Name :..... Second Semester FYUGP Computer Science Examination APRIL 2025 (2024 Admission onwards) KU2DSCCSC108 (ADVANCED PROGRAMMING WITH C) (DATE OF EXAM: 28-4-2025)

| Time: 90 min Maximum Marks: 50 | | 50 |
|---|---|----------|
| Part A (Answer any 6 questions. Each carries 2 marks) | | |
| 1. | Write the syntax to define a structure named Employee with members id, nar and salary. | ne, 2 |
| 2. | How do you access the value stored at a memory location using a pointer? | 2 |
| 3. | What is the significance of & and $*$ in pointers? | 2 |
| 4. | How does realloc() help in resizing dynamically allocated memory? | 2 |
| 5. | What are the actual parameters in a function? Explain with example | 2 |
| 6. | Differentiate between ' ${\bf r}$ ', ' ${\bf r}+$ ', ' ${\bf w}$ ' and ' ${\bf w}+$ ' modes in file operations. | 2 |
| 7. | What does the ftell() function return? | 2 |
| 8. | Which header file is used to accept a variable number of arguments in C by function? | уа 2 |
| Part B (Answer any 4 questions. Each carries 6 marks) | | |
| 9. | Explain the concept of a structure in C. How is a structure declared and initialized Provide an example program to illustrate structure declaration and initialization | |
| 10. | Write a program using pointers to determine the length of a character string. | 6 |

- 11. Write a C program that demonstrates the use of malloc() and free(). Explain how memory is allocated and deallocated. 6
- 12. Write a program to calculate the sum of an array by passing it as a parameter to a function. 6
- 13. Compare sequential access and random access in file handling. Which functions are used for random access? 6
- 14. Compare text file and binary file handling in C. Give examples. 6

Part C (Answer any 1 question(s). Each carries 14 marks)

15. Write a C program to demonstrate passing an array as a function parameter and performing matrix addition. 14

16. Write a program to store and display employee details (name, ID, salary, department) using an array of structures. 14