstract
2. Which of these methods return description of an exception?
                                                                                        [b]
                                            c) obtainDescription() d) obtainException()
a) getException()
                      b) getMessage()
Explanation: getMessage() returns a description of the exception.
3. Which of these methods is used to print stack trace?
                                                                                        [b]
a) obtainStackTrace() b) printStackTrace() c) getStackTrace() d) displayStackTrace()
4. Which of these methods return localized description of an exception?
                                                                                        [a]
                                            b) getMessage()
a) getLocalizedMessage()
c) obtainLocalizedMessage()
                                            d) printLocalizedMessage()
5. Which of these classes is super class of Exception class?
                                                                                        [a]
                      b) System
a) Throwable
                                     c) RunTime
                                                           d) Class
6. What will be the output of the following Java code?
                                                                                        [b]
 class Myexception extends Exception
  {
       int detail;
     Myexception(int a)
       detail = a;
        public String toString()
          return "detail";
  }
  class Output
    static void compute (int a) throws Myexception
     {
          throw new Myexception(a);
       public static void main(String args[])
```

```
{
       try
       {
         compute(3);
      catch(Myexception e)
         System.out.print("Exception");}}}
              b) Exception
a) 3
                                    c) Runtime Error
                                                          d) Compilation Error
                            mic. Gudlavalleru, Wishna District, Andhra Pradesh
Explanation: Myexception is self defined exception.
Output:
advertisement
$ javac Output.java
java Output
Exception
7. What will be the output of the following Java code?
                                                                                        [c]
  class Myexception extends Exception
  {
       int detail:
     Myexception(int a)
     {
     detail = a;
       ł
       public String toString()
     ł
         return "detail";
  }
  class Output
  {
     static void compute (int a) throws Myexception
     {
          throw new Myexception(a);
       public static void main(String args[])
         compute(3);
       catch(DevideByZeroException e)
         System.out.print("Exception");}}}
       b) Exception c) Runtime Error
a) 3
                                           d) Compilation Error
Explanation: Mexception is self defined exception, we are generating Myexception but
catching DevideByZeroException which causes error.
Output:
$ javac Output.javac
8. What will be the output of the following Java code?
                                                                                        [d]
```

```
class exception_handling
  {
    public static void main(String args[])
       try
       {
         throw new NullPointerException ("Hello");
         System.out.print("A");
       catch(ArithmeticException e)
       System.out.print("B");
  }
                             c) Compilation Error
                                                           d) Runtime Error
a) A
              b) B
Explanation: try block is throwing NullPointerException but the catch block is used to
counter Arithmetic Exception. Hence NullPointerException occurs since no catch is there
which can handle it, runtime error occurs.
Output:
$ javac exception_handling.java
$ java exception_handling
Exception in thread "main" java.lang.NullPointerException: Hello
9. What will be the output of the following Java code?
                                                                                        [b]
  class Myexception extends Exception
                           Jn
Gudl
  {
       int detail;
    Myexception(int a)
     {
    detail = a;
       }
       public String toString()
     {
         return "detail";
  class Output
    static void compute (int a) throws Myexception
          throw new Myexception(a);
       public static void main(String args[])
     {
       try
       ł
         compute(3);
      catch(Exception e)
```

{ System.out.print("Exception");}}} **b**) Exception d) Compilation Error a) 3 c) Runtime Error Explanation: Myexception is self defined exception. Output: \$ javac Output.javac java Output Exception 10. What will be the output of the following Java code? [c] Gudlavalleru, Krishna District, Andhra Pradesh class exception_handling { public static void main(String args[]) { try { int a = args.length; int b = 10 / a; System.out.print(a); try { if (a == 1)a = a / a - a;if (a == 2){ int $c = \{1\};$ c[8] = 9;} } catch (ArrayIndexOutOfBoundException e) { System.out.println("TypeA"); } catch (ArithmeticException e) System.out.println("TypeB"); 1. J. . Note : Execution command line : \$ java exception_handling one d) Runtime Error a) TypeA b) TypeB c) Compilation Error Explanation: try without catch or finally Output: \$ javac exception_handling.java \$ java exception_handling error: 'try' without 'catch', 'finally' or resource declarations

isAlive(), Join() & Thread Synchronization

1. Which of this method can be used to make the main thread to be executed last among all the threads? [b] a) stop() b) sleep() c) join() d) call() Explanation: By calling sleep() within main(), with long enough delay to ensure that all child threads terminate prior to the main thread. 2. Which of this method is used to find out that a thread is still running or not? [c] a) run() b) Alive() c) isAlive() d) checkRun() Explanation: The isAlive() method returns true if the thread upon which it is called is still running. It returns false otherwise. 3. What is the default value of priority variable MIN_PRIORITY AND MAX_PRIORITY? [c] a) 0 & 256 b) 0 & 1 c) 1 & 10 4. Which of these method waits for the thread to terminate? [c] c) join() a) sleep() b) isAlive() d) stop() 5. Which of these method is used to explicitly set the priority of a thread? [c] a) set() b) make() c) setPriority() d) make Priority() Explanation: The default value of priority given to a thread is 5 but we can explicitly change that value between the permitted values 1 & 10, this is done by using the method setPriority(). 6. What is synchronization in reference to a thread? [a] a) It's a process of handling situations when two or more threads need access to a shared resource b) It's a process by which many thread are able to access same shared resource simultaneously c) It's a process by which a method is able to access many different threads simultaneously d) It's a method that allow too many threads to access any information require Explanation: When two or more threads need to access the same shared resource, they need some way to ensure that the resource will be used by only one thread at a time, the process by which this is achieved is called synchronization 7. What will be the output of the following Java code? [b] class newthread extends Thread { newthread() super("My Thread"); start(); public void run() System.out.println(this); class multithreaded programing public static void main(String args[])

```
new newthread();}}
```

a) My Thread b) Thread[My Thread,5,main] c) Compilation Error d) Runtime Error Explanation: Although we have not created any object of thread class still we can make a thread pointing to main method, we can refer it by using this. Output:

[d]

```
$ javac multithreaded_programing.java
```

\$ java multithreaded programing

Thread[My Thread,5,main].

```
8. What will be the output of the following Java code?
  class newthread extends Thread
```

```
)); Mishna District, Andhra Pradesh
{
    Thread t;
    newthread()
  {
       t = new Thread(this, "My Thread");
       t.start();
     ł
    public void run()
  {
    try
     {
       t.join()
         System.out.println(t.getName());
    System.out.print("Exception");
}
class multithreaded_programing
{
  public static void main(String args[])
    new newthread();
       Ŷ
}
```

a) My Thread b) Thread[My Thread,5,main] c) Exception d) Runtime Error Explanation: join() method of Thread class waits for thread being called to finish or terminate, but here we have no condition which can terminate the thread, hence code 't.join()' leads to runtime error and nothing will be printed on the screen. Output:

\$ javac multithreaded_programing.java

\$ java multithreaded_programing

```
9. What will be the output of the following Java code?
                                                                                  [c]
  class newthread extends Thread
  {
```

Thread t: newthread()

```
{
          t = new Thread(this,"New Thread");
          t.start();
       public void run()
     {
         System.out.println(t.isAlive());
       }
  }
  class multithreaded_programing
                                                                      Ha Pradesh
  {
     public static void main(String args[])
       new newthread(); } }
a) 0
       b) 1
               c) true d) false
Explanation: isAlive() method is used to check whether the thread being called is running or
not, here thread is the main() method which is running till the program is terminated hence it
                                                    ina District
returns true.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
true
10. What will be the output of the following Java code?
                                                                                          [d]
  class newthread extends Thread
                                   Gudlan
  {
       Thread t1,t2;
       newthread()
     {
         t1 = new Thread(this, "Thread_1");
          t2 = new Thread(this,"Thread_2");
          t1.start();
          t2.start();
       public void run()
          2.setPriority(Thread.MAX_PRIORITY);
        System.out.print(t1.equals(t2));
  class multithreaded_programing
     public static void main(String args[])
     ł
       new newthread(); } }
               b) false
a) true
                             c) truetrue
                                                    d) falsefalse
Explanation: This program was previously done by using Runnable interface, here we have
used Thread class. This shows both the method are equivalent, we can use any of them to
create a thread.
Output:
```

\$ javac multithreaded_programing.java \$ java multithreaded_programing falsefalse **Implementing Runnable interface for Threads** 1. Which of these method is used to implement Runnable interface? [b] a) stop() **b**) **run**() c) runThread() d) stopThread() Explanation: To implement Runnable interface, a class needs only to implement a single method called run(). 2. Which of these method is used to begin the execution of a thread? [c] **b**) start() c) runThread() a) run() d) startThread() 3. Which of these statement is incorrect? a) A thread can be formed by implementing Runnable interface only [d] b) A thread can be formed by a class that extends Thread class c) start() method is used to begin execution of the thread d) run() method is used to begin execution of a thread before start() method in special cases Explanation: run() method is used to define the code that constitutes the new thread, it contains the code to be executed. start() method is used to begin execution of the thread that is execution of run(). run() itself is never used for starting execution of the thread. 4. What will be the output of the following Java code? [a] class newthread implements Runnable { Thread t; newthread() { t = new Thread(this,"My Thread"); t.start(); } public void run() { System.out.println(t.getName()); } class multithreaded_programing public static void main(String args[]) new newthread(); }} a) My Thread b) Thread[My Thread,5,main] c) Compilation Error d) Runtime Error Output: advertisementFederal Court Strikes Down 'Secret Science' Rule Restricting EPA Use of Non-Public \$ javac multithreaded_programing.java \$ java multithreaded_programing My Thread 5. What will be the output of the following Java code? [b] class newthread implements Runnable ł

```
Thread t;
       newthread()
    {
         t = new Thread(this,"My Thread");
         t.start();
       }
       public void run()
    {
         System.out.println(t);
                                                          ict, Andhra Pradesh
  }
  class multithreaded_programing
    public static void main(String args[])
     ł
       new newthread();
                                                  c) Compilation Error d) Runtime Error
a) My Thread b) Thread[My Thread,5,main]
                                              Kiishna
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
Thread[My Thread,5,main]
6. What will be the output of the following Java code?
                                                                                      [c]
  class newthread implements Runnable
  {
       Thread t;
       newthread()
    {
         t = new Thread(this,"My Thread");
         t.start();
  }
  class multithreaded_programing
    public static void main(String args[])
       new newthread();
a) My Thread b) Thread[My Thread,5,main] c) Compilation Error d) Runtime Error
```

a) My Thread b) Thread[My Thread,5,main] c) **Compilation Error** d) Runtime Error Explanation: Thread t has been made by using Runnable interface, hence it is necessary to use inherited abstract method run() method to specify instructions to be implemented on the thread, since no run() method is used it gives a compilation error. Output:

[d]

\$ javac multithreaded_programing.java

The type newthread must implement the inherited abstract method Runnable.run() 7. What will be the output of the following Java code?

```
class newthread implements Runnable
  ł
       Thread t;
       newthread()
     {
         t = new Thread(this,"New Thread");
         t.start();
       }
       public void run()
                                                   Ma District , Andhra Pradesh
     {
         t.setPriority(Thread.MAX_PRIORITY);
       System.out.println(t);
  }
  class multithreaded programing
    public static void main(String args[])
       new newthread();
                                    b) Thread[New Thread,1,main]
a) Thread[New Thread,0,main]
c) Thread[New Thread,5,main]
                                    d) Thread[New Thread,10,main]
Explanation: Thread t has been made with default priority value 5 but in run method the
priority has been explicitly changed to MAX PRIORITY of class thread, that is 10 by code
't.setPriority(Thread.MAX PRIORITY);' using the setPriority function of thread t.
Output:
$ javac multithreaded_programing_java
$ java multithreaded_programing
Thread[New Thread, 10, main]
8. What will be the output of the following Java code?
                                                                                       [d]
  class newthread implements Runnable
  {
       Thread t:
       newthread()
         $
        t1 = new Thread(this,"Thread_1");
         t2 = new Thread(this,"Thread_2");
         t1.start();
         t2.start();
       public void run()
     {
         t2.setPriority(Thread.MAX_PRIORITY);
         System.out.print(t1.equals(t2));
     }
  }
  class multithreaded_programing
```

```
public static void main(String args[])
     ł
       new newthread();
  }
a) true
              b) false
                                                           d) falsefalse
                                     c) truetrue
Explanation: Threads t1 & t2 are created by class newthread that is implementing runnable
interface, hence both the threads are provided their own run() method specifying the actions
to be taken. When constructor of newthread class is called first the run() method of t1
executes than the run method of t2 printing 2 times "false" as both the threads are not equal
                                                                Andria Pradest
one is having different priority than other, hence falsefalse is printed.
Output:
$ javac multithreaded programing.java
$ java multithreaded_programing
falsefalse
Thread class
This section of our 1000+ Java MCQs focuses on Thread class of Java Programming
Language.
1. Which of these method of Thread class is used to find out the priority given to a thread?[c]
              b) ThreadPriority()
                                     c) getPriority() d) getThreadPriority()
a) get()
2. Which of these method of Thread class is used to Suspend a thread for a period of time?
                                                                                         [a]
a) sleep()
              b) terminate() c) suspend()
                                            d) stop()
3. Which function of pre defined class Thread is used to check weather current thread
being checked is still running?
                                                                                         [a]
                                     c) isRunning()
a) isAlive()
                      b) Join()
                                                           d) Alive()
Explanation: isAlive() function is defined in class Thread, it is used for implementing
multithreading and to check whether the thread called upon is still running or not.
4. What will be the output of the following Java code?
                                                                                         [d]
  class multithreaded_programing
    public static void main(String args[])
       Thread t = Thread.currentThread();
       t.setName("New Thread");
       System.out.println(t);
a) Thread [5, main]
                      b) Thread[New Thread,5] c) Thread[main,5,main]
d) Thread[New Thread,5,main]
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
Thread[New Thread, 5, main]
5. What is the priority of the thread in output in the following Java program?
                                                                                         [c]
  class multithreaded_programing
  {
    public static void main(String args[])
```

```
Thread t = Thread.currentThread();
       t.setName("New Thread");
       System.out.println(t.getName());
     ļ
  }
a) main
                             c) New Thread
                                                   d) Thread[New Thread,5,main]
              b) Thread
Explanation: The getName() function is used to obtain the name of the thread, in this code
the name given to thread is 'New Thread'.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
New Thread
6. What is the name of the thread in output in the following Java program?
                                                                                 [d]
                                                   ma Distilict , Andhra
  class multithreaded_programing
     public static void main(String args[])
       Thread t = Thread.currentThread();
       System.out.println(t.getPriority());
  }
a) 0
                                            d) 5.
              b) 1
                             c) 4
Explanation: The default priority given to a thread is 5.
Output:
$ javac multithreaded programing.java
$ java multithreaded_programing
5
7. What is the name of the thread in output in the following Java program?
                                                                                        [c]
  class multithreaded_programing
    public static void main(String args[])
     {
       Thread t = Thread.currentThread();
       System.out.println(t.isAlive());
                                            d) false
a) 0
              b) 1
                             c) true
Explanation: Thread t is seeded to currently program, hence when you run the program the
thread becomes active & code 't.isAlive' returns true.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
true
Multithreading Basics
1. What is multithreaded programming?
                                                                                 [b]
a) It's a process in which two different processes run simultaneously
b) It's a process in which two or more parts of same process run simultaneously
c) It's a process in which many different process are able to access same information
d) It's a process in which a single process can access information from many sources
```

Explanation: Multithreaded programming a process in which two or more parts of the san	ne
process run simultaneously.	
2. Which of these are types of multitasking?	[c]
a) Process based b) Thread based c) Process and Thread based	
d) None of the mentioned	
Explanation: There are two types of multitasking: Process based multitasking and Thread	
based multitasking.	
3. Thread priority in Java is?	[a]
a) Integer b) Float c) double d) long	
Explanation: Java assigns to each thread a priority that determines hoe that thread should	be
treated with respect to others. Thread priority is integers that specify relative priority of or	ne
thread to another.	
4. What will happen if two thread of the same priority are called to be processed	
simultaneously?	[d]
a) Anyone will be executed first lexographically	
b) Both of them will be executed simultaneously	
c) None of them will be executed d) It is dependent on the operating system	1
Explanation: In cases where two or more thread with same priority are competing for CPU	U
cycles, different operating system handle this situation differently. Some execute them in	
time sliced manner some depending on the thread they call.	
5. Which of these statements is incorrect?	[d]
a) By multithreading CPU idle time is minimized, and we can take maximum use of it	
b) By multitasking CPU idle time is minimized, and we can take maximum use of it	
c) Two thread in Java can have the same priority	
d) A thread can exist only in two states, running and blocked	
Explanation: Thread exist in several states, a thread can be running, suspended, blocked,	
terminated & ready to run.	
advertisement	
6. What will be the output of the following Java code?	[d]
class multithreaded programing	[]
{	
public static void main(String args[])	
Thread $t = Thread.currentThread():$	
System out println(t):	
a) Thread[5 main] b) Thread[main 5] c) Thread[main 0] d) Thread[main.5.main]	ainl
Output	1
\$ javac multithreaded programing java	
\$ java multithreaded_programing	
Thread[main 5 main]	
7 What is the priority of the thread in the following Java Program?	[h]
class multithreaded programing	[0]
f	
nublic static void main(String args[])	
Thread t – Thread currentThread():	
rineau (– rineau.currentrineau(),	

