Term Evaluation (Odd) Semester Examination September 2025

Name of the Program: BTech (ECE)   Semester:V
Name of the Course: Object Oriented Programming Using C++   Course Code: TEC-506
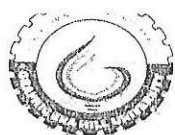Time: 90 Minutes   Maximum Marks: 50

Note:

(i)   Answer all the questions by choosing *any one of the sub questions*.
(ii) Each question carries 10 marks

Q1		(10 marks)	
(a)	What is the difference between Structured Programming and Object-Oriented Programming?		
	OR		
(b)	Write a C++ program to create a class called WordDemo with following members: Private Data Member: string str Public Function Members: void readValue( ) → to accept a sentence. void freqVowel() → Counts and print the frequency of the words that begin with a vowel. In main function create object of class WordDemo and perform the above task.		(CO1,CO2)
Q2		(10 marks)	
(a)	What is constructor in C++? Write a C++ program to implements copy constructor.		(CO2,CO3)
(b)	Write a C++ program to overload pre increment operator (++) by using friend function.		
Q3	OR		
(a)	What is the difference between static members and instance members? Explain with the help of a C++ program.		
	OR		
(b)	Explain function overloading in C++. Write a C++ program to demonstrate the concept of Compile time polymorphism.		(CO1,CO2)
Q4		(10 marks)	
(a)	With the help of C++ program explain any four uses of scope resolution (::) operator.		(CO1,CO3)
	OR		

(b)	Define a class named TwinData with following description: Data Members: private int num1 and num2 Constructor TwinData(int,int)➔ Constructor will store value in num1 and num2. Friend function void twinPrime(TwinData &ob)➔ This friend function will check whether two numbers are twin prime numbers or not. **Hint**: Twin prime numbers are the prime numbers whose difference is 2. For example: (5,7), (11,13), ... and so on.		
Q5		(10 marks)	
(a)	Write short notes on the following: (i) **this** pointer (ii) Member Access Specifier (iii) Destructor in C++		(CO2,CO3)
	OR		
(b)	Write a C++ program by using class with the following specifications: Class name ➔ ExamDemo Private Data Member: string str ➔ To store the string Public Member Functions: void input (string val) ➔to assign val into str void printInfo() ➔ to check and print the following: (i) number of letters (ii) number of digits (iii) number of uppercase characters (iv) number of lowercase characters (v) number of special characters		