

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Bachelor of Technology (Electrical Engineering) SEMESTER - 2 Summer 2026 (Regular)

Course :Bachelor of Technology (Electrical Engineering) Branch : Engineering and Technology

Semester : SEMESTER - 2

Subject Code & Name: 24AF1000ES206B - PROGRAMMING FOR PROBLEM SOLVING

Time : 3 Hours]

[Total Marks : 60

Instructions to the Students:

1. Each question carries 12 marks.
 2. Question No. 1 will be compulsory and include objective-type questions.
 3. Candidates are required to attempt any four questions from Question No. 2 to Question No.6
 4. Use of non-programmable scientific calculators is allowed.
 5. Assume suitable data wherever necessary and mention it clearly.
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Q1. Objective type questions. (Compulsory Question)

12

1. Which stage of program execution converts source code into an object file?
 - a) Linking
 - b) Compiling
 - c) Executing
 - d) Debugging
2. Which component of the CPU controls the execution of instructions?
 - a) ALU
 - b) Registers
 - c) Control Unit
 - d) Cache Memory
3. Which of the following is NOT a valid C token?
 - a) Keyword
 - b) Identifier
 - c) Operator
 - d) Class
4. Which operator has the highest precedence in C?
 - a) +
 - b) *
 - c) ()
 - d) =
5. What will be the output of: `int x = 5; printf("%d", x++);`
 - a) 6
 - b) 5
 - c) Error
 - d) Undefined

- 6 Which loop is guaranteed to execute at least once?
 - a) for
 - b) while
 - c) do-while
 - d) nested for
- 7 Which function is used for formatted input in C?
 - a) printf()
 - b) scanf()
 - c) gets()
 - d) putchar()
- 8 What is the correct way to declare a pointer to an integer?
 - a) int p
 - b) int *p
 - c) pointer int p
 - d) int &p
- 9 Which of the following correctly represents a 2D array?
 - a) int a[10];
 - b) int a[3][3];
 - c) int *a[3];
 - d) int a();
- 10 Which structure feature allows different data types under one name?
 - a) Inheritance
 - b) Encapsulation
 - c) User-defined grouping
 - d) Polymorphism
- 11 Which mode opens a file for both reading and writing in C?
 - a) 'r'
 - b) 'w'
 - c) 'a'
 - d) 'r+'
- 12 What is the correct function to close a file in C?
 - a) endfile()
 - b) closefile()
 - c) fclose()
 - d) fileclose()

Q2. Solve the following.

- A) Explain the basic structure of a computer system and the functions of its main components. 6
- B) Draw a flowchart and write an algorithm to find the largest of three numbers. 6

Q3. Solve the following.

- A) Explain data types in C with their sizes and describe variable declaration and initialization with examples. 6
- B) Explain operator precedence, order of evaluation, and type conversion in C with examples. 6

Q4. Solve Any Two of the following.

- A) Explain control flow statements in C including if-else, nested if-else and switch-case with examples. 6
- B) Explain functions in C programming including user-defined functions, built-in functions, and return types with examples. 6
- C) Write a C program to find the largest of three numbers using nested if-else statements. 6
- Q5. Solve Any Two of the following.
- A) Define arrays in C and describe how to initialize 1-D, 2-D, and character arrays with examples. 6
- B) Explain the relationship between arrays and pointers in C and how pointers are used to access array elements. 6
- C) Write a C program to input and display a 3×3 matrix using a two-dimensional array. 6
- Q6. Solve Any Two of the following.
- A) Explain structures in C including their definition, initialization, and usage with examples. 6
- B) Define file handling in C, including how to define, open, read, write, and close a file with examples. 6
- C) Write a C program to store and display details of 5 students using an array of structures. 6

*** End ***