```
System.out.println(t);
     }
  }
a) 4
       b) 5
              c) 0
                      d) 1
Explanation: The output of program is Thread[main,5,main], in this priority assigned to the
thread is 5. It's the default value. Since we have not named the thread they are named by the
group to they belong i:e main method.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
                                                      District Andria Pradesh
Thread[main,5,main]
8. What is the name of the thread in the following Java Program?
                                                                                        [a]
  class multithreaded programing
  {
    public static void main(String args[])
       Thread t = Thread.currentThread();
       System.out.println(t);
     }
  }
                                           d) None of the mentioned
a) main
              b) Thread
                             c) System
Explanation: The output of program is Thread[main,5,main], Since we have not explicitly
named the thread they are named by the group to they belong i:e main method. Hence they
are named 'main'.
Output:
$ javac multithreaded_programing.java
$ java multithreaded programing
Thread[main,5,main]
Multithreading
1. What requires less resources?
                                                                                        [a]
              b) Process
                             c) Thread and Process
a) Thread
                                                          d) Neither Thread nor Process
Explanation: Thread is a lightweight and requires less resources to create and exist in the
process. Thread shares the process resources.
2. What does not prevent JVM from terminating?
                                                                                        [b]
a) Process (b) Daemon Thread c) User Thread
                                                          d) JVM Thread
Explanation: Daemon thread runs in the background and does not prevent JVM from
terminating. Child of daemon thread is also daemon thread.
3. What decides thread priority?
                                                                                        [d]
              b) Process scheduler
a) Process
                                            c) Thread
                                                                 d) Thread scheduler
Explanation: Thread scheduler decides the priority of the thread execution. This cannot
guarantee that higher priority thread will be executed first, it depends on thread scheduler
implementation that is OS dependent.
4. What is true about time slicing?
                                                                                        [b]
a) Time slicing is OS service that allocates CPU time to available runnable thread
b) Time slicing is the process to divide the available CPU time to available runnable
thread
```

c) Time slicing depends on its implementation in OS

d) Time slicing allocates more resources to thread Explanation: Time slicing is the process to divide the available CPU runnable thread.	time to available
5. Deadlock is a situation when thread is waiting for other thread to r	elease acquired object.
	[a]
a) True b) Falss	
Explanation: Deadlock is java programming situation where one thre	ad waits for an object
Advertisement	
6. What should not be done to avoid deadlock?	[c]
a) Avoid using multiple threads	voral locks at onco
c) Execute foreign code while holding a lock d) Use interrupt	iblo locks
Explanation: To avoid deadlock situation in Java programming do no	t execute foreign code
while holding a lock	t execute foreign code
7 What is true about threading?	10 ¹⁰
a) run() method calls start() method and runs the code	0. [4]
b) run() method creates new thread	
c) run() method can be called directly without start() method being ca	alled
d) start() method creates new thread and calls code written in run	n() method
Explanation: start() eventually calls run() method. Start() method cre	ates thread and calls the
code written inside run method.	
8. Which of the following is a correct constructor for thread?	[a]
a) Thread(Runnable a, String str) b) Thread	l(int priority)
c) Thread(Runnable a, int priority) d) Thread(Runna	able a, ThreadGroup t)
Explanation: Thread(Runnable a, String str) is a valid constructor for	thread. Thread() is also
a valid constructor.	
9. Which of the following stops execution of a thread?	[b]
a) Calling SetPriority() method on a Thread object	
b) Calling notify() method on an object	on Innut Stroom object
Explanation: notify() webes up a single thread which is waiting for the	an inputstream object
10. Which of the following will ensure the thread will be in running s	
a) vield() b) notify() c) wait() d) Thread killThread()	
Explanation: wait() always causes the current thread to go into the ob	niect's wait pool. Hence.
using this in a thread will keep it in running state.	Jeer b waie poon menee,
Creating Threads	
.1. Which of these keywords are used to implement synchronization?	[d]
a) synchronize b) syn c) synch d) synch	ronized
2. Which of this method is used to avoid polling in Java?	[d]
a) wait() b) notify() c) notifyAll() d) all of	the mentioned
Explanation: Polling is a usually implemented by looping in CPU is	wastes CPU time, one
thread being executed depends on other thread output and the other th	rread depends on the
response on the data given to the first thread. In such situation CPU t	ime is wasted, in Java
this is avoided by using methods wait(), notify() and notifyAll().	
3. Which of these method is used to tell the calling thread to give up	a monitor and go to
sleep until some other thread enters the same monitor?	[a]
a) wait() b) notify() c) notifyAll() d) sleep()

Explanation: wait() method is used to tell the calling thread to give up a monitor and go to sleep until some other thread enters the same monitor. This helps in avoiding polling and minimizes CPU idle time.

4. Which of these method wakes up the first thread that called wait()?	[b]
--	-----

d) notifyAll()

[a]

a) wake() b) notify() c) start()

5. Which of these method wakes up all the threads? [d]

a) wakeAll() b) notify() c) start() d) notifyAll()

Explanation: notifyAll() wakes up all the threads that called wait() on the same object. The highest priority thread will run first.

```
6. What is synchronization in reference to a thread?
```

a) It's a process of handling situations when two or more threads need access to a shared resource

b) It's a process by which many thread are able to access same shared resource simultaneously

c) It's a process by which a method is able to access many different threads simultaneously d) It's a method that allow too many threads to access any information the require Explanation: When two or more threads need to access the same shared resource, they need some way to ensure that the resource will be used by only one thread at a time, the process by which this is achieved is called synchronization

```
which this is achieved is called synchronization
7. What will be the output of the following Java program?
                                      Iavalleru, Kiis
                                                                                        [c]
  class newthread extends Thread
  {
       Thread t:
       String name;
       newthread(String threadname)
     {
         name = threadname;
         t = new Thread(this,name);
         t.start();
       public void run
  }
  class multithreaded_programing
    public static void main(String args[])
         newthread obj1 =
                             new newthread("one");
         newthread obj2 =
                             new newthread("two");
       try
         obj1.t.wait();
         System.out.print(obj1.t.isAlive());
       catch(Exception e)
       {
```

```
System.out.print("Main thread interrupted");}}}
```

```
c) Main thread interrupted
a) true
              b) false
                                                                  d) None of the mentioned
Explanation: obj1.t.wait() causes main thread to go out of processing in sleep state hence
causes exception and "Main thread interrupted" is printed.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
Main thread interrupted
8. What will be the output of the following Java program?
                                                                                        [B]
  class newthread extends Thread
                                       Walleru, Wishna District, Andhra Pradesh
  {
       Thread t:
       String name;
       newthread(String threadname)
     {
         name = threadname;
         t = new Thread(this,name);
         t.start();
       public void run()
  class multithreaded_programing
    public static void main(String args[])
     {
                             new newthread("one");
         newthread obj1 =
         newthread obj2 = _____ new newthread("two");
       try
       {
         Thread.sleep(1000);
         System.out.print(obj1.t.isAlive());
       }
       catch(InterruptedException e)
       { &
        System.out.print("Main thread interrupted");}}}
a) true
              b) false
                             c) Main thread interrupted
                                                                  d) None of the mentioned
Explanation: Thread.sleep(1000) has caused all the threads to be suspended for some time,
hence onj1.t.isAlive() returns false.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
false
9. What will be the output of the following Java program?
                                                                                        [b]
  class newthread extends Thread
  {
       Thread t:
       String name;
```

```
newthread(String threadname)
     {
         name = threadname;
         t = new Thread(this,name);
         t.start();
       public void run()
                                              Kiishna District, Andhra Pradesh
  }
  class multithreaded_programing
    public static void main(String args[])
     {
         newthread obj1 = new newthread("one");
         newthread obj2 = new newthread("two");
       try
       {
          System.out.print(obj1.t.equals(obj2.t));
       }
       catch(Exception e)
       {
         System.out.print("Main thread interrupted"); } } }
                             c) Main thread interrupted
a) true
              b) false
                                                          d) None of the mentioned
Explanation: Both obj1 and obj2 have threads with different name that is "one" and "two"
hence obj1.t.equals(obj2.t) returns false.
Output:
$ javac multithreaded_programing.java
$ java multithreaded_programing
false
                      00
10. What will be the output of the following Java program?
                                                                                        [d]
  class newthread extends Thread
  {
       Thread t;
       newthread()
     2
         t1 = new Thread(this,"Thread_1");
         t2 = new Thread(this,"Thread_2");
         t1.start();
         t2.start();
       }
       public void run()
     {
         t2.setPriority(Thread.MAX_PRIORITY);
         System.out.print(t1.equals(t2));
     }
  }
  class multithreaded_programing
```

```
{
    public static void main(String args[])
       new newthread();
  }
a) true
              b) false
                                                   d) falsefalse
                             c) truetrue
Explanation: This program was previously done by using Runnable interface, here we have
used Thread class. This shows both the method are equivalent, we can use any of them to
create a thread.
Output:
$ javac multithreaded programing.java
$ java multithreaded programing
Falsefalse
Input & Output Basics.
1. What does AWT stands for?
a) All Window Tools
                             b) All Writing Tools c) Abstract Window Toolkit
d) Abstract Writing Toolkit
Explanation: AWT stands for Abstract Window Toolkit, it is used by applets to interact with
the user.
2. Which of these is used to perform all input & output operations in Java?
                                                                                [a]
              b) Variables c) classes
                                               (Å) Methods
a) streams
Explanation: Like in any other language, streams are used for input and output operations.
3. Which of these is a type of stream in Java\infty
                                                                                [c]
                     b) Short stream \sqrt[3]{c} Byte stream
a) Integer stream
                                                                  d) Long stream
Explanation: Java defines only two types of streams – Byte stream and character stream.
4. Which of these classes are used by Byte streams for input and output operation?
                                                                                        [A]
                     b) InputOutputStream
a) InputStream
                                                   c) Reader
                                                                  d) All of the mentioned
Explanation: Byte stream uses InputStream and OutputStream classes for input and output
operation.
5. Which of these classes are used by character streams for input and output operations? [b]
a) InputStream
                   (b) Writer
                                           c) ReadStream
                                                                  d) InputOutputStream
Explanation: Character streams uses Writer and Reader classes for input & output operations.
6. Which of these class is used to read from byte array?
                                                                                [d]
a) InputStream b) BufferedInputStream c) ArrayInputStream d) ByteArrayInputStream
7. What will be the output of the following Java program if input given is 'abcqfghqbcd'? [c]
  class Input Output
    public static void main(String args[]) throws IOException
       char c;
       BufferedReader obj = new BufferedReader(new InputStreamReader(System.in));
       do
       {
         c = (char) obj.read();
            System.out.print(c);
        \} while(c != 'q'); \} 
              b) abc
a) abcqfgh
                             c) abcq
                                                   d) abcqfghq
```

```
- 167 -
```

```
Output:
$ javac Input Output.java
$ java Input_Output
abcq
8. What will be the output of the following Java program if input given is "abc'def/'egh"?[a]
  class Input Output
  {
    public static void main(String args[]) throws IOException
     {
       char c;
       BufferedReader obj = new BufferedReader(new InputStreamReader(System.in));
                                                                Andrea Prat
       do
       {
         c = (char) obj.read();
            System.out.print(c);
        \} while(c!='\"); \} 
a) abc'
              b) abcdef/'
                             c) abc'def/'egh
                                                   d) abcqfghq
Explanation: \' is used for single quotes that is for representing
Output:
$ javac Input Output.java
$ java Input_Output
abc'
9. What will be the output of the following Java program?
                                                                                        [b]
  class output
  {
    public static void main(String args[])
        StringBuffer c = new StringBuffer("Hello");
        System.out.println(cflength());
  }
a) 4
              b) 50
                             c) 6
                                    d) 7
Explanation: length() method is used to obtain length of StringBuffer object, length of
"Hello" is 5.
Output: 🖖
$ javac output.java
$ java output
5
Reading Console Input
1. Which exception is thrown by read() method?
                                                                                        [a]
a) IOException b) InterruptedException
                                           c) SystemException d) SystemInputException
Explanation: read method throws IOException.
2. Which of these is used to read a string from the input stream?
                                                                                        [c]
              b) getLine() c) read()
a) get()
                                            d) readLine()
3. Which of these class is used to read characters and strings in Java from console?
                                                                                        [a]
a) BufferedReader b) StringReader c) BufferedStreamReader
                                                                  d) InputStreamReader
4. Which of these class is implemented by FilterInputStream class?
                                                                                        [a]
a) InputStream b) InputOutputStream c) BufferedInputStream d) SequenceInputStream
```

```
Explanation: FileInputStream implements InputStream.
5. What will be the output of the following Java program if input given is "Hello stop
World"?
                                                                                  [d]
  class Input_Output
  {
    public static void main(String args[]) throws IOException
     {
       string str;
       BufferedReader obj = new BufferedReader(new InputStreamReader(System.in));
       do
       {
         str = (char) obj.readLine();
            System.out.print(str);
       } while(!str.equals("strong"));}}
              b) Hello stop c) World
a) Hello
                                            d) Hello stop World
Explanation: "stop" will be able to terminate the do-while loop only when it occurs singly in
                                                   3ma District
a line. "Hello stop World" does not terminate the loop.
Output:
$ javac Input_Output.java
$ java Input_Output
Hello stop World
6. What will be the output of the following Java program?
                                                                                         [d]
  class output
  {
    public static void main(String args[])
     {
        StringBuffer c = new StringBuffer("Hello");
        StringBuffer c1 = new StringBuffer(" World");
        c.append(c1);
        System.out.println(c); } }
              b) World
                             c) Helloworld d) Hello World
a) Hello
Explanation: append() method of class StringBuffer is used to concatenate the string
representation to the end of invoking string.
Output:
$ javac output.java
$ java output
Hello World
7. What will be the output of the following Java program?
                                                                                 [c]
Člass output
    public static void main(String args[])
      StringBuffer s1 = new StringBuffer("Hello");
      s1.setCharAt(1,x);
      System.out.println(s1); } }
              b) xxxxx
                             c) Hxllo
a) xello
                                            d) Hexlo
Output:
$ javac output.java
$ java output
                      Hxllo
```

8. What will be the output of the following Java program if input given is "abc'def/'egh"? [a] class Input_Output

