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C16–EC–**402**

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BOARD DIPLOMA EXAMINATION, (C–16)

MARCH/APRIL—2018

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. Write about increment and decrement operators in C language.

2. List the logical operators used in C language with symbols.

3. List three iterative statements supported by C language.

4. Write a C program to check that given number is even or odd.

5. Write three uses of functions.

6. Write the operation of getchar( ), getch( ), and putchar( ) functions.

7. Define a union.

8. Write the syntax to access members of a structure with examples.

9. List relational operators used in MATLAB.

10. What is the usage of control system tool box in MATLAB?

PART—B

10×5=50

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. *(a)* List and explain the arithmetic operators in C language. 5

(b) Write a C program to find area of triangle. 5

12. *(a)* Explain while statement with syntax and example. 5

(b) Write a C program to find the sum of the series : 5

$$1^2 \quad 2^2 \qquad n^2$$

13. Write a C program for multiplication of two matrices.

14. Write the operations of following string manipulation functions :

(a) strcat( )

(b) strcmp( )

(c) strcpy( )

(d) strlen( )

(e) strncmp( )

15. *(a)* Explain passing parameters to the function. 4

(b) Write a program for exchange of two numbers using pass by reference techniques. 6

16. Explain any five pre-processor commands.

17. Explain declaration and initialization of structures.

18. Explain plot commands *(a)* plot (x,y), *(b)* title ( ), *(c)* xlabel ( ) *(d)* ylabel ( ) *(e)* legend ( ) in MATLAB.

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