

B.E. Fourth Semester (Computer Science & Engineering., Computer Engineering) (CGS)

**10313 : Object Oriented Programming : 4 KS 03 / 4 KE 03**

P. Pages : 2

Time : Three Hours



**AU - 2601**

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
  2. Assume suitable data wherever necessary.
  3. Illustrate your answer necessary with the help of neat sketches.
  4. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Discuss in brief the differences between structured programming and object oriented programming. 7
- b) Define a class to represent bank account with following members. 7
- Data members:  
Name of customer  
Account number  
Type of account  
Balance amount in the Account  
Member function:  
To Assign initial values  
To deposit an amount  
To withdraw an amount  
To display name and balance.

**OR**

2. a) Explain the following terms with example. 7
- i) Data encapsulation.  
ii) Constructor.  
iii) Destructor.
- b) Explain passing object as function argument with the help of a time class example to add to time objects. 7
3. a) What are the pitfalls of operator overloading? Explain in brief. 6
- b) Write a program to read roll no, Marks in sub 1 and sub 2 of a student from class 'Student', Calculate total and average marks. Display all the data, use pointer to object concept. 7

**OR**

4. a) Explain overloading of operator with example and list the operators that cannot be overloaded. 7
- b) Write a program for finding the smallest and largest of n numbers in an array, accept the value at runtime and allocate necessary amount of storage for storing number. 6

5. a) What is function overriding? Explain with suitable example. 7  
b) Explain about derived class constructors in inheritance with suitable example. 6

**OR**

6. a) What are access specifier used in C++? Illustrate its Situation if it is used within class, derived class and outside class. 7  
b) What do you mean by inheritance? What are the reasons of inheritance? Explain various type of inheritances. 6
7. a) What is virtual function? How can you access this function with pointer? Explain with suitable example. 7  
b) Explain following with an example: 7  
i) Static function.  
ii) Abstract class.

**OR**

8. a) Explain the concept of friend class with an example. 7  
b) What is meant by dynamic type information? What is its need? 7
9. a) Explain overloading of insertion and extraction operators using suitable example. 6  
b) Write program that takes command line arguments and prints the arguments entered in the command line. 7

**OR**

10. a) Write a suitable program that illustrates how class objects can be written to and read from the disk file. 7  
b) What is memory as stream object? Explain with example. 6
11. a) What is container? List out its various types and explain each in brief. 7  
b) Explain the keywords: Try catch and throw used for exception handling. 6

**OR**

12. a) What is standard template library? How it is used? Explain the following entities of standard template library: Containers and Algorithms. 7  
b) What is an Iterator? Explain characteristics and different kinds of iterators. 6

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