```
{
    public static void main(String args[]) throws IOException
       char c;
       BufferedReader obj = new BufferedReader(new InputStreamReader(System.in));
       do
       {
         c = (char) obj.read();
            System.out.print(c);
                                                           d) abcqfghq<sup>a</sup> Pratesh
       } while(c != '\');
  }
a) abc'
              b) abcdef/'
                                     c) abc'def/'egh
Explanation: \ is used for single quotes that is for representing '
                                                    The Distict
Output:
$ javac Input_Output.java
$ java Input_Output
abc'
Writing Console Output
1. Which of these class contains the methods print() & println()?
                                                                                         [d]
a) System
              b) System.out c) BUfferedOutputStream
                                                           d) PrintStream
Explanation: print() and println() are defined under the class PrintStream, System.out is the
byte stream used by these methods.
2. Which of these methods can be used to writing console output?
                                                                                         [d]
              b) println()
                             c) write()
                                            d) all of the mentioned
a) print()
3. Which of these classes are used by character streams output operations?
                                                                                         [b]
a) InputStream
                      b) Writer
                                     c) ReadStream
                                                           d) InputOutputStream
Explanation: Character streams uses Writer and Reader classes for input & output
operations.
4. Which of these class is used to read from a file?
                                                                                         [c]
a) InputStream b) BufferedInputStream c) FileInputStream d) BufferedFileInputStream
5. What will be the output of the following Java program?
                                                                                         [a]
  class output
     public static void main(String args[])
       String a="hello i love java";
       System.out.println(indexof('i')+" "+indexof('o')+" "+lastIndexof('i')+"
"+lastIndexof('o') ));
     }
a) 6469
              b) 5 4 5 9
                             c) 7889
                                            d) 4 3 6 9
Explanation: indexof('c') and lastIndexof('c') are pre defined function which are used to get
the index of first and last occurrence of
the character pointed by c in the given array.
Output:
$ javac output.java
```

```
$ java output
6469
6. What will be the output of the following Java program?
                                                                      [a]
1.
          class output
2.
          {
3.
             public static void main(String args[])
4.
5.
               char c[]={'a','1','b',' ','A','0'];
               for (int i = 0; i < 5; ++i)
6.
7.
               {
8.
                    if(Character.isDigit(c[i]))
9.
                     System.out.println(c[i]" is a digit");
10.
                  if(Character.isWhitespace(c[i]))
                    System.out.println(c[i]" is a Whitespace character");
11.
                  if(Character.isUpperCase(c[i]))
12.
                    System.out.println(c[i]" is an Upper case Letter
13.
14.
                  if(Character.isUpperCase(c[i]))
                    System.out.println(c[i]" is a lower case Letter");
15.
16.
                  i = i + 3; \} \}
a) a is a lower case Letter
                                                      b) b is a lower case Letter
   is White space character
                                                      is White space characte
c) a is a lower case Letter
                                                     (d) a is a lower case Letter
  A is a upper case Letter
                                                                0 is a digit
Explanation:
Character.isDigit(c[i]),Character.isUpperCase(c[i]),Character.isWhitespace(c[i]) are the
function of library java.lang
they are used to find weather the given character is of specified type or not. They return true
or false i:e Boolean variable.
Output:
$ javac output.java
$ java output
a is a lower case Letter
 is White space character
7. What will be the output of the following Java program?
                                                                                              [b]
1.
          class output
2.
          \mathfrak{B}
3.
             public static void main(String args[])
               StringBuffer s1 = new StringBuffer("Hello");
5,
6.
               StringBuffer s2 = s1.reverse();
7.
               System.out.println(s2); } }
a) Hello
               b) olleH
                               c) HelloolleH d) olleHHello
Explanation: reverse() method reverses all characters. It returns the reversed object on which
it was called.
Output:
$ javac output.java
$ java output
olleH
Interfaces – 1
```

1. Which of these keywords is used to define interfaces in Java? [a] a) interface b) Interface c) intf d) Intf 2. Which of these can be used to fully abstract a class from its implementation? [c] c) Interfaces d) None of the Mentioned a) Objects b) Packages 3. Which of these access specifiers can be used for an interface? [a] a) Public b) Protected c) private d) All of the mentioned Explanation: Access specifier of an interface is either public or no specifier. When no access specifier is used then default access specifier is used due to which interface is available only to other members of the package in which it is declared, when declared public it can be used by any code. 4. Which of these keywords is used by a class to use an interface defined previously? [c] b) Import c) implements d) Implements a) import Explanation: interface is inherited by a class using implements. 5. Which of the following is the correct way of implementing an interface salary by class manager? [b] b) class manager implements salary {} a) class manager extends salary {} c) class manager imports salary { } d) none of the mentioned 6. Which of the following is an incorrect statement about packages? [d] a) Interfaces specifies what class must do but not how it does b) Interfaces are specified public if they are to be accessed by any code in the program c) All variables in interface are implicitly final and static d) All variables are static and methods are public if interface is defined pubic Explanation: All methods and variables are implicitly public if interface is declared public. 7. What will be the output of the following Java program? [c] interface calculate { void cal(int item); class display implements calculate { int x: public void cal(int item) * item: class interfaces public static void main(String args[]) display arr = new display;arr.x = 0; arr.cal(2); System.out.print(arr.x);}} d) None of the mentioned a) 0 b) 2 c) 4 Output:

\$ javac interfaces.java \$ java interfaces

```
4
```

```
8. What will be the output of the following Java program?
                                                                                                             [c]
   interface calculate
   {
      void cal(int item);
   }
   class displayA implements calculate
   {
      int x:
    ss interfaces
public static void main(String args[])+alterut, Kishna bishict, Andhra pradesh
{
    displayA arr1 = new displayA;
    displayB arr2 = new displayA;
    displayB arr2 = new display**
    arr1.x = 0;
    arr2.x = 0;
    vr1.cal(2)*
    r2.**
      public void cal(int item)
   }
   class displayB implements calculate
   {
   }
   class interfaces
   {
         arr2.cal(2);
         System.out.print(arr1.x + " " + arr2.x);}}
a) 0 0
                                                      d) 1 4
                 b) 2 2
                                    c) 4 1
Explanation: class displayA implements the interface calculate by doubling the value of item,
where as class displayB implements the interface by dividing item by item, therefore variable
x of class displayA stores 4 and variable x of class displayB stores 1.
Output:
$ javac interfaces.java
$ java interfaces
41
9. What will be the output of the following Java program?
                                                                                                             [c]
interface calculate
{
        int VAR = 0:
         void cal(int item);
}
      class display implements calculate
```

{

```
int x;
      public void cal(int item)
      ł
          if (item<2)
            x = VAR;
          else
            x = item * item;
       }
     }
                                                    ina District, Andhra Pradesh
class interfaces
{
       public static void main(String args[])
          display[] arr=new display[3];
         for(int i=0;i<3;i++)
         arr[i]=new display();
         arr[0].cal(0);
         arr[1].cal(1);
         arr[2].cal(2);
         System.out.print(arr[0].x+" " + arr[1].x
                                                       + arr[2].x; \} \}
                                  Gudlavallerur
               b) 0 2 4
a) 0 1 2
                                                             d) 0 1 4
output:
$ javac interfaces.java
$ java interfaces
                               , nic,
004
Interfaces – 2
1. Which of the following access specifiers can be used for an interface?
                                                                                    [a]
                             c) Public
a) Protected b) Private
                                             d) Public, protected, private
Explanation: Interface can have either public access specifier or no specifier. The reason is
they need to be implemented by other classes.
2. Which of the following is the correct way of implementing an interface A by class B? [b]
a) class B extends A{}
                              b) class B implements A{}
c) class B<sup>°</sup> tmports A{}
                              d) None of the mentioned
Explanation: Concrete class implements an interface. They can be instantiated.
3. All methods must be implemented of an interface.
                                                                                    [a]
a) True
                      b) False
Explanation: Concrete classes must implement all methods in an interface. Through interface
multiple inheritance is possible.
4. What type of variable can be defined in an interface?
                                                                                           [d]
a) public static
                      b) private final
                                             c) public final
                                                                    d) static final
Explanation: variable defined in an interface is implicitly final and static. They are usually
written in capital letters.
5. What does an interface contain?
                                                                                           [b]
a) Method definition b) Method declaration
                                                     c) Method declaration and definition
d) Method name
Explanation: Interface contains the only declaration of the method.
```

6. What type of methods an interface contain by default?	[a]
a) abstract b) static c) final d) private	
Explanation: By default, interface contains abstract methods. The abstract method	ods need to
be implemented by concrete classes.	
7. What will happen if we provide concrete implementation of method in interfa	ce? [c]
a) The concrete class implementing that method need not provide implementation	n of that
method	
b) Runtime exception is thrown c) Compilation failure	
d) Method not found exception is thrown	
Explanation: The methods of interfaces are always abstract. They provide only r	nethod
definition.	
8. What happens when a constructor is defined for an interface?	ි [a]
a) Compilation failure b) Runtime Exception	
c) The interface compiles successfully d) The implementing class will three	w exception
Explanation: Constructor is not provided by interface as objects cannot be instan	tiated.
9. What happens when we access the same variable defined in two interfaces imposed on two interf	plemented by
the same class?	[d]
a) Compilation failure b) Runtime Exception	
c) The JVM is not able to identify the correct variable	
d) The interfaceName.variableName needs to be defined	
Explanation: The JVM needs to distinctly know which value of variable it needs	to use. To
avoid confusion to the JVM interfaceName.variableName is mandatory.	
10. Can "abstract" keyword be used with constructor, Initialization Block, Instar	ice
Initialization and Static Initialization Block [b]	
a) True b) False	
Explanation: No, Constructor, Static Initialization Block, Instance Initialization	Block and
variables cannot be abstract.	
Core Java API Packages	
Programming Language.	0.1
1. Which of these package is used for graphical user interface?	נסן
a) java.applet b) java.awt c) java.awt.image d) java.io	
Explanation: Java.awi provides capacifilities for graphical user interface.	նել
2. Which of this package is used for analyzing code during run-time?	נמן
a) Java.applet D) Java.awt C) Java.10 U) Java.lang.reflect	idad by
Explanation. Reflect package	lueu by
3 Which of this package is used for handling security related issues in a program	o? [a]
5. Which of this package is used for handling security related issues in a program a_{1} is a security a_{2} is a security $a_{$	1. [a]
4. Which of these class allows us to get real time data about private and protecte	d member of
a class?	
a class: a) java jo b) GetInformation c) ReflectPermission d) MembersI	Permission
Explanation: The ReflectPermission class allows reflection of private or protected	d members
of a class. This was added after java 2.0	a memoers
5 Which of this package is used for invoking a method remotely?	[8]
a) java.rmi b) java awt c) java util d) java applet	[4]
Explanation: java.rmi provides capabilities for remote method invocation	
Explanation: java.rmi provides capabilities for remote method invocation. 6. What will be the output of the following Java program?	[8]
 Explanation: java.rmi provides capabilities for remote method invocation. 6. What will be the output of the following Java program? import java.lang.reflect.*; 	[a]

```
{
     public static void main(String args[])
          try
        {
             Class c = Class.forName("java.awt.Dimension");
               Constructor constructors[] = c.getConstructors();
               for (int i = 0; i < \text{constructors.length}; i++)
                  System.out.println(constructors[i]);
                                                                 Andhra Pradesh
          catch (Exception e)
        {
           System.out.print("Exception");
a) Program prints all the constructors of 'java.awt.Dimension,' package
b) Program prints all the possible constructors of class 'Class'
c) Program prints "Exception"
                                             d) Runtime Error
Output:
$ javac Additional_packages.java
$ java Additional_packages
public java.awt.Dimension(java.awt.Dimension)
public java.awt.Dimension()
public java.awt.Dimension(int,int)
7. What will be the output of the following Java program?
                                                                                          [c]
  import java.lang.reflect.*;
1.
          class Additional_packages
2.
          {
3.
             public static void main(String args[])
4.
5.
                  try
6.
7.
                    Class c = Class.forName("java.awt.Dimension");
8.
                       Field fields[] = c.getFields();
9.
                       for (int i = 0; i < \text{fields.length}; i++)
10
                         System.out.println(fields[i]);
11
                  }
12
                  catch (Exception e)
13.
                {
14.
                   System.out.print("Exception");}}}
a) Program prints all the constructors of 'java.awt.Dimension' package
b) Program prints all the methods of 'java.awt.Dimension' package
c) Program prints all the data members of 'java.awt.Dimension' package
d) program prints all the methods and data member of 'java.awt.Dimension' package
Output:
$ javac Additional_packages.java
$ java Additional_packages
public int java.awt.Dimension.width
```

public int java.awt.Dimension.height

8. What is the length of the application box made in the following Java program? [**c**] 1. import java.awt.*; 2. import java.applet.*; 3. public class myapplet extends Applet 4. { 5. Graphic g; 6. g.drawString("A Simple Applet",20,20); 7. } a) 20 b) Default value c) Compilation Error d) Runtime Error Explanation: To implement the method drawString we need first need to define abstract - def. - hna pistrict ' Andhra Prao w method of AWT that is paint() method. Without paint() method we cannot define and use drawString or any Graphic class methods. 9. What will be the output of the following Java program? [b] import java.lang.reflect.*; 1. class Additional_packages 2. 3. { 4. public static void main(String args[]) 5. 6. try 7. { Class c = Class.forName("java.awt.Dimension"); 8. 9. Method methods[] = c.getMethods(); 10. for (int i = 0; i < methods.length; i++) 11. System.out.println(methods[i]); 12. } catch (Exception e) 13. 14. { System.out print("Exception");}}} 15. a) Program prints all the constructors of 'java.awt.Dimension' package b) Program prints all the methods of 'java.awt.Dimension' package c) Program prints all the data members of 'java.awt.Dimension' package d) program prints all the methods and data member of 'java.awt.Dimension' package Output: \$ javac Additional_packages.java \$ java Additional_packages public int java.awt.Dimension.hashCode() public boolean java.awt.Dimension.equals(java.lang.Object) public java.lang.String java.awt.Dimension.toString() public java.awt.Dimension java.awt.Dimension.getSize() public void java.awt.Dimension.setSize(double,double) public void java.awt.Dimension.setSize(int,int) public void java.awt.Dimension.setSize(java.awt.Dimension) public double java.awt.Dimension.getHeight() public double java.awt.Dimension.getWidth() public java.lang.Object java.awt.geom.Dimension2D.clone() public void java.awt.geom.Dimension2D.setSize(java.awt.geom.Dimension2D) public final native java.lang.Class java.lang.Object.getClass() public final native void java.lang.Object.notify()

public final native void java.lang.Object.notifyAll() public final native void java.lang.Object.wait(long) public final void java.lang.Object.wait(long,int) public final void java.lang.Object.wait()

JDBC

1. Which of the following contains both date and time? [d] a) java.io.date b) java.sql.date c) java.util.date d) java.util.dateTime Explanation: java.util.date contains both date and time. Whereas, java.sql.date contains only date. 2. Which of the following is advantage of using JDBC connection pool? [d] a) Slow performance b) Using more memory c) Using less memory d) Better performance Explanation: Since the JDBC connection takes time to establish. Creating connection at the

application start-up and reusing at the time of requirement, helps performance of the application. 3. Which of the following is advantage of using PreparedStatement in Java? [c]

a) Slow performance b) Encourages SQL injection c) Prevents SQL injection d) More memory usage

Explanation: PreparedStatement in Java improves performance and also prevents from SQL injection.

4. Which one of the following contains date information? [a]

a) java.sql.TimeStamp b) java.sql.Time (ava.io.Time d) java.io.TimeStamp Explanation: java.sql.Time contains only time. Whereas, java.sql.TimeStamp contains both 5. What does setAutoCommit(false) do? [**c**]

a) commits transaction after each query (6) explicitly commits transaction

c) does not commit transaction automatically after each query

d) never commits transaction

Explanation: setAutoCommit(false) does not commit transaction automatically after each query. That saves a lot of time of the execution and hence improves performance. [c]

6. Which of the following is used to call stored procedure?

a) Statement b) Prepared Statement c) Callable Statement d) CalledStatement Explanation: CallableStatement is used in JDBC to call stored procedure from Java program. 7. Which of the following is used to limit the number of rows returned? [a]

a) setMaxRows(int i) b) setMinRows(int i) c) getMaxrows(int i) d) getMinRows(int i) Explanation: setMaxRows(int i) method is used to limit the number of rows that the database returns from the query.

8. Which of the following is method of JDBC batch process?

[**d**]

a) setBatch() b) deleteBatch() c) removeBatch() d) addBatch() Explanation: addBatch() is a method of JDBC batch process. It is faster in processing than executing one statement at a time.

