

I Semester B.C.A. Degree Examination, May/June- 2022

COMPUTER SCIENCE

Problem Solving Techniques

(NEP Scheme)

Paper : CA-C2T

Time : 2½ Hours

Maximum Marks : 60

- Instructions to Candidates :* 1. Answer any Four questions from each part.
2. Answer All Parts

PART - A

I. Answer any Four questions, each carries Two marks.

(4×2=8)

- 1) What is an Algorithm ? Give one of its advantage.
- 2) Define Asymptotic notation List any two.
- 3) Write the basic structure of C program.
- 4) What is an array? Write the statements to print the elements of an array.
- 5) What is hash search ?
- 6) Mention any two differences between linear search and binary search.

PART - B

II. Answer any Four questions each carries Five marks.

(4×5=20)

- 7) Differentiate between while and do-while loop. Illustrate with example.
- 8) Write a program to find whether a given number is prime number or not.
- 9) Example bitwise operators in C with suitable examples.
- 10) Write a C program to compute GCD of two integers. Use a function to compute GCD
- 11) Write an algorithm for selection sort. Illustrate with an example.
- 12) Explain two way merge with example.

**PART - C****III. Answer any Four questions each carries Eight marks****(4×8=32)**

- 13) Explain the different data types supported by C language Mention their range and size.
 - 14) What is type casting? Write a C program to differentiate implicit and explicit type casting.
 - 15) Explain the difference between call by reference and call by value with an example for each.
 - 16) Write a C program to perform multiplication of 2 matrices.
 - 17) Write a pseudocode to implement binary search. Illustrate with example.
 - 18) Write a C program to implement Quick sort and explain with an example.
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