

2018

CBCS

1st Semester

COMPUTER SCIENCE

PAPER—CIT

(Honours)

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Programming Fundamentals Using C/C++**

**Group—A**

1. Answer any five questions. 5×2

(a) What is the difference between break and exit statement ?

(b) What do you mean by formal arguments ?

(c) Why header files are necessary in C or C++ ?

(Turn Over)

- (d) In what situation the do-while loop is much better than while loop?
- (e) What do you mean by function prototype?
- (f) What is the difference between `getc()`, `getchar()` and `getche()` function?
- (g) Find the output of the following program segment

```
main ( )
{
    int a = 5, b, c, d ;
    b = + + a ;
    c = a + + + b - - ;
    b = c + + - - - b ;
    printf ("%d %d %d", a, b, c) ;
}
```

- (h) What do you mean by preprocessor?

**Group—B**

Answer any four questions.

4×5

2. Write a recursive function to find

$$S = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + \dots + / - \frac{x^n}{n!}$$

3. Explain call by value, call by address and call by reference.
4. (a) Why the switch statement is called menu driven program ?
- (b) Write a function in C or C++ to display the pascal triangle. 2+3
5. (a) Find the maximum and minimum range of values that a floating point number can store.
- (b) What do you mean by command line arguments ?  $2\frac{1}{2} + 2\frac{1}{2}$
6. Write a C or C++ program to read the content of a file and display/write an another file in reverse order.
7. (a) What is the difference between printf and sprintf ?
- (b) What do you mean by side effects of global variable ?
- (c) What is the difference between register and local variable ? 1+2+2

**Group—C**

Answer any *one* question.

1×10

8. (a) Why 's' (address) operator is not used in string ?  
(b) What is the difference between malloc and calloc ?  
(c) Find the output of the following :

```
main ( )  
{  
    int a = -10, b, c ;  
    b = a >> 2 ;  
    c = a << 4 ;  
    printf ("%d %d", b, c) ;  
}
```

- (d) Write a C/C++ program to display system date and time. 2+2+2+4
9. (a) Define macro. What is the difference between macro and function ?  
(b) Describe the meaning of the following statement :  
(i) `char *f (char *a[ ], int *b) ;`  
(ii) `int (*mult) (int (*a) [ ], int *b) ;`  
(c) Write a function to display the transpose of a matrix using the concept 'pointer to array'.

$(2+2)+(1\frac{1}{2}+1\frac{1}{2})+3$