

## BCA 1st Semester Exam., 2023

PROBLEM SOLVING AND PROGRAMMING  
CONCEPTS

Time : 3 hours

Full Marks : 60

## Instructions :

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **SEVEN** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question Nos. **1 & 2** are compulsory.

1. Answer any six of the following :  $2 \times 6 = 12$ 

- (a) What is software?
- (b) What is pseudocode?
- (c) What is the purpose of local and global variables?
- (d) Define token.
- (e) How to define module?
- (f) What is the purpose of flowchart?
- (g) What is the difference between normal variable and array variable?

(h) What is the purpose of searching?

(i) What is the use of bio-informatics?

(j) How to define e-commerce?

2. Answer any *three* of the following :  $4 \times 3 = 12$ 

- (a) What is an algorithm? Write an algorithm to find the largest of 3 numbers.
- (b) What is the significance of break statement in a switch case construct?
- (c) Write a 'C' program to demonstrate the use of unconditional goto statement.
- (d) Differentiate between typecasting and type conversion.
- (e) Why are arrays needed? How is an array represented in memory?

3. What do you understand by the term file organization? Briefly summarize the different file organizations that are widely used today. <https://www.akubihar.com> 12

4. What is the importance of sorting? Explain quicksort technique with an example. 12

5. Discuss the relationship between bioinformatics and medical applications. 12

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6. Write a program in 'C' using functions to swap two numbers using global variables concept and call by reference concept. 12
7. Write a 'C' program to read N numbers into an array and perform linear search. 12

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