M.Sc. (Semester-IV) Examination, 2018

(Regular/BP/Improvement/Exempted)

ELECTRONICS

[Module ELE-C-401]

(Computer Programming with C & Introduction to Matlab)

Time : Three Hours]   **[Maximum Marks : 70**

Note : Answer **five** questions in **all**. Question **No. 1** is **compulsory** and carries **30 (3 x 10 = 30)** marks. In addition attempt **one** question (carrying **10** marks) from each unit.

1.   (a)   Differentiate between Keywords and identifiers with example.   [3x10 = 30]

      (b)   Write a program to determine and print the sum of following series : 1+1/2+1/3+......+1/n.

      (c)   What do you mean by recursion ? Find factorial of any number using recursion.

UNIT-III

6.   (i)   Write syntax for passing function to other function and explain it with example.   [5]

      (ii)   What is pointer variable ? Write a program to find maximum number in array using pointer.   [5]

7.   (i)   What is self-referential structure ?   [5]

      (ii)   Define an array of structure 'student' that consist of registration number, name and marks in three subjects. Calculate average marks of all students and print the name of student who is having highest average marks.   [5]

UNIT-IV

8.   (i)   What is MATLAB ? Where can MATLAB be applicable ? Explain the various windows used in MATLAB software.   [6]

      (ii)   Explain how dynamic memory allocation is done in C programming.   [4]

9.   (i)   Write a program to read series of integer numbers from DATA file and then write all odd numbers to a file to be called ODD and all even numbers to a file to be called EVEN.   [6]

      (ii)   Explain following with example :
             putc( ), getc( ), putw( ), getw( ).   [4]

(d) What is the use of break and continue commands ? Explain with example.

(e) Find output of the following codes :

(i)   int n = 0, m = 1

        do

        {printf ("%d", m);

        m++;

        }while(m<=n);

(ii)   for (m = 10; m>7; m - = 2)

        prinitf("%d",m);

(f) Differentiate between Structure and Union.

(g) Distinguish between Formal and Actual parameters with examples.

(h) What do you mean by Symbolic constants ?

(i) Write the purpose of preprocessors.

(j) Write a program in C for swapping any two numbers without using temporary variable.

UNIT-I

2. (i) Explain with example different looping statements.   [6]

    (ii) Write a program to find 2's compliment of any given number.   [4]

3. (i) Write a program to find roots of a quadratic equation.   [6]

    (ii) What is the difference between data type and a variable ?   [4]

UNIT-II

4. (i) Discuss the storage class specifiers : Auto, Register, Static and Extern by giving examples.   [6]

    (ii) List out the five string-handling function alongwith their purpose.   [4]

5. (i) Define array. Write a program to multiply two matrix of order mxn and pxq.   [6]

    (ii) Differentiate between pass by value and pass by reference with example.   [4]