```
9. Which of the following is used to rollback a JDBC transaction?
                                                                                          [a]
a) rollback() b) rollforward()
                                     c) deleteTransaction()
                                                                   d) RemoveTransaction()
Explanation: rollback() method is used to rollback the transaction. It will rollback all the
changes made by the transaction.
```

```
10. Which of the following is not a JDBC connection isolation levels?
                                                                       [d]
a) TRANSACTION NONE
                                   b) TRANSACTION READ COMMITTED
c) TRANSACTION REPEATABLE READ
```

d) TRANSACTION NONREPEATABLE READ

Explanation: TRANSACTION NONREPEATABLE READ is not a JDBC connection isolation level.

classes and objects java bits links:

```
https://www.geeksforgeeks.org/java-gq/class-and-object-2-gq/
1.Predict the output of following Java program?
       Answer: (C)
class Test {
 int i:
}
class Main {
 public static void main(String args[]) {
  Test t;
  System.out.println(t.i);
}
(A) 0
              (B) garbage value
                                   (C) compiler error
                                                  ma District Andhra
                                                                (D) runtime error
2.Predict the output of following Java program
                                                                      Answer: (B)
class Test {
 int i;
}
class Main {
 public static void main(String args[]) {
   Test t = new Test();
   System.out.println(t.i); }}
(A) garbage value
                     (B) 0
                                   (C) compiler error
                                                                (D) runtime error
Explanation: In Java, fields of classes and objects that do not have an explicit initializer
and elements of arrays are automatically initialized with the default value for their type
(false for boolean, 0 for all numerical types, null for all reference types). Local variables in
Java must be definitely assigned to before they are accessed, or it is a compile error.
                                                                       Answer: (B)
3. class demo
{
    int a, b;
      demo()
     {
         a = 10;
         b = 20;
     public void print()
         System.out.println ("a = " + a + " b = " + b + " n");
  class Test
    public static void main(String[] args)
     {
         demo obj1 = new demo();
         demo obj2 = obj1;
         obj1.a += 1;
         obj1.b += 1;
       System.out.println ("values of obj1 : ");
         obj1.print();
         System.out.println ("values of obj2 : ");
         obj2.print(); }}
(A) Compile error
                                                         (B) values of obj1:
                                                         a = 11 b = 21
```

```
values of obj2:
                                                       a = 11 b = 21
(C)values of obj1:
                                                       (D)values of obj1
a = 11 b = 21
                                                       a = 11 b = 20
values of obj2:
                                                       values of obj2:
a = 10 b = 20
                                                       a = 10 b = 21
(E) Run time error
Explanation: Assignment of obj2 to obj1 makes obj2 a reference to obj1.
Therefore, any change in obj1 will be reflected in obj2 also.
                              Gudlavalleru, Kishna District, Andma Pradesh
4. Predict the output of following Java program.
Answer: (B)
class demoClass
{
  int a = 1;
  void func()
  {
    demo obj = new demo();
    obj.display();
  }
  class demo
  {
    int b = 2;
    void display()
      System.out.println("\na = " +
    {
                               " + a);
                S.R.
    }
  }
  void get()
  ł
    System.out.println("hb = " + b);
class Test
{
  public static void main(String[] args)
  ł
    demoClass obj = new demoClass();
    obj.func();
    obj.get(); } }
                                                              (C)b = 2
A)a = 1
                           (B) Compilation error
```
b = 2

a = 1Explanation:

Answer: (B)

Members of inner class 'demo' can not be used in the outer class 'Test'. Thus, get() of outer class can not access variable 'b' of inner class.

5. Predict the output of the following program.

```
class First
{
                                  Gudlavalleru, Kiishna District, Andhra Pradesh
  void display()
  {
     System.out.println("Inside First");
  }
}
class Second extends First
{
  void display()
  {
    System.out.println("Inside Second");
  }
}
class Test
{
  public static void main(String[] args)
  {
    First obj1 = new First();
     Second obj2 = new Second();
     First ref;
    ref = obi1;
     ref.display();
     ref = obj2;
     ref.display(); }}
(A) Compilation error
                                      (B)Inside First
                                      Inside Second
(C)Inside First
Inside First
                                       (D) Runtime error
Explanation: 'ref' is a reference variable which obtains the reference of object of class First
and calls its function display().
Then 'ref' refers to object of class Second and calls its function display().
```

6.Predict the output of the following program. Answer: (B)

```
class Test
ł
  int a = 1;
  int b = 2;
  Test func(Test obj)
  {
     Test obj3 = new Test();
     obj3 = obj;
                                                        District , Andhra Pradesh
     obj3.a = obj.a++++obj.b;
    obj.b = obj.b;
     return obj3;
  }
  public static void main(String[] args)
  {
     Test obj1 = new Test();
     Test obj2 = obj1.func(obj1);
    System.out.println("obj1.a = " + obj1.a + " obj1.b = " + obj1.b);
    System.out.println("obj2.a = " + obj2.a + " obj1.b = " + obj2.b);
  }
}
(A)obj1.a = 1 obj1.b = 2
                              (B)obj1.a = 4 obj1.b = 3
                                                           (C) Compilation error
                              obj2.a = 4 obj2.b = 3
obj2.a = 4 obj2.b = 3
Explanation:
obj1 and obj2 refer to same memory address.
7. What is the output of the following JAVA program ?
                                                                          Answer: (D)
Class Test {
  public static void main(String[] args) {
     Test obj = new Test();
     obj.start();
         Ð
  }
  void start() {
  String stra = "do";
       String strb = method(stra);
     System.out.print(": "+stra + strb);
  String method(String stra) {
     stra = stra + "good";
     System.out.print(stra);
     return" good"; }}
                                             (B) dogood : gooddogood
    (A) dogood : dogoodgood
    (C) dogood : dodogood
                                            (D) dogood : dogood
```

8. Java uses threads to enable the entire environment to be _____ Answer: (D) (D) Asynchronous (A) Symmetric (B) Asymmetric (C) Synchronous Explanation: Java uses threads to enable the entire environment to be asynchronous. Asynchronous threading is pre-emptive i.e. a thread once start executing a task it can hold it in mid, save the current state and start executing another task (context switching) according to priority and other specified criteria and threading. So, option (D) is correct. 9.In Java, when we implement an interface method, it must be declared as: Answer: (C) Liberteclarea Hanswer: (D) Andhra Panswer: (D) (A) Private (B) Protected (C) Public Explanation: In Java, when we implement an interface method, it must be declared as Public. 10. What is the output of the following JAVA program ? class simple { public static void main(String[] args) simple obj = new simple(); obj.start(); void start() long [] P= {3, 4, 5}; long [] Q = method (P);System.out.print (P[0] + P[1] + P[2]+?**) System.out.print (Q[0] + Q[1] + Q[2]);} long [] method (long [] R) { R [1]=7; return R; } //end of class (A) 12 : 15 (C) 12 : 12 (D) 15 : 15 Explanation: When above program compliled and run on ide then it will produce 15:15. https://www.gkseries.com/computer-engineering/java/objects-classes/00001-objects-andclasses 1 Which of the following is an invalid declaration for the main method in java program? Answer: [D] A public static void main (String [] args) B public static strictfp void main(String args[]) C final static public void main (String args[] D All are Correct 2 A top level class may have which one of the following access modifiers? **Answer:** [D] A package B private C protected D public 3 Visualizing program components as objects is characteristics of which of the following language types? Answer: [A] A Object-oriented programming language B Machine language C Command line operating system D Procedural language 4 A subclass is also called as Answer: [C] A inner class B nested class C derived class D hidden class 5 Attribute of an object can include information about Answer: [A]

A State B Method C Behavior **D** Procedures 6 Which of the following is not a wrapper class? Answer: [A] A Vector C Boolean **D** Integer **B** Character 7 Which of the following method is used to initialize the instance variable of a class? Answer: [C] A Class **B** Public C Constructor **D** Destructor 8 Object oriented programming method is followed in Answer: [D] A C programming language B C++ programming language C C# programming language D Both [B] and [C] 9 The last statement in a finalize method should always be Answer: [D] A super (finalize) B super finalize() C finalize(method name) D no restrictions 10 The methods defined by Thread class that help to manage threads are : Answer: [D] A joined B stop C getName D all of the above 11 Which of the following is not true about constructors? Answer: [D] A It initializes an object immediately upon creation B It is syntactically similar to a method C The return type of class constructor is the class type itself D All of the above 12 A default constructor has Answer: [A B has no return type C has one argument but no return type A has no arguments D has two arguments 13 When a method is made static, it cannot use Answer: [B] D None the above A this B super C Both [A] and [B] 14 Which method of the thread class should be defined? Answer: [A] C Both [A] and [B] A run() **B** start() D None of these above 15 In Java, main() method rteturns a value of type Answer: [A] D string A void B int C real methods: https://www.javatpoint.com/java-mcg

1. Which of the following option leads to the portability and security of Java? Answer: (a)
a. Bytecode is executed by JVM
b. The applet makes the Java code secure and portable
c. Use of exception handling
b. The applet makes the Java code secure and portable
d. Dynamic binding between objects.
Explanation: The output of the Java compiler is bytecode, which leads to the security and portability of the Java code. It is a highly developed set of instructions that are designed to be executed by the Java runtime system known as Java Virtual Machine (JVM). The Java programs executed by the JVM that makes the code portable and secure. Because JVM prevents the code from generating its side effects. The Java code is portable, as the same byte code can run on any platform.

Hence, the correct answer is option (a).

2) Which of the following is not a Java features?

Answer: (c)

a. Dynamic b. Architecture Neutral c. Use of pointers d. Object-oriented

Explanation: The Java language does not support pointers; some of the major reasons are listed below:

One of the major factors of not using pointers in Java is security concerns. Due to pointers, most of the users consider C-language very confusing and complex. This is the reason why Green Team (Java Team members) has not introduced pointers in Java.

Java provides an effective layer of abstraction to the developers by not using pointers in Java. Java is dynamic, architecture-neutral, and object-oriented programming language. Hence, the correct answer is option (c). 3) What should be the execution order, if a class has a method, static block, instance block, and constructor, as shown below? Answer: (d)

- 1. public class First_C {
- 2. public void myMethod()
- 3. {
- 4. System.out.println("Method");
- 5.

}

{

}

{

- 6.
- 7.
- Walleru, Wishna District, Andhra Pradesh 8. System.out.println(" Instance Block");
- 9.
- 10.
- 11. public void First_C()
- 12.
- 13. System.out.println("Constructor ");
- 14. }
- 15. static {

}

- System.out.println("static block"); 16.
- 17.
- public static void main(String[] args) 18.
- Polytechnic, 19. First C c = new First C();
- 20. c.First_C();
- 21. c.myMethod();

22. }

23. }

- a. Instance block, method, static block, and constructor
- b. Method, constructor, instance block, and static block
- c. Static block, method, instance block, and constructor

d. Static block, instance block, constructor, and method

Explanation: The order of execution is:

- 1. The static block will execute whenever the class is loaded by JVM.
- 2. Instance block will execute whenever an object is created, and they are invoked before the constructors. For example, if there are two objects, the instance block will execute two times for each object.
- 3. The constructor will execute after the instance block, and it also execute every time the object is created.
- 4. A method is always executed at the end.

```
Hence, the correct answer is an option (d).
                        4) What will be the output of the following program?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Answer: (d)
  public class MyFirst {
                         public static void main(String[] args) {
                                    MyFirst obj = new MyFirst(n);
      }
     static int a = 10:
                                                                                                                                                       ,; Andrea Protection
,; Andrea Protection
,, Andrea Protection
, Andrea Protectio
    static int n:
    int b = 5:
    int c;
    public MyFirst(int m) {
                            System.out.println(a + ", " + b + ", " + c + ", " + n + c + ", " + c + ", " + n + c + ", " + n
              }
// Instance Block
          {
                     b = 30:
                     n = 20;
          }
// Static Block
         static
  {
                                       a = 60;
                      }
      }
                                                                                                                    b. 10, 30, 20 c. 60, 5, 0, 20
  a.10, 5, 0, 20, 0
                                                                                                                                                                                                                                                                                                                                                         d. 60, 30, 0, 20, 0
                        Explanation: In the above code, there are two values of variable a, i.e., 10 and 60. Similarly,
                         there are two values of variable b, i.e., 5 and 30. But in the output, the values of a and b are
                         60 and 30, respectively. It is because of the execution order of the program.
```

```
The execution order of the program is that the static block executes first, then instance block, and then constructor. Hence, the JVM will consider the value of a and b as 60 and 30 concerning the execution order. The value of a = 10 and b = 5 are of no use. And the value of variables c and m is 0 as we have not assigned any value to them. Hence, the correct answer is an option (d).
```

