NP – 115

I Semester B.A./B.Sc. Examination, May 2022
(NEP – 2021 – 22 and Onwards)
COMPUTER SCIENCE
Problem Solving Techniques

Time : 2½ Hours | Max. Marks : 60

Instruction : *Answer* ***any four*** *questions from* ***each*** *Part.*

PART – A

I. Answer **any four** questions. **Each** question carries **two** marks. **(4×2=8)**

1) What are the factors affecting the analysis of algorithms ?
2) What are command line arguments ?
3) Differentiate between formatted and unformatted input.
4) What is the difference between '&' and '*' operators in pointers ?
5) Define sorting. Mention any two types of sorting.
6) Define hash search.

PART – B

II. Answer **any four** questions. **Each** question carries **five** marks. **(4×5=20)**

7) Explain the various qualitative aspects of a good algorithm.
8) Explain if...else with an example.
9) Write a C program to swap two integers using pointers.
10) What is an array ? How will you input the elements in a two dimensional array ?
11) Write an algorithm to find the gcd of two integers.
12) Explain about keyword searching in a text.

P.T.O.

PART – C

III. Answer **any four** questions. **Each** question carries **eight** marks. **(4×8=32)**

13) Explain the various asymptotic notations used to represent the running time of algorithm. **8**

14) Write a C program to read a number, reverse the number and check whether it is a palindrome or not. **8**

15) a) Explain switch statement with an example. **4**

b) Differentiate between while and do...while loops. **4**

16) a) Write an algorithm to check whether a number is prime or not. **4**

b) Write an algorithm to find the square root of a number. **4**

17) Explain selection sort and insertion sort. **8**

18) Explain binary search technique with an example. **8**