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Course Code: 241CS001



ADITYA UNIVERSITY

B.Tech – I Semester End Examinations Supplementary – Dec 2025

PROGRAMMING FOR PROBLEM SOLVING USING C
(Common to EEE, ECE, CSE, IT, DS & AIML)

Time: 3 hours

Max. Marks: 100

Answer ONE question from each unit

All Questions Carry Equal Marks

All parts of the questions must be answered at one place only

UNIT-I

- 1 a Explain the characteristics of algorithm with example. L2 CO1 [10M]
b Illustrate type Conversion and Casting with examples. L2 CO1 [10M]

(OR)

- 2 a Describe about space complexities of algorithms. L2 CO1 [10M]
b What are the basic data types available in C? Write the significance of each datatype. L1 CO1 [10M]

UNIT-II

- 3 a List all conditional control statements used in C. Explain any two with syntax and example. L2 CO2 [10M]
b What is goto statement? Explain with example. L2 CO2 [10M]

(OR)

- 4 a Describe the two-way selection statements? Explain if, if else, and cascaded if-else with examples. L3 CO2 [10M]
b Write differences between Break and Continue Statements in C with syntax. L2 CO2 [10M]

UNIT-III

- 5 a What is an array? Write a C program to find the maximum element in the given array. L2 CO3 [10M]
b List out all string manipulation function. Explain any two with example. L2 CO3 [10M]

(OR)

- 6 a Explain the declaration and initialization of one dimensional and two dimensional array with an example. L2 CO3 [10M]
b Write an algorithm for bubble sort. L2 CO3 [10M]

UNIT-IV

- 7 a What is recursion? Write a c-program using recursive function for Binary to Decimal Conversion. L2 CO4 [10M]
b Describe the scope of variables in C with example. L2 CO4 [10M]

(P.T.O)

(OR)

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|---|---|--|----|-----|-------|
| 8 | a | What is function? Explain the difference between user defined and library functions. | L2 | CO4 | [10M] |
| | b | What is storage class? List out all storage class with syntax. | L2 | CO4 | [10M] |

UNIT-V

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|---|---|---|----|-----|-------|
| 9 | a | Explain how pointers and arrays are related with example. | L2 | CO5 | [10M] |
| | b | Describe about the concept of modifying parameters inside functions using pointers. | L3 | CO5 | [10M] |

(OR)

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|----|---|---|----|-----|-------|
| 10 | a | What is pointer? Discuss how the pointer variable declared and initialized in C. | L2 | CO5 | [10M] |
| | b | Explain about File handling concepts? Write a program to copy contents of one file to another file. | L3 | CO5 | [10M] |