```
5) The \downarrowu0021 article referred to as a
```

Answer: (a)

a. Unicode escape sequence b. Octal escape c. Hexadecimal d. Line feed Explanation: In Java, Unicode characters can be used in string literals, comments, and commands, and are expressed by Unicode Escape Sequences. A Unicode escape sequence is made up of the following articles:

- A backslash '\' (ASCII character 92)
- A 'u' (ASCII 117)

• One or more additional 'u' characters that are optional.

• A four hexadecimal digits (a character from 0 - 9 or a-f or A-F)

Hence, the correct answer is the option (a).

Answer: (d)

6) _____ is used to find and fix bugs in the Java programs.

a. JVM b. JRE c. JDK

Explanation: The Java Debugger (JDB or jdb) is a command-line java debugger that debugs the java class. It is a part of the Java Platform Debugger Architecture (JPDA) that helps in the inspections and debugging of a local or remote Java Virtual Machine (JVM). The JVM (Java Virtual Machine) enables a computer to run Java or other language (kotlin, groovy, Scala, etc.) programs that are compiled to the Java bytecode. The JRE (Java Runtime Environment) is a part of JDK that contains the Java class libraries, Java class loader, and the Java Virtual Machine. The JDK (Java Development Kit) is a software development environment used to develop Java applications and applets.

d.JDB

Hence, the correct answer is an option (d).

Answer: (a)

a. char ch = '\utea'; b. char ca = 'tea'; c. char cr = $\u0223$; d. char cc = '\itea'; Explanation: A char literal may contain a Unicode character (UTF-16). We can directly use these characters only if our file system allows us, else use a Unicode escape (\u) such as "\u02tee". The char literals are always declared in single quotes (').

The option b, c, and d, are not valid because:

- In the option b), to make a String valid char literal, we should add prefix "\u" in the string.
- In the option c), single quotes are not present.

7) Which of the following is a valid declaration of a char?

 \circ In the option d), "\i" is used in place of "\u."

Hence, the correct answer is the option (a).

8) What is the return type of the hashCode() method in the Object class? Answer: (b)

a. Object b. int c. long d. void Explanation: In Java, the return type of hashCode() method is an integer, as it returns a hash code value for the object.

Hence, the correct answer is the option (b).

9) Which of the following is a valid long literal?

a. ABH8097 b.L990023 c. 904423 d.0xnf029L Explanation: For every long literal to be recognized by Java, we need to add L character at the end of the expression. It can be either uppercase (L) or lowercase (l) character. However, it is recommended to use uppercase character instead of lowercase because the lowercase (l) character is hard to distinguish from the uppercase (i) character. For example,

- 1. Lowercase l: 0x466rffl
- 2. Uppercase L: 0nhf450L

Hence, the correct answer is an option (d).

10) What does the expression float a = 35 / 0 return?

Answer: (c)

Answer: (d)

a.0 b. Not a Number c. Infinity d. Run time exception Explanation: In Java, whenever we divide any number (double, float, and long except integer) by zero, it results in infinity. According to the IEEE Standard for Floating-Point Arithmetic (IEEE 754), if we divide 1/0 will give positive infinity, -1/0 will give negative

infinity, and 0/0 will give NaN. But on dividing an integer by zero, it throws a runtime exception, i.e., java.lang.ArithmeticException.

Hence, the correct answer is an option (c).

11) Evaluate the following Java expression, if x=3, y=5, and z=10: Answer: (a) ++z + y - y + z + x ++

> a. 24 b. 23 c. 20 d. 25

Explanation: In the above expression, ++z means that the value will first increment by 1, then used. Now, evaluate the statement by putting the values of x, y, and z. On calculating the final answer is 24, as shown below.

++z + y - y + z + x + +

11 + 5 - 5 + 10 + 3 = 24

Hence, the correct answer is option (a).

12) What will be the output of the following program?

public class Test {

public static void main(String[] args) {

int count = 1:

while (count ≤ 15) {

Answer: (c) "+++++");a District 'Andria "+++++");a System.out.println(count % 2 == 1 ? "***" :

++count;

// end while } // end main } }

a. 15 times ***

d. Both will print only once

Explanation: In the above code, we have declared count = 1. The value of count will be increased till 14 because of the while (count ≤ 15) statement. If the remainder is equal to 1 on dividing the count by 2, it will print (***) else print (+++++). Therefore, for all odd numbers till 15 (1, 3, 5, 7, 9, 11, 13, 15), it will print (***), and for all even numbers till 14 (2, 4, 6, 8, 10, 12, 14) it will print (+++++).

Hence, an asterisk (***) will be printed eight times, and plus (+++++) will be printed seven times.

13) Which of the following tool is used to generate API documentation in HTML format from doc comments in source code? Answer: (c)

c. Javadoc tool a. javap tool b. javaw command d. javah command Explanation: The Javadoc is a tool that is used to generate API documentation in HTML format from the Java source files. In other words, it is a program (tool) that reads a collection of source files into an internal form.

The Javadoc command line syntax is,

Javadoc [options] [packagenames] [sourcefiles] [@files]

The javap tool is used to get the information of any class or interface. It is also known as a disassembler. The javaw command is identical to java that displays a window with error information, and the javah command is used to generate native method functions. Hence, the correct answer is option (c).

14) Which of the following creates a List of 3 visible items and multiple selections abled? Answer: (b)

a. new List(false, 3) b. new List(3, true) c. new List(true, 3) d. new List(3, false) Explanation: From the above statements, the new List(3, true) is the correct answer; this is because of the constructor type. To create a list of 3 visible items along with the multiple selections abled, we have to use the following constructor of the List class.

List (int rows, boolean multipleMode): It creates a new list initialized to display the described number of rows along with the multiple selection mode.

Therefore, in the statement new List (3, true), three (3) refers to the number of rows and true enables the multiple selections.

Hence, the correct answer is option (b).

15) Which of the following for loop declaration is not valid? Answer: (a)

a. for (int i = 99; $i \ge 0$; i / 9) b. for (int i = 7; $i \le 77$; $i \ne 7$)

c. for (int $i = 20; i \ge 2; -i$)

d.for (int i = 2; i <= 20; i = 2*i)

Explanation: The first option is not a valid declaration as i/9 is not declared correctly. The correct statement will be:

for (*int i*= 99; *i*>=0; *i*= *i*/9)

Then the code would execute. But without assigning the value of i/9 to a variable, it would not execute, and an exception is thrown, as shown below.

Exception in thread "main" java.lang.Error: Unresolved compilation problem: Syntax error on token "/", invalid AssignmentOperator

The other three statements are valid and will execute. Hence, the correct answer is the option (a).

16) Which method of the Class.class is used to determine the name of a class represented by the class object as a String? Answer: (c)

a. getClass() b. intern() c. getName() d. toString()

Explanation: The getName() method of the Class class returns the name (as String) of the entity (class, interface) represented by this Class object. It is a non-static method, and available in the java.lang package.

The getClass() method of the Object class returns the runtime class of this object. The intern() and toString() methods are of String class.

Hence, the correct answer is option (c).

17) In which process, a local variable has the same name as one of the instance variables? Answer: (b)

a. Serialization b. Variable Shadowing c. Abstraction d. Multi-threading Explanation: There are following reasons for considering a variable shadowing, they are listed below:

When we define a variable in a local scope with a variable name same as the name of

a variable defined in an instance scope.

• When a subclass declares a variable with the same name as of the parent class variable.

• When a method is overridden in the child class.

Hence, the correct answer is option (b).

18) Which of the following is true about the anonymous inner class? Answer: (d)

- a. It has only methods b. Objects can't be created
- c. It has a fixed class name d.It has no class name

Explanation: Anonymous inner classes are the same as the local classes except that they don't have any name. The main use of it is to override methods of classes or interfaces. And the rest three options are false about the anonymous inner classes as it can have both methods and objects. It does not have any fixed came name.

Hence, the correct answer is option(d).

19) Which package contains the Random class?

a. java.util package b. java.lang package c. java.awt package d. java.io package Explanation: The Random class is available in the java.util package. An object of the Random class is used to generate a series of pseudorandom numbers. And the object of this class is a thread-safe and cryptographically insecure object. The Random class provides a variety of methods that are used to create random numbers of type integers, float, long, Andhra Pravdouble, etc.

Hence, the correct answer is option (a).

20) What do you mean by nameless objects?

An object created by using the new keyword. a.

b. An object of a superclass created in the subclass.

- c. An object without having any name but having a reference.
- d. An object that has no reference.

Explanation: The nameless objects are basically referred to as anonymous objects. The anonymous objects do not have any names. We can also say that, when an object is initialized but is not assigned to any reference variable, it is called an anonymous object. For example, new Employee();.

If we assign it to a reference variable like,

Employee emp = new Employee();

In the above code, emp is a reference variable. Therefore, the above object is not anonymous, as it is assigned to a reference variable.

Hence, the correct answer is option (d).

21) An interface with no fields or methods is known as a _____ Answer: (b) a. Runnable Interface b. Marker Interface

```
c. Abstract Interface
```

d. CharSequence Interface

Explanation: An interface with no methods and fields is known as the marker interface. In other words, an empty interface (containing no fields and methods) is called a marker interface. In Java, the most commonly used marker interfaces are Serializable, Cloneable, Remote, and ThreadSafe interfaces. Marker interfaces are also known as the Tag interface. It is used to tell the JVM or compiler that the particular class has special behavior. Following is the code snippet of a maker interface:

public interface Cloneable

```
// empty
```

ł

Hence, the correct answer is option (b).

22) Which of the following is an immediate subclass of the Panel class? Answer: (a)

a. Applet class b. Window class c. Frame class d. Dialog class Explanation: According to the class hierarchy of Java Swing, the Applet class is the direct subclass of the Panel class. You can go through the link, (https://www.javatpoint.com/javaswing) to deeply understand the class hierarchy diagram. The Panel class and Window class

Answer: (a)

are the child classes of the Container class, and Frame and Dialog classes are the subclasses of the Window class.

Hence, the correct answer is option (a).

23) Which option is false about the *final* keyword?

Answer: (c)

- a. A *final* method cannot be overridden in its subclasses.
- b. A *final* class cannot be extended.
- c. A *final* class cannot extend other classes.
- d. A *final* method can be inherited.

Explanation: The *final* is a reserved keyword in Java that is used to make a variable, method, and class immutable. The important features of the *final* keyword are:

- Using the final keyword with a variable makes it constant or immutable. We can't reassign the values of it.
- A final variable must be a local variable and cannot be used in other classes.
- Using the final keyword with a method makes it constant, and we can't override it in the subclass.
- Using final with a class makes the class constant, and we cannot extend a final class.

But a final class can extend other classes.

Hence, the correct answer is option (c).

24) Which of these classes are the direct subclasses of the Throwable class? Answer: (c)

a. RuntimeException and Error class . Exception and VirtualMachineError class

c. Error and Exception class d. IOException and VirtualMachineError class Explanation: According to the class hierarchy of Throwable class, the Error and Exception classes are the direct subclasses of the Throwable class, as shown below.



The RuntimeException, IOException, and VirtualMachineError classes are the subclasses of the Exception and Error classes.

Hence, the correct answer is option (c).

25) What do you mean by chained exceptions in Java?

a. Exceptions occurred by the VirtualMachineError

Answer: (b)

- b. An exception caused by other exceptions
- c. Exceptions occur in chains with discarding the debugging information
- d. None of the above

Explanation: In Java, an exception caused by other exceptions is known as a chained exception. Generally, the first exception causes the second exception. It helps in identifying the cause of the exception. In chained exceptions, the debugging information is not discarded.

Hence, the correct answer is option (b).

26) In which memory a String is stored, when we create a string using new operator? Answer: (c)

a. Stack c. Heap memory b. String memory d. Random storage space Explanation: When a String is created using a new operator, it always created in the heap memory. Whereas when we create a string using double quotes, it will check for the same value as of the string in the string constant pool. If it is found, returns a reference of it else create a new string in the string constant pool.

Hence, the correct answer is option (c).

27) What is the use of the intern() method?

a. It returns the existing string from memory

c. It modifies the existing string in the database d. None of the above Explanation: The intern() method is used to return the existing strings from the database. In other words, the intern() method returns a reference of the string. For example, if the string constant pool already has a string object with the same value, the intern() method will return a reference of the string from the pool.

Hence, the correct answer is option (a).

28) Which of the following is a marker interface?

d. Result interface Explanation: A marker interface is an interface with no fields and methods. In other words, an empty interface (contains nothing) is known as the marker interface. Examples of marker interfaces are Cloneable, Serializable, ThreadSafe, and Remote interface.

The Runnable, Readable, and Result interface are not marker interface as they contain some methods or fields. 0

Hence, the correct answer is option (b).

29) Which of the following is a reserved keyword in Java?

a. object b. strictfp c. main d. system Explanation: In the above options, strictfp is the only reserved keyword of Java. The strictfp keyword is a modifier that restricts the floating-point calculations to assure portability and it was added in Java version 1.2. The objects are referring to those variables that are created using the new operator. In Java, main is the method that is the entry point of any program, and the System is a class.

Hence, the correct answer is option (b).

30) Which keyword is used for accessing the features of a package? Answer: (b)

a. Package b. import c. extends d. export Explanation: The import keyword is used to access the classes and interfaces of a particular package to the current file. In other words, it is used to import the user-defined and built-in classes and interfaces into the source file of java so that the current file can easily access the other packages by directly using its name. For example,

import java.awt.*;

import java.lang.Object;

The first import statement imports all the classes and interfaces of java.awt package. Whereas, the second import statement only imports the Object class of the java.lang package.

Answer: (a)

b. It creates a new string in the database

Answer: (b)

Answer: (b)

The package keyword is used to create a new package. The extends keyword indicates that the new class is derived from the base or parent class using inheritance, and export is not a keyword in Java.

Hence, the correct answer is option (b).

31) In java, jar stands for

a. Java Archive Runner

d. None of the above

b. It is an optional jar file

b. Java Application Resource

c. Java Application Runner Explanation: A Java ARchive (JAR) is a package file format used to combine all the metadata and resources into a single file. In other words, it is a file that contains several components, which make up a self-contained, executable, and deployable jar used to execute Java applications and deploy Java applets.

Hence, the correct answer is option (d).

32) What will be the output of the following program?

```
public class Test2 {
```

public static void main(String[] args) {

StringBuffer s1 = new StringBuffer("Complete");

s1.setCharAt(1,'i');

s1.setCharAt(7,'d');

System.out.println(s1); } }

a. Complete b. Iomplede c. Cimpletd d. Coipletd Explanation: In the above code snippet, we have passed a string with value "Complete" and set character "i" and "d" at the index position 1 and 7, respectively. According to the string "Complete," "o" is at position 1, and "e" is at the position 7. The setChar() method is used to replace the original string values with the new one. Hence, the "o" and "e" are replaced by the characters "i" and "d," respectively, which results in "Cimpletd."

Hence, the correct answer is option (c).

33) Which of the following is false?

Answer: (b).

Answer: (c)

b. Used for a non-whitespace character

a. The rt.jar stands for the runtime jar

c. It contains all the compiled class files

d. All the classes available in rt.jar is known to the JVM

Explanation. The rt. jar stands for the runtime jar that comprises of all the compiled core class files for the Java Runtime Environment. It generally consists of classes like java.lang.String, java.lang.Object, java.io.Exception, etc., and all packages and classes available in the rt.jar are known to the JVM. The rt.jar is the mandatory jar file for every core java application as it contains all the core classes.

Hence, the correct answer is option (b).

34) What is the use of \w in regex?

a. Used for a whitespace character

c. Used for a word character d. Used for a non-word character Explanation: In java, the "\w" regex is used to match with a word character consists of [azA-Z 0-9]. For example, w+ matches one or more word character that is same as ([a-zA-Z 0-9]+).

The regex \W, \s, and \S are used for a non-word character, a whitespace character, and a non-whitespace character, respectively. Hence, the \w regex is used for a word character.

Answer: (d)

Hence, the correct answer is option (c). 35) Which of the given methods are of Object class?

Answer: (c)

Answer: (b)

- notify(), wait(long msecs), and synchronized() a.
 - b. wait(long msecs), interrupt(), and notifyAll()
 - c. notify(), notifyAll(), and wait()
 - d. sleep(long msecs), wait(), and notify()

Explanation: The notify(), notifyAll(), and wait() are the methods of the Object class. The notify() method is used to raise a single thread that is waiting on the object's monitor. The notifyAll() method is similar to the notify() method, except that it wakes up all the threads that are waiting on the object's monitor. The wait() method is used to make a thread to wait until another thread invokes the notify() or notifyAll() methods for an object. Hence, the correct answer is option (c).

36) Given that Student is a class, how many reference variables and objects are created by oistiict Andr the following code?` Answer: (a)

- 1. Student studentName, studentId;
- 2. studentName = new Student();
- 3. Student stud class = new Student();
 - a. Three reference variables and two objects are created.
 - b. Two reference variables and two objects are created.
 - c. One reference variable and two objects are created.
 - d. Three reference variables and three objects are created.

Explanation: In the above code, there are three reference variables and two objects. The studentName, studentId, and stud class are the three reference variables. The objects are those variables that are created using the new operator, i.e., studentName and stud class. The studentId is only a reference variable as it is not declared using the new operator. Both studentName and stud class are reference variables as well as objects.

Hence, there are three reference variables and two objects.

Hence, the correct answer is option (a).

37) Which of the following is a valid syntax to synchronize the HashMap? Answer: (c)

- a. Map m = hashMap.synchronizeMap();
- b. HashMap map =hashMap.synchronizeMap();

c. Map m1 = Collections.synchronizedMap(hashMap);

d. Map m2 = Collection.synchronizeMap(hashMap);

Explanation: By default, the HashMap class is a non-synchronized collection class. The need for synchronization is to perform thread-safe operations on the class. To synchronize the HashMap class explicitly, we should use the Collections.synchronizedMap(hashMap) method that returns a thread-safe map object.

Hence, the correct answer is option (c).

38) Given.

ArrayList list = new ArrayList();

What is the initial quantity of the ArrayList list?

a. 5 b. 10 c. 0 d. 100

Explanation: The initial or default quantity of an ArrayList is 10. It means when we create an ArrayList without specifying any quantity, it will be created with the default capacity, i.e., 10. Hence, an ArrayList with the default capacity can hold ten (10) values. Hence, the correct answer is option (b). 39) Which of the following is a mutable class in java? Answer: (d) a. java.lang.String b. java.lang.Byte c. java.lang.Short d. java.lang.StringBuilder Explanation: A mutable class is a class in which changes can be made after its creation. We can modify the internal state and fields of a mutable class. The StringBuilder class is a mutable class, as it can be altered after it is created. The String, Byte, and Short are immutable classes as they cannot be altered once they are created. Hence, the correct answer is option (d). Answer: (b) \ 40) What will be the output of the following program? District And abstract class MyFirstClass abstract num (int a, int b) { } b. Method is not defined properly a. No error d. Extra parentheses c. Constructor is not defined properly Explanation: Following are some rules for declaring an abstract method: • Abstract methods do not specify a method body, but they only have a method signature. Abstract methods are always defined inside an abstract class. 0 In the above code, MyFirstClass is an abstract class. It contains an abstract method named num() that is not defined properly. According to the rules discussed above, an abstract method only has a method signature, not the method body. Hence, the correct answer option (b). 41) What is meant by the classes and objects that dependents on each other? Answer: (a) a. Tight Coupling b. Cohesion c. Loose Coupling d.None of the above Explanation. In tight coupling, a group of classes and objects are highly dependent on each other. Tight coupling is also used in some cases, like when an object creates some other objects that are going to be used by them. Tight coupling is the correct answer as it is used when the logic of one class is called by the logic of another class. Hence, the correct option is (a). 42) Given. Answer: (d) int values $[] = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\};$ for(int i=0; i < Y; ++i) System.out.println(values[i]); Find the value of value[i]?

b. 11 c. 15 d. None of the above a.10

{

}

Explanation: In the above code, we have not defined the variable Y. The code will not execute without any specific value for Y; it results in exception, as shown below. *Exception in thread "main" java.lang.Error: Unresolved compilation problem:*

Y cannot be resolved to a variable

So, the values of i will not be printed, and the above exception is thrown. Hence, the correct answer is (d).

43) Which of the following code segment would execute the stored procedure "getPassword()" located in a database server? Answer: (c)

a. CallableStatement cs = connection.prepareCall("{call.getPassword()}");

cs.executeQuery();

- b. CallabledStatement callable = conn.prepareCall("{call getPassword()}"); callable.executeUpdate();
- c. CallableStatement cab = con.prepareCall("{call getPassword()}"); cab.executeQuery();
- d. Callablestatement cstate = connect.prepareCall("{call getpassword()}");

cstate.executeQuery();

Explanation: In Java, java.sql.CallableStatement interface is used to call the SQL stored procedures in the database. The stored procedures are similar to functions as they perform some specific tasks, except that they are only available in the database. The CallableStatement can return either a single ResultSet object or multiple ResultSet objects. Hence, the correct answer is option (c).

44) How many threads can be executed at a time?

