

Reg No.....
Name

K25FY2309

Second Semester FYUGP Computer Science Examination

APRIL 2025 (2024 Admission onwards)

KU2DSCCAP106 (PROGRAMMING USING C AND C++)

(DATE OF EXAM : 28-04-2025)



Time : 90 min

Maximum Marks : 50

Part A (Answer any 6 questions. Each carries 2 marks)

1. Write the difference between a string and a character with examples. 2
2. What is the difference between local and global variables in C? 2
3. List different storage classes in C. 2
4. List any two functions used in dynamic memory allocation in C. 2
5. How Data abstraction is differ from Data Encapsulation?. 2
6. How dynamic allocation is achieved in C++ programming?. 2
7. what are the characteristics of a friend function?. 2
8. What is the purpose of using pointers to derived classes? 2

Part B (Answer any 4 questions. Each carries 6 marks)

9. Write a C program to check if a given string is a palindrome. 6
10. Explain the types of storage class and scope of variables in C with the code given.

```
#include <stdio.h>;
int my_num = 7;
void my_func()
{
    printf("my_num value inside function is %d\n",my_num);
}
int main()
{
    int my_num=10;

    printf("my_num value inside main is %d\n",my_num);
    my_func();
    return 0;
}
```

6

11. Write a C program that defines a structure for a student and demonstrates how to access its members. 6

12. Compare procedure oriented programming paradigm with Object oriented programming. 6

13. How is a friend class different from a friend function? 6

14. Write a C++ program to design a base class Person (name, address, phone_no). Derive a class Employee (eno, ename) from Person. Derive a class Manager (designation, department name, basic-salary) from Employee. Write a program to accept and display details of 39 managers. 6

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

15. (a) How is memory management performed dynamically in C? Suppose you have to store 10 integers. Write the syntax to allocate memory dynamically. Meanwhile you need to store an additional 5 integers. Write the syntax to allocate memory Dynamically for the extra requirement. 7
(b) Illustrate how pointers can be passed to functions in C. 7
16. (a) What is this pointer in C++? Explain its significance with an example. How does it help in resolving naming conflicts? 7
(b) Explain the concept of pointers to objects in C++ with an example. How can we use pointers to access members of a class? 7