C16–EC–**402**

6436

BOARD DIPLOMA EXAMINATION, (C–16)

OCTOBER—2020

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) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Classify the different data types in C. 3

2. List the six relational operators in C. 3

3. Write the syntax of switch case statement. 3

4. Define array and write the syntax to declare array. 3

5. List three functions used for writing string. 3

6. Define pointer and write the syntax to declare a pointer. 3

7. Define structure and give an example. 2+1=3

8. State the use of preprocessor directives. 3

9. List any three data types in MATLAB. 3

10. List logical operators and special operators in MATLAB. 3

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Briefly explain the printf() and scanf() functions. 10

12. Explain while loop, Do-while loop and for loop. 10

13. Write a C program to check whether a number is prime or not? 10

14. Differentiate between call by value and call by reference. Explain with suitable example C program. 10

15. Write a C program to initialize the string and find its length without using string function. 10

16. Explain the accessing of members of a structure with suitable example. 10

17. *(a)* Differentiate between structure and union. 5

(b) Write a C program to demonstrate initialization and assignment of a structure. 5

18. Explain matrix operations : 10

(i) Addition

(ii) Subtraction

(iii) Multiplication using MATLAB with suitable examples.

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