F.Y.B. Sc IT–Sem –I

Subject –Object Oriented Programming

UNIT I

1. *Write down advantages and disadvantages of procedure oriented language.*
2. *Explain object oriented development.*
3. *Write down benefits of using object oriented programming.*
4. *Write a short note on Data abstraction and data encapsulation.*
5. *Explain dynamic binding with example. Give proper example.*
6. *What is inheritance? Explain with example the concept of multiple inheritances.*
7. *What is procedure oriented Programming? What are its characteristics?*
8. *Differentiate between Object Oriented and Procedure Oriented Programming paradigms.*
9. *Discuss the need and advantages of Object Oriented Programming.*
10. *Discuss various applications of Object Oriented Programming.*
11. *What do you mean by Dynamic and static binding.*
12. *Write a short notes on (i)Object (ii)Class*
13. *What is Object Oriented Programming? State any three advantages and Applications.*
14. *Explain concept of encapsulation and abstraction*
15. *Explain the relationship between object and class.*
16. *What is Polymorphism? Give example for the same.*
17. *What is inheritance? State its types.*
18. *Give comparison between Object oriented and Procedure oriented programming Languages.*
19. *IIlustrate the relationship between object and class.*
20. *Explain the concept of abstraction with suitable example.*

21. Explain in brief about reusability with suitable example.

22. What is polymorphism? Given Suitable example for the same.

23. Write a note on dynamic binding.

UNIT II

24. What is friend function? Write a friend function to display mark sheet of the F. Y. B. Sc. IT student.

25. What is class? Explain with example how objects are passed as argument to member function and objects are returned from member function.

26. Write a C++ program to design a class - cours.e For reading and displaying the course information, the getInfo() and displayInfo() methods will be used respectively. The getInfo() will be private method. Write down C++ program to implement the class.

27. What is inline function? Explain with example.

28. What is use of constructor? Explain with example parameterized constructor.

29. Write a C++ program to demonstrate the use of constructor and destructor.

30. What is a class? Illustrate the use of class with a simple c++ program.

31. What are inline functions? How an outside function can be made inline?

32. What is a constructor? Explain its characteristics. List various types of constructors?

33. What are friend functions? What are their characteristics?

34. Write a small program to illustrate the use of a friend function.

35. Explain the use of parameterized constructors with a programming example.

36. What do you understand from nesting of member functions? Explain with suitable programming example.

37. What is constructor ? State the rules for constructor.

38. Explain the concept of passing object as an argument.

39. Write a program to implement the concept of constructor and destructor.

40. Write a program to design a class My Calculator with add(), mul(), And sub() Methods.

41. Explain the concept of friend function with suitable example.

42. Write a program to implement the concept of pointor to object.

43. What is constructor ? State the rules for constructor.

44. Explain the concept of passing object as an argument.

45. Write a program to implement the concept of constructor and destructor.

46. Write a program to design a class My Calculator with add(), mul(), And sub() Methods.

47. Explain the concept of friend function with suitable example.

48. Write a program to implement the concept of pointor to object.

49. Explain the structure of C++ class.

50. Write a C++ program to create a class Bank with { acno,custname,bal} as its attributes.

51. And implement the method withdraw(), deposit(), and show Balance().

52. Explain in brief the concept of friend function and class with suitable example.

53. What is constructor? State its characteristics.

54. Write a C++ program to implement the concept of constructor and destructor.

55. Explain the concept of pointer to object with suitable example.

56. What is a class? How a class can be defined? Discuss various ways of defining member functions of a class.

57. What are objects? How they can be declared? Also discuss memory allocation for objects in object oriented programming.

58. How data members and member functions of a class can be accessed. Write a program to demonstrate the concept of accessing public members of a class.

59. What is a constructor? List various types of constructors. Explain copy constructor with programming example.

60. Declare a class rectangle with data members as length and breadth, and member functions as getdata () to read data and display() to find and display area and perimeter of a rectangle. Also write main method to implement the class.

61. What is a friend function? How it can be declared? What are its characteristics?

Unit 3

1. *What is function overloading? Explain with example.*
2. *What is operator overloading? Write down the rules for operator overloading.*
3. *How binary operators are overloaded? Write a C++ program to overload binary operator +.*
4. *What is method overriding? Explain with example.*
5. *Explain with example abstract class.*
6. *Explain virtual destructor. Give suitable example.*

7. *What is function overloading? Explain with suitable example.*
8. *What is operator overloading? List the operators which can be overloaded and which cannot be overloaded.*
9. *Write a c++ program to overload unary minus operator.*
10. *What are virtual functions? Explain.*
11. *Define the following*
    (i) Abstract Class (ii) Pure Virtual Function
12. *What is a this pointer? Write a program to illustrate its use.*