```
Answer: (b)
```

a. Only one thread b. Multiple threads c. Only main (main() method) thread

d. Two threads

Explanation: In Java, multiple threads can be executed at the same time. A Java standalone application always starts with a single thread known as the main thread that is associated with the main() method.

In the operating system, only one thread is executed at a time.

Hence, the correct answer is option (b).

c. It releases half of its locks.

45) If three threads trying to share a single object at the same time, which condition will arise in this scenario? Answer: (c)

a. Time-Lapse b. Critical situation c. Race condition d. Recursion Explanation: If two or more threads are trying to access a common resource at the same time. This situation is known as race condition. It generally occurs during the execution of multi-threaded application. It also refers to a programming bug or issue that occurs when the thread scheduler swaps the threads at any time between the process.

Hence, the correct answer is option (c).Answer: (b).46) If a thread goes to sleep

a. It releases all the locks it has. b. It does not release any locks.

d. It releases all of its lock except one.

Explanation: The sleep() method does not release any locks of an object for a specific time or until an interrupt occurs. It leads to the poor performance or deadlock of threads. Whereas, the wait() method does not release the locks of an object.

Therefore, when a thread goes to sleep, it does not release any locks.

Hence, the correct answer is the option (b).

47) Which of the following modifiers can be used for a variable so that it can be accessed by any thread or a part of a program? Answer: (c)

d. default a. global b. transient c. volatile

Explanation: In Java, we can modify the values of a variable with the help of a reserved keyword known as volatile. It is a different way of making a class thread-safe. Thread-safe means that the methods and objects of a class are accessible by multiple threads at the same time.

The volatile keyword is not a replacement of a synchronized block or method as it does not remove the need for synchronization among the atomic actions.

Global is not a reserved keyword in Java. The transient and default are keywords in Java, but they are not used for accessing a variable by a thread from any part of the program.

Hence, the correct answer is an option (c). 48) What is the result of the following program?

Answer: (d)

public static synchronized void main(String[] args) throws InterruptedException { Kiishna District

Thread f = new Thread();

f.start();

System.out.print("A");

f.wait(1000);

System.out.print("B"); }

a. It prints A and B with a 1000 seconds delay between them

b. It only prints A and exits

c. It only prints B and exits

d. A will be printed, and then an exception is thrown.

Explanation: The InterruptedException is thrown when a thread is waiting, sleeping, or occupied. The output of the above code is shown below: A

Exception in thread "main" java.lang.IllegalMonitorStateException

at java.lang.Object.wait(Native Method)

at com.app.java.B.main(B.java:9)

In the above code, we have created a thread "f," and when started, A will be printed. After that, the thread will wait for 1000 seconds. Now, an exception is thrown instead of printing B. It is because the wait() method must be used inside a synchronized block or try-catch block unless it will throw an exception, as shown above.

Hence, the correct option is option (d).

49) In character stream I/O, a single read/write operation performs _____. Answer: (a)

a. Two bytes read/write at a time. b. Eight bytes read/write at a time.

c. One byte read/write at a time. d. Five bytes read/ write at a time. Explanation: There are two types of I/O stream. One is a byte stream, and the other is the character stream. The Byte stream is used to perform input or output 8-bit (equals to 1 byte) Unicode bytes whereas, the Character stream is used to read or write a 16-bit (equals to 2 bytes) Unicode character.

Therefore, a single operation of character stream performs two bytes read/ write at a time. Hence, the correct answer is option (a).

50) What is the default encoding for an OutputStreamWriter? Answer: (b)

a. UTF-8 b. Default encoding of the host platform c. UTF-12 d. None of the above Explanation: The OutputStreamWriter class translates Unicode character into bytes by using the character encoding. The character encoding can be either a default encoding dependent on the system or encoding that is explicitly defined. If no external encoding is specified, it will use the default encoding of the host platform.

Hence, the correct answer is option (b).

https://www.examtray.com/java-questions/java-methods-interview-mcq-questions-and-answers

1) A Java method is comparable to a in c language. Answer:C C) function A) structure B) union D) enum 2) All Java methods must have a return type. (TRUE / FALSE) Answer:A A) TRUE **B)** FALSE 3) State TRUE or FALSE. A Java method can have the same name as the class name. A) TRUE **B) FALSE** Answer:A 4) in Java, add a _____ to a constructor to convert it into a method. Answer:c A) if statement B) static C) return type D) semicolon 5) Java method signature is a combination of _____. Answer:D A) Return type B) Method name D) All the above C) Argument List 6) In Java, a method name can not start with a _____ Answer:D B) # (pound) C) - (hyphen) D) All the above A) number 7) In Java, a method name can start with Answer:D C) Dollar (\$) D) All the above A) Alphabet B) Underscore () 8) In Java, a method name can contain numbers from 2nd character onwards. (TRUE / FALSE). Answer:A A) TRUE **B)** FALSE 9) Choose the correct identifier for a method name in Java. **Answer:B** C) *show\$ A) 1show B) \$hide D) 3 click 10) What is the output of the below Java program with an empty return statement? public class TestingMethods2 $\langle O \rangle$ Answer:A { void show() System.out.println("SHOW Method.."); return; } public static void main(String[] args) TestingMethods2 t2 = new TestingMethods2();t2.show(); A) SHOW Method. B) No output C) Compiler error D) None Explanation: Yes. A void method can use an empty return statement. 11) What is the output of the below Java program with a void method? Answer:A public class TestingMethods3 void show2() System.out.println("SHOW Method 2"); ł

```
public static void main(String[] args)
  TestingMethods3 t3 = new TestingMethods3();
  t3.show2();
 }
}
A) SHOW Method 2 B) No output C) Compiler error
                                                          D) None
                                               .iswer:(
Jne
Answer:C
Andrea Pradesh Answer:C
Explanation: The empty return statement is not necessary for a void method.
12) A "this" operator used inside a Java method refers to variable.
                     B) Method local variable
A) Global variable
13) What is the output of the below Java program with a "this" operator?
public class TestingMethods4
 int cakes=5;
 void order(int cakes)
 {
  this.cakes = cakes;
 public static void main(String[] args)
  TestingMethods4 t4 = new TestingMethods4();
  t4.order(10);
  System.out.println("CAKES=" + t4.cakes);
 }
}
A) CAKES=5
                     B) CAKES=0
                                           C) CAKES=10
                                                                 D) Compiler error
Explanation: In the program, this.cakes refers to the instance variable cakes.
14) A local variable declared inside a method can not be used in expressions without
initializing it first. (TRUE / FALSE).
                                                                         Answer:A
A) TRUE
                     B) FALSE
15) What is the output of the below Java program?
                                                                         Answer:D
public class TestingMethods5
 public static void main(String[] args)
 ł
  int local Variable;
  System.out.println(localVariable);
A) 0
       B) garbage value
                             C) NullPointerException
                                                          D) Compiler error
Explanation:
In the above program, the localVariable is a Local variable and it is not initialized. You can
not use it in any expressions, not even printing.
16) In Java, local variables are stored in ____ memory and instance variables are stored in _____
memory.
                                                                         Answer:C
A) Stack, Stack
                     B) Heap, Heap
                                           C) Stack, Heap
                                                                 D) Heap, Stack
17) A static-method or a static-variable is shared among all instances of a class. (TRUE /
FALSE)
                                                                                Answer:A
A) TRUE
              B) FALSE
```

```
Explanation:
```

```
Yes, a single copy of a static variable or method is common to all instance objects.
18) What is the output of the Java program with static variables?
                                                                                Answer:B
public class TestingMethods6
 static int cats=25;
 public static void main(String[] args)
  TestingMethods6 t6 = new TestingMethods6():
  System.out.println("t6 BIRDS before=" + t6.cats);
                                                                   Inta Pradesh
  TestingMethods6 t7 = new TestingMethods6();
  t7.cats = 10;
  System.out.println("t6 BIRDS after=" + t6.cats);
 }
}
A) t6 BIRDS before=25
                                            B) t6 BIRDS before=25
t6 BIRDS after=25
                                            t6 BIRDS after=10
C) t6 BIRDS before=25
                                            D) None
t6 BIRDS after=0
Explanation:
The static variable "cats" is common to all objects. There is no separate copy like non-static
variables.
19) What is the output of the below Java program with a final local variable?
                                                                                Answer:D
                         technic, Gudlavall
public class TestingMethods8
ł
 int cars = 20;
 void change(final int cars)
 {
  cars = 10;
  this.cars = cars;
 }
 public static void main(String[] args)
  TestingMethods8 t8 = new TestingMethods8();
  t8.change(30);
  System.out.println(t8.cars); }}
A) 30 B) 20 C) 10 D) Compiler error
Explanation: The argument that is marked final can not be reassigned or changed. So, the
compiler error is produced. So, the statement cars=10; inside the change() method is wrong.
20) Java does not allow nesting of methods. (TRUE / FALSE)
                                                                         Answer:A
A) TRUE
              B) FALSE
21) What is the output of the below Java program?
                                                                         Answer:A
class Road
ł
 static void show()
 {
  System.out.println("Inside static method.");
 }
}
```

```
public class TestingMethods10
 public static void main(String[] args)
  Road.show();
 }
}
A) Inside static method. B) empty message C) Compiler error D) Runtime error / exception
Explanation:
You can directly call static methods of a class with just a DOT operator and class-name.
                                                Kiishna District , Andhra Prao
22) What is the output of the below Java program?
                                                                           Answer:B
class SomeClass
{
 char batch = 'A';
}
public class TestingMethods11
 public static void main(String[] args)
  SomeClass a1 = new SomeClass();
  System.out.println("Before: " + a1.batch);
  SomeClass a2 = new SomeClass();
  a2.batch = 'B';
  System.out.println("After: " + a1.batch);
 }
}
                      B) Before: A
                                             C) Before: A
A) Before: A
                                                                           D) Before: B
After: B
                      After: A
                                             After:
                                                                           After: B
Explanation: Instance variable "batch" is separate for each instance. So the changes to one
instance object does not affect another instance object.
https://codingcompiler.com/java-multiple-choice-questions-answers/
1) The default value of a static integer variable of a class in Java is,
                                                                                   A) a
                              (c) Garbage value
(a) 0
              (b) 1
                                                                                   (e) -1.
          9+
                                                            (d) Null
2) What will be printed as the output of the following program?
                                                                                   A) b
public class testincr
public static void main(String args[])
{
int i = 0;
i = i + + + i;
System.out.println("I = "+i);
```

}	
}	
(a) $I = 0$ (b) $I = 1$ (c) $I = 2$ (d) $I = 3$ (e) Compile-time Error.	
3) Multiple inheritance means,	A) a
(a) one class inheriting from more super classes	
(b) more classes inheriting from one super class	
(c) more classes inheriting from more super classes	
(d) None of the above (e) (a) and (b) above.	SI
4) Which statement is not true in java language?	A) b
(a) A public member of a class can be accessed in all the packages.	$\langle \rangle$
(b) A private member of a class cannot be accessed by the methods of the	e same class.
(c) A private member of a class cannot be accessed from its derived class) •
(d) A protected member of a class can be accessed from its derived class.	,
(e) None of the above.	
5) To prevent any method from overriding, we declare the method as,	A) c
(a) static (b) const (c) final (d) abstract (e) none of the above.	
6) Which one of the following is not true?	A) c
(a) A class containing abstract methods is called an abstract class.	
(b) Abstract methods should be implemented in the derived class.	
(c) An abstract class cannot have non-abstract methods.	
(d) A class must be qualified as 'abstract' class, if it contains one abstract	t method.
(e) None of the above.	
7) The fields in an interface are implicitly specified as,	A) d
(a) static only (b) protected (c) private (d) both static and final (e) none	of the above.
8) What is the output of the following program:	A) c
public class testmeth	
{ p.T.	
static int $i = 1;$	
public static void main(String args[])	
{	
System.out.println(i+", ");	
m(i);	
System.out.println(i);	
}	
public void m(int i)	

{ i += 2;} } (a) 1, 3 (b) 3, 1 (c) 1, 1 (d) 1, 0 (e) none of the above. 9) Which of the following is not true? A) c (a) An interface can extend another interface. (b) A class which is implementing an interface must implement all the methods of the (c) An interface can implement another interface. interface. (e) None of the above. (d) An interface is a solution for multiple inheritance in java. A) c 10) Which of the following is true? (a) A finally block is executed before the catch block but after the try block. (b) A finally block is executed, only after the catch block is executed. (c) A finally block is executed whether an exception is thrown or not. (d) A finally block is executed, only if an exception occurs. (e) None of the above. 11) Among these expressions, which is(are) of type String? **A**) **d** (a) "0" (b) "ab" + "cd"(c) '0'(d) Both (A) and (B) above (e) (A), (B) and (C) above. 12) Consider the following code fragment A) c Rectangle r1 = new Rectangle(); r1.setColor(Color.blue); Rectangle $r^2 = r^1$; r2.setColor(Color.red); After the above piece of code is executed, what are the colors of r1 and r2 (in this order)? (a) Color.blue (b) Color.blue (c) Color.red (d) Color.red Color.red Color.blue Color.red Color.blue (e) None of the above. 13) What is the type and value of the following expression? (Notice the integer division) -4 + 1/2 + 2*-3 + 5.0**A)** d (a) int -5 (b) double -4.5 (c) int -4 (d) double -5.0 (e) None of the above. 14) What is printed by the following statement? A) c System.out.print("Hello,\nworld!"); (a) Hello, \nworld! (b) Hello, world! (c) (d) "Hello, \nworld!" (e) None of the above.

