TDC (CBCS) Odd Semester Exam., 2020
held in March, 2021

STATISTICS

(5th Semester)

Course No. : STSHCC–502T

(Statistical Computing using C/C++ Programming)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 20)

1. Answer any *ten* of the following questions : 2×10=20

(a) Point out the errors, if any, in the following C statements : 1+1=2

(i) name = 'Ajay';

(ii) 53 = area;

(b) Write a short note on C keywords mentioning any two keywords. 2

(c) Write the syntax to declare—

(i) an integer constant;

(ii) a symbolic constant. 1+1=2

(d) Distinguish between local and global variables in C. 2

(e) Write a program to print the following line of text : 2

Hello World !

(f) Convert the following equations into corresponding C statements : 1+1=2

(i) $A = (x+y)^2 - \frac{2}{3}x$

(ii) $B = a^3 + b^3 - 3ab^2 + \frac{a}{2b-1}$

(g) Arrange the following operators based on their precedence : 2

+ = && || / !=

(h) What will be the output for the following program? Explain your answer : 2

```
#include <stdio.h>
void main( ){
printf("%d", (10++));
}
```


(i) What will be the value of x when the following segment is executed? 2

```
int x = 10; y = 15;
x = (x < y) ? (y + x) : y;
```

(j) Write down the syntax for 'switch' statement. 2

(k) What is an infinite loop? Illustrate with the help of an example. 2

(l) Why are 'break' and 'continue' statements used in loops? 2

(m) Write down two advantages of using an array in a program. 2

(n) Are the following array declarations correct? Justify : 1+1=2

(i) int a(25);

(ii) int size = 10, b[size];

(o) Are the expressions 'arr' and '&arr' same for an array of 10 integers? Justify. 2

(p) What is a string? Write down the syntax to declare a string variable. 2

(q) Can a function be defined inside another function in C? Write down the keyword used in C to transfer control from a function back to the calling function. 1+1=2

(r) What is the maximum number of arguments a function can take in C? What happens when the return type of a function is not specified in C? 1+1=2

(s) Distinguish between actual and formal arguments in C. 2

(t) What is recursion? Illustrate with an example. 2

SECTION—B

(*Marks* : 30)

Answer *any* **five** questions

2. Write down the rules for constructing the following : 3+3=6

(a) Integer constants

(b) Variable names

3. Discuss briefly about C data types. 6

4. Write a note on various C operators. 6

(*Continued*)

5. Discuss briefly about integer and float conversions in C with examples. 6

6. Write a note on various conditional statements in C. 6

7. Discuss briefly about various loop control statements in C. 6

8. Explain one-dimensional and multi-dimensional arrays. 6

9. Write a C program to input a string and print it. 6

10. Discuss briefly about various types of function in C. 6

11. Explain how functions are called in C with examples. 6

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