C16–EC–**402**

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BOARD DIPLOMA EXAMINATION, (C–16)
SEPTEMBER/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. List the character set of C language.

2. List the arithmetic operators in C.

3. List any three conditional statements supported by C.

4. Give the syntax for do-while loop in C.

5. List any three functions used for reading strings.

6. How to print a string using printf()?

7. What is the importance of · (dot) operator with respect to structures?

8. List any two differences between structure and union.

9. State the need for MATLAB in solving engineering problems.

10. List any six data types in MATLAB.

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

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

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

11. Mention various type of conversion techniques in C and explain them.

12. Write a C program based on nested for loop.

13. Write a C program to multiply two matrices.

14. Explain passing parameters to the function with an example.

15. Explain string manipulation functions strcat(), strchr(), strcmp(), strcpy().

16. Explain how to declare a structure and its initialization with an example.

17. *(a)* Define union and write the use of a union with an example.   5

(b) State the use of any three preprocessor directives with examples.   5

18. Explain the matrix operations addition, subtraction, multiplication and transpose of a 2×2 matrix in MATLAB with example.

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