



C20-EC-405

7443

BOARD DIPLOMA EXAMINATION, (C-20)  
JUNE/JULY—2022  
DECE – FOURTH SEMESTER EXAMINATION  
PROGRAMMING IN C AND MATLAB

Time : 3 hours ]

[ Total Marks : 80

**PART—A**

3×10=30

- Instructions :**
- (1) Answer **all** questions.
  - (2) Each question carries **three** marks.
  - (3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List any three relational operators used in C.
2. Describe the decrement operators.
3. Define an Array.
4. Write the syntax of *do while* statement.
5. Define a *pointer*.
6. Describe the initialization of a pointer.
7. Write the syntax of structure declaration.
- \* 8. Write the function of pre-processor directives in C.
9. List any three logical operators in MATLAB.
10. Write the usage of SIMULINK.

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**PART—B**

8×5=40

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**11.** (a) Explain *if..else* statement with a simple program.

**(OR)**

(b) Explain *while* statement with a simple example.

**12.** (a) Write a program to check whether a given number is Armstrong or not.

**(OR)**

(b) Write a C program to perform matrix subtraction.

**13.** (a) Explain the operation of `getche( )` and `putchar( )` functions with a simple program.

**(OR)**

(b) Explain call by value in functions.

**14.** (a) Differentiate between structure and union.

**(OR)**

(b) Explain the method of initializing a Union variable with a simple program.

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15. (a) Explain the usage of SIMULINK and GUI.

( OR )

(b) Illustrate plot commands : ezplot( ), subplot( ) in MATLAB.

**PART—C**

10×1=10

- Instructions :**
- (1) Answer the following question.
  - (2) The question carries **ten** marks.
  - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Analyze the program and write the output of the C program.

```
#include<stdio.h>
int main( )
{
char*ptr;
char string[]="learn C from dtelms.ap.gov.in";
ptr=string;
ptr+=6;
printf("%s", ptr);
return 0;
}
```

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