

**THE KAVERY ENGINEERING COLLEGE***(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Second Semester**Information Technology***CS3251 / UCST24201 – Programming in C****(Common to Computer Science and Engineering)***Regulations – 2021 & 2024**Duration : 3 Hrs**Maximum : 100 Marks**PART – A (ANSWER ALL QUESTIONS) (Marks 10\*2=20)*

| <i>Q.No</i> | <i>Questions</i>                                                                                                                   | <i>BLT</i> | <i>CO</i> | <i>Marks</i> |
|-------------|------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 1.          | Compare an algorithm and a flowchart.                                                                                              | L2         | 1         | 2            |
| 2.          | Show a pseudocode to find maximum of three numbers.                                                                                | L2         | 1         | 2            |
| 3.          | Interpret the output of the following code:<br>main()<br>{<br>char str[8]="C programming";<br>printf("%s", str);<br>return 0;<br>} | L2         | 2         | 2            |
| 4.          | How is an array represented in memory?                                                                                             | L1         | 2         | 2            |
| 5.          | Define function with its syntax.                                                                                                   | L1         | 3         | 2            |
| 6.          | Explain with an example about pointer arithmetic.                                                                                  | L2         | 3         | 2            |
| 7.          | Compare Structures and Union based on its operation.                                                                               | L2         | 4         | 2            |
| 8.          | How to represent self-referential structures?                                                                                      | L1         | 4         | 2            |
| 9.          | What are the different file operations?                                                                                            | L1         | 5         | 2            |
| 10.         | Summarize about different error handling functions on files.                                                                       | L2         | 5         | 2            |

*PART – B (ANSWER ALL QUESTIONS) (Marks 5\*16 = 80)*

| <i>Q.No</i> | <i>Questions</i>                                                                                               | <i>BLT</i> | <i>CO</i> | <i>Marks</i> |
|-------------|----------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 11.         | a i Show a pseudocode for finding simple interest.                                                             | L2         | 1         | 8            |
|             | ii Explain the different types of operators used in 'C' language.                                              | L2         | 1         | 8            |
|             | Or                                                                                                             |            |           |              |
|             | b Outline a C program for the following:                                                                       | L2         | 1         | 16           |
|             | (i) To check whether a given year is leap or not                                                               |            |           |              |
|             | (ii) To find the roots of a quadratic equation                                                                 |            |           |              |
| 12.         | a Utilize C language and write a program to find the transpose of a matrix.                                    | L3         | 2         | 16           |
|             | Or                                                                                                             |            |           |              |
|             | b i Utilize C language and write a program to insert a user specified number at a given location in an array.  | L3         | 2         | 8            |
|             | ii Utilize C language and write a program to show how to copy all the elements of an array into another array. | L3         | 2         | 8            |

|     |    |    |                                                                                                                                                                                                                                                                                                                              |    |   |    |
|-----|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|----|
| 13. | a  | i  | Analyze pass by value and pass by reference.                                                                                                                                                                                                                                                                                 | L4 | 3 | 8  |
|     |    | ii | Write a C program to examine call-by-reference parameter passing technique.                                                                                                                                                                                                                                                  | L2 | 3 | 8  |
| Or  |    |    |                                                                                                                                                                                                                                                                                                                              |    |   |    |
|     | b  | i  | Analyze with an example to show that the pointer of any data type occupies same space.                                                                                                                                                                                                                                       | L4 | 3 | 8  |
|     |    | ii | Explain the concept of array of pointers with examples.                                                                                                                                                                                                                                                                      | L2 | 3 | 8  |
| 14. | a  |    | Utilize C language and write a program that defines a structure employee containing the details such as empno, empname, department name and salary. The structure has to store 20 employees in an organization. Use the appropriate method to define the above details and define a function that will display the contents? | L3 | 4 | 16 |
|     | Or |    |                                                                                                                                                                                                                                                                                                                              |    |   |    |
|     | b  | i  | Utilize C language and write a program to illustrate the concept of structure within structure.                                                                                                                                                                                                                              | L3 | 4 | 8  |
|     |    | ii | Utilize C language and write a program to use the arrays inside union variables.                                                                                                                                                                                                                                             | L3 | 4 | 8  |
| 15. | a  | i  | Explain the following file handling functions:<br>a. fseek()<br>b. ftell()<br>c. rewind()<br>d. feof()                                                                                                                                                                                                                       | L2 | 5 | 8  |
|     |    | ii | Compare the syntax for opening a file with various modes and closing a file.                                                                                                                                                                                                                                                 | L4 | 5 | 8  |
|     | Or |    |                                                                                                                                                                                                                                                                                                                              |    |   |    |
|     | b  | i  | Inspect the count of no.of characters, spaces, lines and words of a file by means of a C program.                                                                                                                                                                                                                            | L4 | 5 | 8  |
|     |    | ii | Analyze the contents of the file and display it in reverse order.                                                                                                                                                                                                                                                            | L4 | 5 | 8  |
|     |    |    |                                                                                                                                                                                                                                                                                                                              |    |   |    |