```
15) Consider the two methods (within the same class)
public static int foo(int a, String s)
{
s = "Yellow";
a=a+2;
return a;
                                      Havalenu, Kristna District, Andhra Pradesh
}
public static void bar()
{
int a=3;
String s = "Blue";
a = foo(a,s);
System.out.println("a="+a+" s="+s);
}
public static void main(String args[])
{
bar();
}
What is printed on execution of these methods?
(a) a = 3 s = Blue (b) a = 5 s = Yellow (c) a = 3 s = Yellow
(d) a = 5 s = Blue (e) none of the above.
16) Which of the following variable declaration would NOT compile in a java program? A) e
(a) int var; (b) int VAR; (c) int var1; (d) int var_1; (e) int 1_var;.
17) Consider the following class definition:
                                                                                    A) d
public class MyClass
{private int value;
public void setValue(int i){ / code / }
// Other methods...}
The method setValue assigns the value of i to the instance field value. What could you write
for the implementation of setValue?
(a) value = i; (b) this.value = i; (c) value == i;
(d) Both (A) and (B) and above (e) (A), (B) and (C) above.
18) Which of the following is TRUE?
                                                                                    A) d
(a) In java, an instance field declared public generates a compilation error.
(b) int is the name of a class available in the package java.lang
```

(c) Instance variable names may only contain letters and digits.

(d) A class has always a constructor (possibly automatically supplied by the java compiler).

(e) The more comments in a program, the faster the program runs.

19) A constructor

(a) Must have the same name as the class it is declared within.

(b) Is used to create objects. (c) May be declared private (d) Both (A) and (B) above

(e) (a), (b) and (c) above.

20) Consider,

public class MyClass

{public MyClass(){/code/}

// more code...}

To instantiate MyClass, you would write?

A) a the frade t (a) MyClass mc = new MyClass(); (b) MyClass mc = MyClass();

(d) MyClass mc = new MyClass; (c) MyClass mc = MyClass;

(e) The constructor of MyClass should be defined as public void MyClass(){/code/}.

21) What is byte code in the context of Java?

(a) The type of code generated by a Java compiler.

(b) The type of code generated by a Java Nirtual Machine.

(c) It is another name for a Java source file.

(d) It is the code written within the instance methods of a class.

(e) It is another name for comments written within a program.

22) What is garbage collection in the context of Java?

A) c

A) a

A) e

(a) The operating system periodically deletes all the java files available on the system.

(b) Any package imported in a program and not used is automatically deleted.

(c) When all references to an object are gone, the memory used by the object is automatically reclaimed.

(d) The JVM checks the output of any Java program and deletes anything that doesn't make sense.

(e) Janitors working for Sun Micro Systems are required to throw away any Microsoft documentation found in the employees' offices.

23) You read the following statement in a Java program that compiles and executes.

submarine.dive(depth); What can you say for sure? **A**) **b**

(a) depth must be an int (b) dive must be a method.

(c) dive must be the name of an instance field. (d) submarine must be the name of a class

(e) submarine must be a method.

24) The java run time system automatically calls this method while garbage collection. A) b

(b) finalize() (a) finalizer() (c) finally() (d) finalized() (e) none of the above. 25) The correct order of the declarations in a Java program is, A) a (a) Package declaration, import statement, class declaration (b) Import statement, package declaration, class declaration (c) Import statement, class declaration, package declaration (d) Class declaration, import statement, package declaration h (AP Stribuy (e) Class declaration, package declaration, import statement. 26) An overloaded method consists of, (a) The same method name with different types of parameters (b) The same method name with different number of parameters (c) The same method name and same number and type of parameters with different return (e) (a), (b) and (c) above. (d) Both (a) and (b) above type 27) A protected member can be accessed in, **A) c** (a) a subclass of the same package (b) a non-subclass of the same package (c) a non-subclass of different package (d) a subclass of different package (e) the same class. Which is the false option? 28) What is the output of the following code: A) b class eq {public static void main(String args[]) { String s1 = "Hello"String s2 = new String(s1); System.out.println(s1==s2);}} (a) true (b) false (c) 0(d) 1 (e) Hello.

29) All exception types are subclasses of the built-in class A) d (a) Exception (b) RuntimeException (c) Error (d) Throwable (e) None of the above. 30) When an overridden method is called from within a subclass, it will always refer to the

A) **b**

(a) Super class (b) Subclass (c) Compiler will choose randomly

(d) Interpreter will choose randomly (e) None of the abvove.

version of that method defined by the

31) Mark the incorrect statement from the following: A) d

(a) Java is a fully object oriented language with strong support for proper software engineering techniques (b) In java it is not easy to write C-like so called procedural programs (c) In java language objects have to be manipulated (d) In java language error processing is built into the language (e) Java is not a language for internet programming. 32) In java, objects are passed as **A**) c (a) Copy of that object (b) Method called call by value(c) Memory address (d) Constructor (e) Default constructor. 33) Which of the following is not a component of Java Integrated Development Environment (IDE)? A) c (c) Symantec's Visual Café (a) Net Beans (b) Borland's Jbuilder (e) Microsoft Visual J++ (d) Microsoft Visual Fox Pro 34) Identify, from among the following, the incorrect variable name(s). A) c (c) 2ndName (d) CurrentWeatherStateofplanet (a) _theButton (b) \$reallyBigNumber (e) my2ndFont. 35) Use the following declaration and initialization to evaluate the Java expressions A) b int a = 2, b = 3, c = 4, d = 5; float k = 4.3f; System.out.println(-b * a + c * d - -); (a) 21 (b) 24 (c) 28 (d) 26 (e) 22. 36) Use the following declaration and initialization to evaluate the Java expressions A) b int a = 2, b = 3, c = 4, d = 5; float k = 4.3f; System.out.println(a++); (a) 3 (b) 2 (c) 4 (d) 10 (e) Synatax error. 37) Use the following declaration and initialization to evaluate the Java expressions A) e int a = 2, b = 3, c = 4, d = 5; float k = 4.3f: System.out.println (-2U * (g - k) + c);(c) 2(a) 6 (b) 3 (d) 1 (e) Syntax error. 38) Use the following declaration and initialization to evaluate the Java expressions A) b int a = 2, b = 3, c = 4, d = 5;float k = 4.3f; System.out.println (c=c++);

```
(a) 2 (b) 4 (c) 5 (d) 8 (e) Syntax error.
39) Consider the following Java program :
class IfStatement{
public static void main(String args[])
{
int a=2, b=3;
if (a==3)
                                              Ina District, Andhra Pradesh
if (b==3)
System.out.println("=
                                    :"):
else
System.out.println("################");
System.out.println("&&&&&&&*");
}
}
                                                                 A) c
Which of the following will the output be?
                                       (b) #####################
                                (d) =
                                                          &&&&&&&&&&&
                                &&&&&&&&&&&
40) An applet cannot be viewed using
                                                          A) d
                       (b) Microsoft Internet Explorer (c) Sun' Hot Java Browser
(a) Netscape navigator
(d) Applet viewer tool which comes, with the Java Development Kit.
                                                                 (e) Jbuilder.
Use the following Java program for answering question 41 and 42
class test{
void meth(int i, int j)
i *
i = 2;
}
}
class argumentPassing
{
public static void main(String args[])
{
```

```
test ob = new test();
int a = 15, b = 20;
System.out.println("a and b before call :"+ a +" " + b);
ob.meth(a,b);
System.out.println("a and b after call : "+ a + " " +b);}
41) What would the output be of the above Program – III before and after it is called? A) c
(a) and b before call : 15 20 a and b after call : 30 10
                                                                   Inditia Pradest
(b) a and b before call : 5 2 a and b after call : 15 20
(c) a and b before call : 15 20 a and b after call : 15 20
(d) a and b before call : 30 10 a and b after call : 15 20
(e) a and b before call : 15 20 a and b after call :
42) What would the argument passing method be which is used by the above Program – III?
             n; weethic, cudavaleru, wishnak
(a) Call by value (b) Call by reference(c) Call by java.lang.class (d) Call by byte code A) a
(e) Call by compiler.
43) Consider the following program:
                                                                                    A) d
class prob1{
int puzzel(int n){
int result;
if (n==1)
return 1;
result = puzzel(n-1) * n;
return result;
}
}
class prob2
public static void main(String args[])
prob1 f = new prob1();
System.out.println(" puzzel of 6 is = " + f.puzzel(6));
}
}
Which of the following will be the output of the above program?
(a) 6
               (b) 120
                               (c) 30
                                              (d) 720
                                                              (e) 12.
44) The blank space in the following sentence has to be correctly filled : A) d
```

Members of a class specified as are accessible only to methods of that class.

(a) Protected (b) Final (c) Public (d) Private (e) Static.	
45) Java compiler javac translates Java source code into	A) b
(a) Assembler language (b) Byte code (c) Bit code (d) Machine code	
(e) Platform dependent code.	
46) are used to document a program and improve its readabilit	y.
(a) System cells (b) Keywords (c) Comments (d) Control structures (e) Blocks.	
47) In Java, a character constant's value is its integer value in the	
character set.	A) c
(a) EBCDIC (b) Unicode (c) ASCII (d) Binary (e) BCD.	U.S.
48) In Java, a try block should immediately be followed by one or more	
blocks.	A) d
(a) Throw (b) Run (c) Exit (d) Catch (e) Error.	
49) An abstract data type typically comprises a and a set of	
respectively.	A) e
(a) Data representation, classes (b) Database, operations(c) Data representation	, objects
(d) Control structure, operations (e) Data representation, operations.	
50) In object-oriented programming, the process by which one object acquires	the properties
of another object is called (A) (1
(a) Encapsulation (b) Polymorphism (c) Overloading(d) Inheritance (e) Overrid	ling.
51) Re-implementing an inherited method in a sub class to perform a different	task from the
parent class is called	A) e
(a) Binding (b) Transferring (c) Hiding (d) Coupling (e) extending.	
52) In a class definition, the special method provided to be called to create an i	nstance of that
class is known as a/an	A) c
(a) Interpreter (b) Destructor (c) Constructor (d) Object (e) Compiler.	
53) Consider the following statements about Java packages:	A) b
I. Packages don't provide a mechanism to partition all class names into more m	anageable
chunks.	
II. Packages provide a visibility control mechanism.	
III. One of the important properties of a package is that all classes defined insid	le a package is
accessible by code outside that package.	
IV. The .class files for classes declared to be part of a package can be stored in	multiple
directories.Which of them is correct?	
(a) Only (I) above (b) Only (II) above(c) Only (III) above (d) Only (IV) above	
(e) All (I), (II), (III) and (IV) above are wrong.	

54) Consider the following statements:

I. A class can be declared as both abstract and final.

II. A class declared as final can be extended by defining a sub-class.

III. Resolving calls to methods dynamically at run-time is called late binding.

IV. The class Object defined by Java need not be a super class of all other classes.

Identify the correct statement from the following:

(a) Both (I) and (II) above (b) Both (III) and (IV) above

(c) Both (I) and (III) above (d) Both (II) and (IV) above

(e) Only (III) above.

55) Identify, from among the following, the incorrect descriptions related to Java : A) b

(a) Java Virtual Machine translates byte code into its own system's machine language and runs the resulting machine code

(b) The arithmetic operations *, /, %, + and – have the same level of precedence

(c) Comments do not cause any action to be performed during the program execution

(d) All variables must be given a type when they are declared

(e) Java variable names are case-sensitive.

56) Consider the following statement(s) about Java:

A) d

A) c

A) e

I. All white-space characters (blanks) are ignored by the compiler.

II. Java keywords can be used as variable names.

III. An identifier does not begin with a digit and does not contain any spaces.

IV. The execution of Java applications begins at method main.

Which of them is correct?

(a) Both (I) and (III) above (b) Both (II) and (IV) above

(c) Both (I) and (II) above (d) (III) and (IV) above

(e) All (I), (II), (III) and (IV) above.

57) Consider the following data types in Java :

I. Int II. Boolean III. Double IV. String V. Array.

Which of them are simple data types?

(a) Both (I) and (II) above (b) (I), (II), (III) and (IV) above

(c) (I), (II) and (III) above (d) (II) and (III) above

(e) All (I), (II), (III), (IV) and (V) above.

58) For what values respectively of the variables gender and age would the Java expression gender == 1 && age >= 65 become true? (A) c

```
(a) gender = 1, age = 60 (b) gender = 1, age = 50
(c) gender = 1, age = 65 (d) gender = 0, age = 70
(e) gender = 0, age = 55.
59) Consider the following Java program :
                                                                            A) b
public class Compute {
public static void main (string args [])
                                                Wishna District, Andhra Pradesh
{
int result, x;
x = 1;
result = 0;
while (x < = 10) {
if (x\%2 == 0) result + = x;
+ + x;
System.out.println(result);
}
}
Which of the following will be the output of the above program?
                                       104
                                             (d) 35
               (b) 30
                              (c) 25
(a) 55
                                                             (e) 45.
60) Which of the following statements about Java Threads is correct?
                                                                                    A) d
(a) Java threads don't allow parts of a program to be executed in parallel
(b) Java is a single-threaded language
(c) Java's garbage collector runs as a high priority thread
(d) Ready, running and sleeping are three states that a thread can be in during its life cycle
(e) Every java application is not multithreaded.
                                                           https://www.cppbuzz.com/java/java-objective-
                                                                                  questions-page-2
1. How many times 'Hello' is printed?
                                                                    Answer : A
public class CppBuzz {
public static void main(String[] args){
for(int i = 0; i<5; i++)
System.out.println("Hello");
i++;
}
}
(A) 5 (B) 4 (C) 3 (D) 2
2. How many times 'Hello' is printed?
                                                                            Ans:c
```

public class CppBuzz { public static void main(String[] args){ for(int i = 0; i < 5; i++)System.out.println("Hello"); break; } } (A) 5 (B) 4 (C) 1 (D) 0Hint: It is printed one time only because break; will terminate the current loop 3. Java supports both Primitive & Non-Primitive (User Defined) datatypes. Which one of the following is not a primitive datatype? Ans:D (B) short (A) byte (C) long (D) class 4. The main() method of an application has to be public. Otherwise, it could not be called by a Java interpreter. Is that true? Ans:A (A) True (B) False 5. Which of these are Access Modifiers in java? Ans:D (D) All of these (A) default (B) public (C) protected 6. Java program processing always starts with main() method Ans:A (A) True (B) False Hint:main() method is must to run any Java program Ans:A 7. Java is case sensitive langauge (A) True (B) False 8.On which platforms Java runs? Ans:D (C) UNIX (D) All of these (A) Windows (B) Mac OS Hint: Java is platform independent because it produces Byte code 9.Select Odd one out from these about local variables (A) Local variables are declared in methods, constructors, or blocks (B) Local variables are created when the method, constructor or block is entered (C) the variable will be destroyed once it exits the method, constructor, or block (D) We can't create reference variables of Local variables 10. Which one of the following is Equality operator in Java? Ans:C (A) >=(B) <=(C) != (D) +=Hint: != is used to compare equality; x is not equal to y is represented as x != y 11. Which one of the following is an Unary operator in Java? Ans:D (A) () 🔊 (B) * (C) + (D) ++Hint ++, -- are unary operator 12. Which of the following operator has more precedence? Ans:A (A) () (C) * (D) >=(B) ++ Hint:() is solved first 13. What do you mean by >>> operator in Java Ans:c (A) Left Shift Operator (B) Right Shift Operator (C) Zero Fill Right Shift (D) Zero Fill Left Shift 14. Which of the following is not an operator in Java? $(A) \mid (B) \land (C) \sim (D) <->$ 15. Which of the following operators has more precedance in Java? Ans:C (A) - (B) + (C) *Hint:* has highest precedance among +, -

16.public class CppBuzz { public static void main(String[] args){ int a = 5 + 5 + 2 + 2 + (2 + 3);Ans:D System.out.println(a); } (A) 138 (C) 41 (D) 25 (B) 264 Hint: It is evaluated as 5+10+4+6 Ans:B 17.public class CppBuzz { (D) 80 isma tistict, Ans:A public static void main(String[] args){ int a = 10; System.out.println(a--*a--); (A) 100 (B) 90 (C) 99 (D) 72 Hint: It is evaluated as 10*9 18.public class CppBuzz { public static void main(String[] args){ int a = 10; System.out.println(a*a--); } } (A) 100 **(B) 90** (C) 81 Hint: It is evaluated as 10*10 19.public class CppBuzz { Ans:B public static void main(String[] args){ int a = 10;System.out.println($++a^{*}++a$); } } (A) 121 (B) 144 (C) 132 (D) 100 20.public class CppBuzz Ans:A public static void main(String[] args){ int a = 10; System.out.println(++a*a++); } } (A) 121 (D) 100 (B) 132 (C) 144 Hint: It is evaluated as 11*11 21.public class CppBuzz { Ans:B public static void main(String[] args){ int a = 10; System.out.println(a++*a++); } (A) 100 (B) 110 (C) 121 (D) 144 Hint: It is evaluated as 10*11 22.public class CppBuzz { Ans:A public static void main(String[] args){

