

Reg No:.....

K25FY2309

Name : .....

**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