# 2023
## B.A./B.Sc.
## Fifth Semester
CORE – 12
## STATISTICS
*Course Code: STC 5.21*
(Statistical Computing Using C/C++ Programming)

*Total Mark: 70*        *Pass Mark: 28*

*Time: 3 hours*

*Answer* <u>five</u> *questions, taking* <u>one</u> *from each unit.*

## UNIT–I

1. (a) What is a compiler? Mention the names of two C compilers. Explain the basic structure of a C program with an example.    2+2+3=7
   (b) What are the different data types in C language? Write a C program to evaluate the value of the expression $(x + y)/z$, where $x = 50$, $y = 30$ and $z = 20$.    4+3=7

2. (a) Write a short note on identifiers in C language with examples.    4
   (b) Write briefly about the constants in C with examples.    6
   (c) What is type casting? Explain with an example.    2+2=4

## UNIT–II

3. (a) What are the uses of input/output functions in C? Write briefly about *getchar*(), *getche*(), *putchar*() and *putche*().    2+4=6
   (b) What are the different types of control statements in C?    3
   (c) Write a note on switch statement. Write a C program to add and subtract two numbers using switch statement.    2+3=5

4. (a) Write a note on *scanf*() and *printf*() functions with examples. 2+2=4
   (b) Write a note on string input/output functions.    4
   (c) Write a note on simple *if* statement with diagram. Write a C program to check whether a year is leap year or not.    3+3=6

## UNIT–III

5. (a) Write a note on loop execution in C with a block diagram. 4
   (b) Write note on *do-while* loop. Write a C program to print "KOHIMA" 10 times using *do-while* loop. 2+3=5
   (c) What are the different types of arrays in C? Write a note on any one of them giving example. 2+3=5

6. (a) What are the different types of loops in C language? Write briefly on each of them. 8
   (b) Write a note on jumping statements in C. 6

## UNIT–IV

7. (a) What is a function in C? What are the different types of functions in C? What are the advantages of using a function? 2+2+2=6
   (b) Write notes on four numeric and four character functions in C with examples. 8

8. (a) Distinguish between in-built and user-made functions in C. Write down the steps in writing a function. 3+3=6
   (b) Write notes on automatic, external, static and register storage classes in C. 8

## UNIT–V

9. (a) What do you understand by memory address in C? Explain with an example. Mention the operator used to access it. 2+2+1=5
   (b) What is the use of dereference? What operator is used for dereference? How the pointers are related to arrays? 1+1+3=5
   (c) What is a structure? Create a structure with an example. 2+2=4

10. (a) What is a pointer in C? Illustrate with an example. 2+2=4
    (b) Write a note on classification of pointers. 6
    (c) Write notes on *malloc*() and *calloc*(). 2+2=4

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