```
int a = 10;
System.out.println(a*a++);
}
(A) 100
              (B) 110
                             (C) 121
                                             (D) Compilation Error
Hint: It is evaluated as 10 * 10 beause a has postincrement operator.
23.public class CppBuzz{
                                                                   Ans:C
public static void main(String[] args){
 int a = 10;
 System.out.println(a++);
 a++;
                                                                         radest
}
}
(A) 10
                                     (C) 12
              (B) 11
                                                           (D) 13
Hint: Its postincrement operator here that is why println(a++); is evaluated as 10.
24.public class MyClass {
public static void main(String[] args){
int a = 10;
System.out.println(a++++); } }
                                                                          Ans:D
                                             (D) Compilation Error
(A) 11
              (B) 12
                             (C) 13
Hint: It is evaluated as 10++; variable is required to perform ++ operator. Performing ++ on
10 is compilation error.
                                  Gudlavalleru
25.public class MyClass {
                                                                   Ans:D
public static void main(String[] args){
int a = 10:
System.out.println(++a++);
}
}
                              (C) 12
(A) 10
              (B) 11
                                            (D) Compilation Error
Hint:Preincrement & Postincrement operators are not allowed on same variable and same
                       00
time.
26. Arrays is a group of similar type of datatype
                                                                                  Ans:A
(A) True
                  (B) False
27.package com.google.test;
                                                           Ans:C
import java.util.Scanner;
public class ExampleIfElse {
public static void main(String[] args){
String s = "friends";
int x = 0;
do {
 System.out.print(s.charAt(x));
 x++;
 \} while (x < 2); \} 
              (B) friend
(A) friends
                             (C) fr
                                             (D) compilation Error
28. What is correct sequence of execution of any Java program?
                                                                          Ans:C
(A) Editing -> Compilation -> Class Loader -> Bytecode Verifier -> Execution
(B) Editing -> Bytecode Verifier -> Compilation -> Class Loader -> Execution
(C) Editing -> Compilation -> Bytecode Verifier -> Class Loader -> Execution
(D) None of the above
```

29. Java has 5 phases, Editing, Compilation, Loading, Verification & Execution. Which of the following unit is responsible for execution? Ans:D (C) Byte Code Verifier (A) Compiler (B) Class Loader (D) Java Virtual Machine 30.public class CppBuzz { Ans:D public static void main(String args[]) { int a =10; String b = "10+10"; System.out.println(a+b); } } Andhrapradesh (A) 30 (B) 1020 (C) 10+10+10 (D) 1010+10 31.public class CppBuzz public static void main(String args[]) { int a =10; String b = "-10"; System.out.println(a+b); } } (D) Compilation Error , HNA Distric (A) 0(B) 10"-10" (C) 10-10 32.public class CppBuzz { public static void main(String args[]) { Ans:B int a =10; String b = "10"; System.out.println(b+a) } (C) Compilation Error (A) 10+10 (B) 1010 (D) Undefined 33.public class CppBuzz { Ans:C public static void main(String args[]) int a = 10; String b = "10" System.out.println(a-b); }} (C) 1010 (D) Compilation Error (A) 10-10 **(B)** 0 34.public class CppBuzz { Ans:D public static void main(String args[]) { int a = 10; String b = "10"System.out.println(a+b); }} (A) 10"10 (B) Compilation Error (D) 1010 (C) 20 35.public class CppBuzz { Ans:D public static void main(String args[]) { System.out.println(""cpp' 'buzz"");}} (A) "cpp"buzz" (B) "cpp"buzz" (C) cpp"buzz (D) Compilation Error 36.import java.util.Scanner; Ans:B public class CppBuzz{ public static void main(String[] args){ String name: Scanner sc = new Scanner(System.in); System.out.println("Enter your name : "); name = sc.nextLine(); //assume if user enters 'cppbuzz' switch(name.length()){ case 5: case 6:
case 7: case 8: case 9: case 10: System.out.print("Length is 5-10"); break; default: System.out.print("Length not in 5-10");}}} (A) Compilation Error (B) Length is 5-10 (C) Length not in 5-10 (D) nothing is printed 37.public class CppBuzz{ public static void main(String[] args){ int a = 5; a +=5; undhra Pradesh switch(a){ case 5: System.out.print("5");break; case 10: System.out.print("10"); System.out.print(((a%2 ==0) ? "-even-" : "-odd-")); default: System.out.print("0"); }} (D) 10-even-0 (A) Compilation Error (B) 10-even-(C) 10-odd-38.public class CppBuzz{ public static void main(String[] args){ Ans:B Ishna Distri int a = 5; a +=5; switch(a){ case 5: System.out.print("5");break; case 10: System.out.print("10"); System.out.println(((a%2 ==0) ? "-even-" : "-odd-")); Break:default: System.out.print("0"); } } (A) Compilation Error (B) 10-even (C) 10-even (C)(D) 10-odd 39.public class CppBuzz{ Ans:D public static void main(String[] args){ int a = 5; a +=5; switch(a){ case 5: System.out.print("5");break; case 10: System.out.print("10"); default: System.out.print("0");}}} (D) 100 (A) 10 **(B)** 510 (C) 5100 Hint:case 10 and default are executed because the break is missing after case 10 40.public class CppBuzz{ Ans:D public static void main(String[] args){ int a = -5; a +=5: switch(a){ case 5: System.out.print("5");break; case 10: System.out.print("10"); default: System.out.print("0");}}} (C) 100 (D) 0(A) 5 **(B)** 10 Hint:default case is executed because the value of a is 0 Ans:A 41.public class CppBuzz{ public static void main(String[] args){ int a = 0; a +=5;

```
switch(a){
 case 5: System.out.print("5");break;
  case 10: System.out.print("10");
  default: System.out.print("0"); }}
(A) 5
               (B) 510
                                     (C) 5100
                                                            (D) 100
Hint: alue of a is 5 that is why case 5 is executed
42.public class CppBuzz{
                                                                           Ans:B
 public static void main(String[] args){
  int a = 0;
 a +=5;
                                                                      Ita Pradesh
 switch(a){
 case 5: System.out.print("5");
  case 10: System.out.print("10");
  default: System.out.print("0"); }}
                                     (D) Compilation Error
(A) 5 (B) 510
                      (C) 5100
Hint:case 5, case 10 and default will be executed because break; is missing after each case
                                                Kiishna District
43.public class CppBuzz{
public static void main(String[] args){
int a = 0;
a +=5;
switch(a){
   case 5: System.out.print("5");
  case 10: System.out.print("10");break;
  default: System.out.print("0");}}}
                                             (D) Compilation Error
(A) 5
                              (C) 510
               (B) 10
Hint:case 5 & case 10 are executed because break is missing from case 5
44.public class CppBuzz{
                                                                    Ans:B
 public static void main(String[] args){
 int a = 5;
 a +=5;
 switch(a){
  case 5: System.out.println("5");break;
  case 10: System.out.println("10");break;
  default: System.out.println("0"); }}
                              (C) 0 (D) Compilation Error
(A) 5
           (B) 10
Hint: Value of a is 10 that is why case: 10 is executed
                                                                                   Ans:D
45. How many times 'Hello' is printed?
public class CppBuzz {
public static void main(String[] args){
for(int i = 0; i<5; i=5)
 System.out.println("Hello"); }}
(A) 5
               (B) 4
                              (C) 2
                                             (D) 1
Hint:For loop will run only one time.First time it will run for i=0; Second time value of i
becomes 5 that why 5 < 5; is false condition to stop the loop
46. How many times 'Hello' is printed?
public class CppBuzz {
public static void main(String[] args){
for(int i = 0; i>5; )
```

{ System.out.println("Hello"); }} (A) 5 **(B)** 4 (C) 3 (D) 0 Hint: Nothing is printed because loop will not run; 0>5 is false condition 47. How many times 'Hello' is printed? public class CppBuzz { public static void main(String[] args){ for(int i = 0; i < 5;) System.out.println("Hello");}} (C) 2 (D) Infinite times (A) 0**(B)** 1 Hint: This for loop will run for i=0 only always because there is not increment/decrement operator ishna District And Ans:C 48.public class CppBuzz { public static void main(String[] args){ for(int i = 0; i < 5; i+=2) System.out.println("Hello"); $i + = 2; \} \}$ (D) 3 (A) 0**(B)** 1 (C) 2 Hint:For loop will run two times only for i=0; i=44Gudlavalleru. 49. How many times 'Hello' is printed? public class CppBuzz { public static void main(String[] args){ for(int i = 0; i < 5; i++)System.out.println("Hello"); $i + = 2; \} \}$ (A) 1 (B) 2 (C) 3(D) 4 Hint: The loop is executed 2 times only because i is incremented by 3 everytimne. i = 0; i=3; i=6; 50. How many times 'Hello' is printed? public class CppBuzz { Ans:A public static void main(String[] args){ for(int i =0; i<5; i++) { System.out.println("Hello"); itt; i--;}} (A) 5 **(B)** 4 (C) 3 (D) 2 Hint:i++; will increment the value of i by 1 but in next statement i--; will drecrement the value of i by 1. Hence these two operations are not making any sense. **CONSTRUCTORS:** 1.Predict the output? Ans:A package main; class T { int $t = 20; \}$ class Main {

public static void main(String args[]) { T t1 = new T();System.out.println(t1.t); } } (A) 20 (B) 0 (C) Compiler Error 2. Predict the output of following Java program Ans:B class T { int t = 20; T() { t = 40;} } class Main { public static void main(String args[]) { T t1 = new T();System.out.println(t1.t); } } (A) 20 (B) 40 (C) Compiler Error Explanation: The values assigned inside constructor overwrite the values initialized with declaration. 3. Which of the following is/are true about constructors in Java? Ans:A 1) Constructor name should be same as class name. 2) If you don't define a constructor for a class, a default parameterless constructor is automatically created by the compiler. 3) The default constructor calls super() and initializes all instance variables to default value like 0, null. 4) If we want to parent class constructor, it must be called in first line of constructor. Ans:A (A) 1 (C) 1, 2 and 3 (D) 1, 2, 3 and 4 (B) 1, 2 4. Is there any compiler error in the below Java program? Ans:A class Point { int m_x, m_y; public Point(int x, int y) $\{ m_x = x; m_y = y; \}$ public static void main(String args[]) { Point p = new Point(); } } (A) Yes (B) No Explanation: The main function calls paramaterless constructor, but there is only one constructor defined in class which takes two parameters. Note that if we write our own constructor, then compiler doesn't create default constructor in Java. This behavior is same as C++. 5. Output of following Java program Ans:c class Point { int m_x, m_y; public Point(int x, int y) { $m_x = x; m_y = y;$ } public Point() { this(10, 10); } public int getX() { return m_x; } public int getY() { return m_y; } public static void main(String args[]) { Point p = new Point(); System.out.println(p.getX());

} } (A) 10 **(B)** 0 (C) compiler error Explanation: it's a simple program where constructor is called with parameters and values are initialized. https://www.examtray.com/java-questions/java-constructor-overloading-interview-mcgquestions-answers 1) A Java constructor is like a method without Ans:B A) statements B) return type C) argument list D) None 2) The name of a constructor and the name of a class are _____. Ans:A B) Different D) -A) Same C) -3) The placement of a constructor inside a class should be _____. Ans:C B) Always at the end of class A) Always at the beginning of class C) Anywhere in the class D) None 4) The purpose of a Java constructor is _____. Ans:D B) Writing custom code A) Initialization of variables with passed data D) All the above C) Accepting other objects as inputs 5) Memory is allocated to an object once the execution of is over in Java language. Stil Jr Gudlavalleru, Krishna Di A) main method B) constructor C) destructor D) None Ans:B 6) What is the output of the below Java program? Ans:A public class TestingConstructor void TestingConstructor() System.out.println("Amsterdam"); TestingConstructor() System.out.println("Antarctica"); } public static void main(String[] args) TestingConstructor tc = new TestingConstructor(); }} C) No output D) Compiler error A) Antarctica B) Amsterdam Explanation: Here the constructor is TestingConstructor() without return type. 7) In Java, a constructor with no parameters or no arguments is called _____ constructor. A) Default constructor B) User-defined constructor Ans:A 8) In Java, a constructor with one or more arguments or parameters is called a _____ constructor. Ans:B A) Default constructor B) User-defined constructor or Non-default constructor 9) The compiler adds a default no-argument constructor to a class if it ____. Ans:A A) does not define a constructor at all. B) defines at least one constructor with arguments 10) Overloading of constructors in Java means adding more than ____ constructors with the different argument list. Ans:A A) 1 B) 2 C) 3 D) 8 11) What is the output of the below Java program with constructors? Ans:C public class Constructor2 ł

```
int count=10;
 Constructor2(int count)
 {
  System.out.println("Count=" + count);
 public static void main(String[] args)
  Constructor2 con = new Constructor2();}}
A) Count=0
                      B) Count=10
                                            C) Compiler error
                                                                   D) None of the above
Explanation: If you write a constructor with arguments, the default constructor is not added
by the compiler. You should add it explicitly.
12) A constructor can call another overloaded constructor using the
                                                                       keyword in Java.
A) super
                                            D) this
                                                                          Ans:D
              B) local
                             C) con
                                        Nalleru, Krishna District, An
13) What is the output of the below Java program with overloaded constructors? Ans:C
public class Constructor3
ł
 int birds=10;
 Constructor3()
 {
  this(20);
 Constructor3(int birds)
  System.out.println("Birds=" + birds);
 }
 public static void main(String[] args)
 {
  Constructor3 con = new Constructor3();}}
              B) Birds=10^{11} C) Birds=20 D) Compiler error
A) Birds=0
Explanation:
You can pass parameters to another constructor.
14) In Java, you can pass ____ variables from one constructor to another overloaded
constructor.
                                                                          Ans:D
A) local variables B) static variables C) non-static variables D) local and static variables
15) Choose the correct way of calling the second constructor from the first constructor in the
below code options.
                                                                          Ans:C
A) Constructor5()
 int a=30;
 this('A');
ł
Constructor5(char c)
{
//
B) Constructor5()
```

```
int a=30;
 this('A');
 System.out.println("Success");
ļ
Constructor5(char c)
{
//
}
C) Constructor5()
                                                           itct Andhra Pradesh
 this('A');
 System.out.println("Success");
Constructor5(char c)
{
//
}
D) All the above
Explanation: Only the first statement should call another constructor.
16) What is the output of the below Java program with many constructors? Ans:D
                                  Judiavalleru, Krish
public class Constructor7
 Constructor7(int a)
  System.out.println("Book=" + a);
 Constructor7(float a)
 ł
  System.out.println("Pen="+a);
 }
 public static void main(String[] args)
 {
  Constructor7 con= new Constructor7(50.5f);}}
A) Book=50 B) Pen=50.5 C) Compiler error
                                                   D) None of the above
Explanation:
Constructor overloading allows constructors with different arguments at the same time.
17) What is the output of the below Java program with many constructors?
                                                                                Ans:B
public class Constructor8
 Constructor8(boolean a)
  System.out.println("MODEM="+ a );
 Constructor8(float a)
  System.out.println("ROUTER=" + a);
 public static void main(String[] args)
```

```
Constructor8 con1 = new Constructor8(50);
  Constructor8 con2 = new Constructor8(false);
 }
}
A) ROUTER=50.0
                             B) ROUTER=50
                                                  C) Compiler error
                                                                               D) None
MODEM=false
                             MODEM=false
Explanation: Java knows when to typecast a variable to a higher type like a float from int. So
the number 50 is passed to a constructor accepting a float argument as there is no constructor
accepting int argument above.
18) What is the output of the below Java program with overloaded constructors? Ans:B
                                                           ict Andhra Pradesh
public class Jiraffe
 Jiraffe(int sugarcanes)
  System.out.println("Eats "+ sugarcanes + " Sugarcanes");
 Jiraffe(int age, int...sugarcanes)
  System.out.println("Eats "+ sugarcanes[0] + " Sugarcanes")
                                      iavalleru, Krishna
 public static void main(String[] args)
  Jiraffe jiff2 = new Jiraffe(40);
  Jiraffe jiff = new Jiraffe(5,10);
 }
}
                            B) 1.Eats 40 Sugarcanes
A) 2.Eats 40 Sugarcanes
                                                          C) Compiler error
                                                                               D) None
                            2.Eats 10 Sugarcanes
2.Eats 10 Sugarcanes
Explanation: Java supports using the varargs in constructors.
19) Choosing a suitable overloaded constructor happens at time in Java.
                                                                                Ans:B
                            B) Run time
A) Compile-time
                      0)
20) Java constructor overloading follows ____ principle in Object-Oriented programming.
A) Inheritance
                 S B) Encapsulation
                                           C) Polymorphism
                                                                 D) None
                                                                                Ans:C
Explanation: Overloading of constructors requires you to specify the same name to all
constructors. So, it satisfies the polymorphism principle of Oops.
21) Java allows calling or invoking a method from a constructor. State TRUE or FALSE.
A) TRUE
              B) FALSE
                                                                        Ans:A
22) What is the output of the below Java program?
                                                                 Ans:A
public class Constructor9
ſ
 Constructor9()
 {
  show();
 }
 void show()
  System.out.println("JAM JAM");
 public static void main(String[] args)
```

{
 Constructor9 con = new Constructor9();}}
A) JAM JAM B) No output C) Compiler error D) None
Explanation:
Invoking a method from within a constructor is allowed

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