



QP – 455

I Semester B.C.A. Examination, April/May 2021  
(Repeaters) (Y2K8 Scheme)  
**COMPUTER SCIENCE**  
**BCA 105 : Programming Concepts Using 'C'**

Time : 3 Hours

Max. Marks : 70/60

- Instructions :** 1) Answer **all** questions.  
2) Section **D** is applicable to students who have taken admission in **2011 – 12** and onwards **only**.

SECTION – A

- I. Answer **any ten** questions. Each question carries **one** mark. **(10×1=10)**
- 1) What is an algorithm ?
  - 2) Define a constant.
  - 3) What are the modifiers for char data type ?
  - 4) What is sizeof() operator ?
  - 5) What is the difference between pre-increment and post increment operators ?
  - 6) What is the difference between break and continue ?
  - 7) Write the general syntax of switch statement.
  - 8) Mention the categories of functions.
  - 9) How strings are initialized ?
  - 10) Give an example of declaring and initializing pointer.
  - 11) What is the difference between array and structure ?
  - 12) What is the difference between structure and union ?

SECTION – B

- II. Answer **any five** questions. **(5×3=15)**
- 13) Write an algorithm to find the sum of n natural numbers.
  - 14) Write the general syntax of the following :  
a) if-else      b) switch      c) for loop
  - 15) Draw a flowchart to find the largest of three numbers.
  - 16) What is the difference between getch() and getchar() functions ?
  - 17) What is recursion ? Write a program to find the factorial of a number using recursion.
  - 18) What are the advantages of functions ?
  - 19) Write a program to find a number is prime or not.
  - 20) Give any three differences between structure and union.

P.T.O.





## SECTION – C

III. Answer **any five** questions. **Each** question carries **seven** marks. **(5×7=35)**

- 21) Write a C program to compute the sum of even numbers and odd numbers using functions. 3
- 22) a) Explain relational and logical operators with an example. 3  
b) List out built in mathematical functions. 4
- 23) a) Explain the following for 1-D and 2-D array. 3  
i) Storage representation  
ii) Declaration syntax. 3
- b) What is the difference between if-else and switch statement ? Explain with an example. 4
- 24) What is a function ? Explain different categories of functions. 3
- 25) a) Write a C program to check whether it is alphabet or digit or special symbol. 4  
b) Write a C program to find the length of string using strlen(). 3
- 26) Explain looping control statements with suitable examples. 3
- 27) a) Explain array of structures with an example. 3  
b) Declare a union with three members of type integer, char, string and illustrate the use of union. 4
- 28) Explain with example how the structure is 4  
a) Initialised. 4  
b) Differentiate between local and global variables. 3

## SECTION – D

**(Only for 2011 – 12 and Onwards)**

IV. Answer **any one** question. **Each** question carries **ten** marks.

- 29) Write a C program to perform addition and subtraction of two matrices.
- 30) a) Write a program to implement bubble sort.  
b) Explain any two string functions with syntax and example.