

**Bachelor of Science (B.Sc.) Semester—VI (C.B.S.) Examination**

**PROGRAMMING IN "C"**

**Paper—1**

**(Electronics)**

Time : Three Hours]

[Maximum Marks : 50

**Note :—** (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw a well labelled diagram wherever necessary.

**EITHER**

1. (a) What is a variable ? Explain how a variable can be declared with suitable example.
- (b) What is an operator ? Explain arithmetic operators with suitable example. 5+5

**OR**

- (c) What are the different data types used in 'C' ? Explain primary data type with example.
- (d) Explain scanf( ) and print( ) functions with their formats. 5+5

**EITHER**

2. (a) What is an array ? Write a programme to find the smallest element of an array containing 10 integers.
- (b) Explain the following branching statements with example :
  - (i) if-else
  - (ii) switch. 5+5

**OR**

- (c) Explain the following looping statement with suitable example :
  - (i) for
  - (ii) while.
- (d) Write a programe in 'C' to find sum of series

$$S = \frac{1}{2} + \frac{2}{3} + \frac{3}{4} + \dots \dots \dots n \text{ terms} \quad \text{5+5}$$

**EITHER**

3. (a) What is function ? State various types of functions with return values. Give example for any one type.
- (b) What is structure ? How does it differ from array ? How is structure declared in 'C' ? Explain. 1+2+2+5

**OR**

- (c) What is Union ? Differentiate between Structure and Union.
- (d) Write a function great( ) which finds out the greatest of three numbers. 5+5

**EITHER**

4. (a) Explain the various file modes.  
 (b) Write a programme in 'C' to read data records from keyboard and write it to a file called Input. The record should contain roll number, name and percentage of marks. 5+5

**OR**

- (c) Distinguish between the following functions :

(i) `getc( )` and `getchar( )`

(ii) `printf( )` and `fprintf( )`.

- (d) What is command line argument ? Explain with suitable example. 5+5

5. Solve any **ten** :

- (a) Explain conditional operator with its format.

- (b) Write 'C' assignment statement to evaluate the following equation:

$$\text{Side} = \sqrt{a^2 + b^2 - 2ab\cos(x)}.$$

- (c) What is the value of 'C' after execution of  $C = a > b$  ?

- (d) What is function of break statement ?

- (e) What is the meaning of nesting of a loop ?

- (f) Give the general form of simple if statement.

- (g) What do you mean by local variable in function ?

- (h) What is a scale factor ?

- (i) What is the need of user defined function ?

- (j) What is a pointer ?

- (k) Explain the purpose of `fseek( )`.

- (l) What is the significance of EOF ?

1×10