KO-2422

# Bachelor of Computer Applicaiton
# B. C. A. (Sem. I) Examination,
# December-2024

## PROBLEM SOLVING THROUGH C PROGRAMMING

## PAPER - BCA - 1002T

Time allowed : **Three Hours**

Max. Marks : **70**
Min. Marks : **28**

*This question paper contains two sections as under:*



## SECTION - A

**Max. Marks-20**

*This section will have 10 questions, having 02 questions from each unit with no internal choice. Answer in about 20 words. All questions will have equal marks. (10×2=20)*

## SECTION - B

**Max. Marks-50**

*This section will have 10 questions, having 02 questions from each unit, one question to be attempted from each unit. Words limit approximately 400-500 words. Questions may have sub divisions. All questions will have equal marks. (10×5=50)*



https://www.pyqonline.com

## SECTION - A

1 (i) Define an algorithm and list its key properties.

(ii) What is the purpose of a flowchart ? Name any two flowchart symbols.

(iii) What are constants in C ?

(iv) What are standard input and output statements in C ?

(v) What is a goto statement and why is it generally avoided ?

(vi) Explain how reading and writing operations are performed on arrays in C.

(vii) What are static and register variables ?

(viii) Explain the use of header files in C programming.

(ix) Differentiate between *p and **p.

(x) What is typedef in C ?

**10x2=20**



## SECTION - B

### UNIT - I

2 (a) What are the essential properties that an algorithm must satisfy ? Explain with the help of an example.

(b) What is a flowchart ? Draw a flowchart to find the largest of three numbers.

**OR**

(a) What are the different types of errors in a program ? Explain syntax error and semantic error with examples.

(b) Discuss the importance of debugging, program verification, and testing in software development.

### UNIT - II

3 (a) What are bitwise operators ? Explain different bitwise operations with examples.



https://www.pyqonline.com

(b) What is the difference between assignment operators and relational operators ?

**OR**

(a) What is operator precedence and associativity ? Explain with an example.

(b) Explain the use of increment (++) and decrement (--) operators in C.

## UNIT - III

4 (a) What are control flow statements in C ? Explain the role of if-else and nested if statements with examples.

(b) What are two-dimensional arrays ? Explain with an example of matrix representation.

https://www.pyqonline.com

**OR**

(a) Explain the different types of looping statements in C: while, for and do-while with examples.



(b) What is the purpose of break and continue statements ? Explain with examples.

## UNIT - IV

5 (a) Explain the concept of recursion with an example.

(b) What are local and global variables ? Explain with examples.

**OR**

(a) What is block structure in C programming ? Explain its importance.

(b) What is the C preprocessor ? Explain its role in program compilation.

## UNIT - V

6 (a) What are pointers in C ? How do they differ from normal variables ?

(b) What is a structure in C ? How is it declared and initialized ?

**OR**



https://www.pyqonline.com

(a) What is a union in C ? How is it different from a structure ?

(b) Discuss the advantages and disadvantages of using dynamic memory allocation with structures.

---

https://pyqlelo.com