

(Please write your Exam Roll No.)

Exam Roll No. 03321902023

## END TERM EXAMINATION

FIRST SEMESTER (BCA) JANUARY-2024

Paper Code: BCA-103

Subject: Programming Using 'C' Language

Time: 3 Hours

Maximum Marks: 60

Note: Attempt five questions in all including Q. no.1 which is compulsory.  
Select one question from each unit.

- Q1 Write short notes of the following: (2x10=20)
- (a) What are shorthand assignment operators?
  - (b) What is #define and write its syntax?
  - (c) Differentiate between call by value and call by reference.
  - (d) Name the language necessarily need heap allocation in the run time environment and why?
  - (e) Define static storage class.
  - (f) What is typecasting?
  - (g) Define self-referential structure.
  - (h) Name functions of standard library process.h.
  - (i) Write usage of command line arguments.
  - (j) Define memory allocation for structure and array.

### UNIT-I

- Q2 (a) Write a C program to check Least Significant Bit (LSB) of a number is set or not. (5)
- (b) Explain nested control structure with an example. (5)
- Q3 (a) Explain labelled continue statement with flow diagram. (5)
- (b) Write a program to check whether the number is even or not and print using the goto statement. (5)

### UNIT-II

- Q4 (a) Write a C program to calculate sum of array elements using pointers. (5)
- (b) Explain the pointers for inter-function communication. (5)
- Q5 (a) Write a program to find out maximum number in array using pointer. (5)
- (b) What are callback functions and how functions can be passed to other functions as an argument. (5)

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### UNIT-III

- Q6 (a) Write a C program to access members of a structure using pointers. (5)
- (b) Why do we need File Handling? Write types of files and functions in file operations. (5)
- Q7 (a) Write a C program using passing structure by reference. (5)
- (b) Explain file positioning functions. (5)

### UNIT-IV

- Q8 (a) Write a C program to calculate the sine of an argument. (5)
- (b) Explain string library functions with suitable example. (5)
- Q9 (a) Write a program in C that write 10 integers in data.txt file and copy into the duplicate.txt file. (5)
- (b) Define virtual functions. Explain wide char and library functions. (5)

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