

**NRT/KS/19/2030**

**Bachelor of Science (B.Sc.) Semester-I Examination**  
**COMPUTER SCIENCE (PROGRAMMING IN "C")**  
**Optional Paper-1**

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory and carry equal marks.  
(2) Illustrate your answer with suitable diagrams wherever necessary.

**EITHER**

1. (A) Explain modular programming structure with suitable example. 5  
(B) Draw a flow chart to find largest of three numbers. 5

**OR**

- (C) Explain sequence programming structure. Write different characteristics of algorithm. 5  
(D) Write an algorithm to display sum of digits of given number :  
 $4632 \Rightarrow 4+6+3+2=15$  5

**EITHER**

2. (A) What are the primary data types supported by 'C' language ? Explain. 5  
(B) Explain rules for naming variable. Differentiate between while and do-while statement with example. 5

**OR**

- (C) Explain various operators supported by 'C' language. 5  
(D) Write a program in 'C' language to print Fibonacci series i.e. 1,1,2,3,5,8..... 5

**EITHER**

3. (A) Write a program to illustrate function with argument and no return value to find sum of two numbers. 5  
(B) Explain array. Write a 'C' program to find out the largest element in a given one dimensional array. 5

**OR**

- (C) Explain different components of function with suitable example. 5  
(D) What is recursion ? Write a recursive function to find factorial of a number.  
 $(n) = 1*2*3*.....*(n-1) * n.$  5

**EITHER**

4. (A) Explain the difference between structure and union. What is nesting of structure ? 5  
(B) Explain command line arguments. 5

**OR**

- (C) What is file mode ? Explain various file opening modes. 5  
(D) Define pointer. How is it declared and initialised ? What are different arithmetic operations that can be used with pointers ? 5

5. (A) Explain different symbols used in flowchart. 2½  
(B) Explain switch statement with syntax. 2½  
(C) Explain any two string handling functions with suitable example. 2½  
(D) Explain fprintf( ) and fscanf( ). 2½