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MBU-003-1274003 Seat No. _____

M. Sc. (ECI) (Sem. IV) (CBCS) Examination

April / May - 2018

Elements of C Language : Paper-15

Faculty Code : 003
Subject Code : 1274003

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer the following questions in brief : (any **Seven**) **14**

1. Explain in brief declaration of one-dimensional array.
2. Explain nested loop.
3. Categorize loops based on their control.
4. Compare structure and union.
5. Explain the goto statement.
6. Write a brief note on user defined data type declaration.
7. Write a program that generates pattern as shown below for n rows :

   1

   2 2

   3 3 3
8. Write a program to find largest of three numbers.
9. Explain pow and sqrt functions.
10. What is a pointer? Explain.

2 Attempt any **two** of the following questions : (Each **7** Marks) **14**

1. What are storage classes? Explain each in detail.
2. Explain while loop in detail. Also write a program to find whether the number is prime or not.
3. What are the advantages of pointers? Also explain how pointers can be used to access arrays.

3 Answer the following questions :

1. Explain nested if-else and else-if ladder with necessary flow-chart. **5**
2. Write a short note on initialization of one-dimensional array. **5**
3. Write a program to print a series (0, 1, 3, 6, 10, 15, 21, ...) of n elements on console. **4**

OR

3 Answer the following questions :

1. Explain printf function in detail. **5**
2. Write a program to receive two matrices from console, multiply the matrices and print the result matrix on console. **5**
3. What is token in C ? Describe in detail. **4**

4 Answer the following questions.

1. Mentioning syntax explain the functions strcat( ), strcpy and strcmp( ). **5**
2. Write a detailed note on storage classes. **5**
3. Write a program to arrange an array of 10 integers in ascending order. **4**

5 Answer any **two** of the following questions. (Each **7** Marks) **14**

1. What is recursion ? What care has to be taken while designing recursive functions? Write a program to calculate factorial of a number with recursive function.
2. Enlist and describe various operators available in C language.
3. What is structure ?
   Write a program using structure to collect and print student data in the format given for n number of students.
   - Data set contains student name, surname, marks of 6 subjects, percentage and result in grades [0(>=90), A(>=80), B(>=70), C(>=60), D(>=50), E(>=40), F(<40)]
   - Data are to be printed on console in tabular form.
4. With neat diagram and suitable example explain the control flow in a multi-function program.
