

Roll No. ....

**72455**

**M. Sc. (Mathematics) 1st Semester  
Examination – December, 2015**

**PROGRAMMING IN C (ANSI FEATURES)**

Paper : MM-415-A .

*Time : Three Hours ]*

*[ Maximum Marks : 60*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

*Note : Attempt one question from each of the Units I-IV. Unit-V is compulsory. All questions carry equal marks.*

**UNIT – I**

1. (a) Describe the process of creating and executing a C program under DOS system.  
(b) How do variables and symbolic names differ ? Illustrate with examples.
2. (a) Write a program in C that will obtain the length and breadth of rectangle from the user and compute its area and perimeter.

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(b) What are bit-manipulation operators? Hence explain the concept of masking.

#### UNIT - II

3. (a) How are the individual elements accessed and processed in an array?  
(b) Write a C-program to sort the elements of an array in descending order.

4. (a) What are the advantages of declaring a pointer variable in a function declaration?  
(b) What is the difference between the array of pointers and pointer to the array?

#### UNIT - III

5. (a) Distinguish between local and global variables in C with the help of examples.  
(b) Point out the advantages of dynamic memory allocation. Also write the syntax of the functions used for dynamic memory allocation.

6. (a) Give an example of a C structure and explain how members of the structure are accessed in a C program.  
(b) What do you mean by function prototype? Also explain the concepts of actual arguments, formal arguments and automatic argument conversions.

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#### UNIT - IV

7. (a) What is a macro and how is it different from a preprocessor? Illustrate with examples.  
(b) What do you mean by conditional compilation?

8. (a) Given a text file, write a C program to create another file deleting all the vowels.  
(b) Explain the difference between fwrite( ) and fprintf( ) functions in C.

#### UNIT - V

9. (i) What is initialization and why do we need it?  
(ii) What do you mean by casting?  
(iii) What is the use of size of operator?  
(iv) Explain the role of switch statement  
(v) What is a register variable in C?  
(vi) When is the execution of a function terminated?  
(vii) What is a structure tag and what is its purpose?  
(viii) If p is a pointer, then what is the meaning of p + 1?

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