

KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E01108

Course Code : 24UFCS11/25UFCS11

UG Degree - End Semester Examinations, April 2026

First Semester

BSc., COMPUTER SCIENCE

Problem Solving Techniques

(For those who joined in July 2024 and June 2025 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. Which component of the CPU performs arithmetic and logical
K:1 operations?
(a) Control Unit (b) ALU
(c) Cache (d) Register
- CO:1 2. Which of the following is a Non-Impact printer?
K:1
(a) Laser (b) Inkjet
(c) Both (a) and (b) (d) None of the above
- CO:2 3. Choose the programming language that mainly associated with
K:1 Artificial Intelligence.
(a) Web development (b) 5GL
(c) Operating systems (d) Machine code programming
- CO:2 4. Select the first phase in the Program Development Cycle
K:1
(a) Coding (b) Testing
(c) Problem Definition (d) Documentation
- CO:3 5. Which of the following that uses special symbols to display
K:1 pictorially the flow of execution within a program or program
module?
(a) Algorithm (b) Flowchart
(c) Pseudo code (d) Program

- CO:3 6. Match the option that represents a major advantage of an
K:2 algorithm.
- (a) Language dependency (b) Graphical representation
(c) Easy debugging (d) Complex structure
- CO:4 7. What is the purpose of writing a pseudo code?
K:1
- (a) Program execution (b) Algorithm representation
(c) Hardware design (d) Data storage
- CO:4 8. Name the type of error that occurs due to violation of
K:1 programming language rules.
- (a) Logical error (b) Runtime error
(c) Syntax error (d) Arithmetic error
- CO:5 9. Name the category to which a Loop statement belongs.
K:1
- (a) Assignment (b) Concurrent
(c) Sequential (d) Functional
- CO:5 10. Identify the type of array that stores data in rows and columns.
K:2
- (a) One dimensional array (b) Two dimensional array
(c) String array (d) Numeric variable

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Analyze the history of computers and explain the major
K:4 developments in different generations.

(OR)

- (b) Compare the differences between Mainframe computers and Supercomputers.

- CO:2 12. (a) Distinguish between 4GL and 5GL with suitable examples.
K:3

(OR)

- (b) Demonstrate the working of an interpreter and a compiler with suitable examples.

- CO:3 13. (a) Examine the essential features of a good algorithm with
K:4 suitable examples.

(OR)

(b) Analyze the common symbols used in flowcharts and explain their functions.

CO:4 14. (a) Classify the components of pseudocode and outline the
K:4 guidelines for writing it.

(OR)

(b) Categorize the different looping structures and their significance in programming.

CO:5 15. (a) Construct a counter-controlled loop with a suitable
K:3 example.

(OR)

(b) Apply the character-based data in solving a suitable problem.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Organize the primary and secondary memory concepts in
K:3 detail with examples.

(OR)

(b) Identify the appropriate type of computers used for different real-time situations and explain the reasons.

CO:2 17. (a) List the types of programming languages in detail.
K:4

(OR)

(b) Classify the arithmetic operators used in programming and explain each category with suitable examples.

CO:3 18. (a) Analyze an algorithm and illustrate its pros & cons..
K:4

(OR)

(b) Examine the importance of the flow chart and its types.

CO:4 19. (a) Explain the context of writing a pseudocode.
K:5

(OR)

(b) Assess the impact of selecting from several alternatives in decision making.

CO:5 20. (a) Construct the nested loop with example.
K:6

(OR)

(b) Formulate an array. Explain the two-Dimensional array.