Exam. Code : 103202
Subject Code : 1027

B.A./B.Sc. 2nd Semester

COMPUTER SCIENCE (Programming Using C)

Time Allowed—Three Hours]   [Maximum Marks—75

Note :—(1) Attempt any **5** questions.

(2) All questions carry equal marks.

1. (a) What is algorithm ? What are its characteristics ?
Write an algorithm to check whether an input
number is a prime number or not.   9

(b) Find out the values of X, Y and Z in the
following :

$$(FA.8)_{16} = (X)_8 = (Y)_{10} = (Z)_2$$ 6

2. Explain the following :

(a) Decision Tables   8

(b) ASCII Character Code.   7

3. (a) What is meant by hierarchy of operators ? Provide
a brief outline of all operators supported by
C language along with their hierarchy within
expressions and suitable examples.   7

(b) Why 'C' language is named so ? Discuss its origin
and provide the general structure of 'C' language
program detailing out every construct in it.   8

4. Differentiate between the following :

   (a) switch and if-else-if statements   5

   (b) Union and Structures   5

   (c) call-by-value and call-by-reference.   5

5. Explain the following :

   (a) Pointers with Structure   7

   (b) Formatted console I/O functions.   8

6. (a) What are the technical reasons for adopting Binary Number System in Digital Computers ? Explain.   6

   (b) What are 'data-types' ? What are the data-types supported by C language ? Illustrate the importance of each.   9

7. Differentiate between the following :

   (a) Automatic, External and Static Variables   5

   (b) printf() and scanf()   5

   (c) for and do-while loops.   5

8. Explain the following :

   (a) Recursion and its use   7

   (b) Programming Errors and its types.   8