PVP 20

Code: 20CS3302, 20IT3303

II B.Tech - I Semester – Regular / Supplementary Examinations
DECEMBER 2022

OBJECT ORIENTED PROGRAMMING THROUGH C++

(Common for CSE, IT)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Describe the use of inline function. Write a program to show the concept of making the outside member function as inline.	L2	CO3	7 M
	b)	Illustrate the following concepts with simple examples i) default arguments ii) const arguments	L3	CO3	7 M
OR					
2	a)	List the principles of function overloading. Interpret the advantages of function overloading with example program.	L2	CO3	7 M
	b)	Explain the following i. Data abstraction ii. Encapsulation iii. Inheritance	L2	CO1	7 M

UNIT-II					
3	a)	Construct a class complex with data members real and imaginary. The member functions are read and display. Create a non member function sum to add two complex numbers. Show that function sum can access the private members of complex using friend concept.	L3	CO2	7 M
	b)	Construct a class matrix with data member m which is a two dimensional array. Add the member functions read(), display() and operator function + to add two matrices. Write appropriate main() to add two matrices.	L3	CO2	7 M
OR					
4	a)	"Only one copy of the static variable is created for an entire class and is shared by all the objects of that class, no matter how many objects are created". Justify this statement with example program.	L3	CO2	7 M
	b)	Construct a class String with data member *str* which is an array of characters. The member functions are read(), display() and operator function + to concatenate the two strings. Write appropriate main().	L3	CO2	7 M
UNIT-III					
5	a)	Construct a class employee with data members empno and name. Create another classes typist, manager to illustrate the	L3	CO2	7 M

		hierarchical inheritance. Read and print the details of employee using lower level class objects.			
	b)	Construct a class student with data members rollno, name. The member functions are read and display. Construct another class marks derived from student with data members m1, m2, m3 and member functions read_marks and display_marks. Create another class result derived from marks with data member total and member function calculate to find the total and average of a student. Print all the details of student.	L3	CO2	7 M
OR					
6	a)	Construct a class side with data member length and member functions read and display. Create another class square inherits from side with member function area to find the area of square. Create another class cube inherits from side with member function volume to find the volume of cube.	L3	CO2	7 M
	b)	Differentiate virtual function and pure virtual function. Illustrate with an example.	L3	CO3	7 M

UNIT-IV					
7	a)	Develop a program to copy the contents of one file to another	L3	CO2	7 M
	b)	Prepare a user defined exception to catch an exception when the age is less than 18 and display "You are not eligible for voting" otherwise print "Welcome to caste the vote".	L3	CO4	7 M
OR					
8	a)	Develop a program to illustrate the concept of reading and writing the class objects using file concept.	L3	CO2	7 M
	b)	Write short notes on exception specification. Construct a program to create a function which may raise only integer and float type exceptions.	L3	CO4	7 M
UNIT-V					
9	a)	Develop a function template sort to sort the given numbers of integer or float type.	L3	CO4	7 M
	b)	Develop a class calculate to perform the operation addition, subtraction, multiplication and division on integer or float type of data.	L3	CO4	7 M
OR					
10	a)	Interpret the use of list in STL. Construct a program to transverse list using iterator.	L3	CO4	7 M
	b)	Develop a program to insert an element into the vector object. Use member function and iterator to traverse.	L3	CO4	7 M