13. *What is overloading? Write a program to demonstrate the concept of function overloading.*
14. *What is operator overloading? State the rules for operator overloading.*
15. *List the operators that cannot be overloaded. Write a program to add two complex numbers by overloading binary operator.*
16. *What is static member and function? State its characteristics.*
17. *What is method overriding? Explain the use of virtual function.*
18. *What is abstract class? State the properties of abstract class.*

19. *Define function overloading and operator overloading. Write down the rules for overloading operators.*
20. *Write a C++ program to add two complex numbers by overloading binary + operator.*
21. *What do you understand from data conversion between objects and basic types? List various type conversions.*
22. *Write a C++ program to demonstrate conversion from user defined to basic data type.*
23. *What is this pointer? Write a C++ program to demonstrate use of this pointer.*
24. *What are virtual functions? What are the rules for writing virtual functions?*

25. *Explain the concept of function overloading with suitable example.*
26. *Write a C++ program to overload binary (++) Operator.*
27. *List the operator that cannot be overloaded. Explain the rules for overloading the operators.*
28. *What static function? Explain how it is implemented.*
29. *Explain in brief the concept of abstract class.*

UNIT 4

1. *Can private members of a base class are inheritable? Justify.*
2. *Explain with example multilevel inheritance.*
3. *Explain how a base class is derived in public and private mode.*
4. *Q. Write a C++ program to implement following hierarchy.*
5. *Q. What is exception? Explain exceptions handling mechanism?*
6. *Q. What happen when raised exception is not caught by catch block? Explain with suitable example*

7. *Q. What do you understand from the concept of inheritance? Explain its various types.*
8. *Q. Explain the use of various visibility modes used in inheritance.*
9. *Q. Discuss the role of constructors in derived classes in detail.*
10. *Q. What is an exception? What are advantages of exception handling mechanism in a program?*
11. *Q. Explain the concept of throw and catch with suitable example.*
12. *Q. Write a c++ program to illustrate multilevel inheritance.*

13. *Q. What are access specifiers? Explain the use of each.*
14. *Q. Write a program to implement the concept of single level inheritance.*
15. *Q. Write a C++ program to handle various exceptions.*
16. *Q. Explain the use of throw and catch keywords with proper syntax.*
17. *Q. Explain the difference between deriving a class in public mode and private mode.*
18. *Q. Write a program to implement the inheritance for the given hierarchy.*

19. *Q. What is inheritance? Discuss different forms of inheritance.*

20. *Q. Discuss public, private and protected data members and member functions. When to declare which type of data members/member functions.*
21. *Q. Write a C++ program to demonstrate use of hybrid inheritance.*
22. *What is an exception? Explain exception handling mechanism in detail.*
23. *What happens when raised exception is not caught by catch block? Explain with suitable*
24. *Write a C++ program to show use of multiple catch statements*

25. *Explain the concept of multilevel inheritances with suitable example*
26. *Write a C++ program to implement the following hierarchy of inheritance.*
27. *Explain the Concept of method overriding with suitable example.*
28. *Explain in brief about hybrid inheritance with suitable example.*
29. *Write a note on containership.*
30. *Explain in brief about hybrid inheritance with suitable*

UNIT V

1. *Explain with example how function templates are used.*
2. *Explain how compiler calls to a class and function template.*
3. *Write a C++ program which defines and uses student class template.*
4. *What is file? Write down the steps for manipulating files in C++.*
5. *Explain the hierarchy of file stream class.*
6. *What are different methods of opening a file? Write a program to open file and enter student details Into the file using any method.*

7. *What are class templates? Explain their use. How a class template can be declared?*
8. *Explain function template with a programming example.*
9. *Write a c++ program to implement bubble sort using function template.*
10. *Explain the working of files in c++.*
11. *Explain various methods to detect end of file in a c++ program.*
12. *Explain the following*
    (i) seekg() (ii) seekp()

13. *What is generic programming? Explain the use of generic programming.*
14. *Explain with example the use of class templates.*
15. *Write a program to implement the concept of function template.*
16. *What are file operations? Explain different modes of files.*
17. *Write a program to read data from user and write to the file.*
18. *Write a program to copy the content from file1 to file2.*

19. *Explain various methods to detect end of file.*
20. *Write a program to open two files country and capital simultaneously and print the name of the capital in front of the country.*
21. *Explain the use and purpose of following functions*
    a. *seekg() and seekp()*
    b. *tellg() and tellp()*
22. *What are class templates? Explain their use. How they can be declared?*
23. *Define a class named vector. Illustrate the use of vector class template for performing the*
24. *scalar product of int type vectors as well as float type vectors.*
25. *What is a function template? Write a C++ program to demonstrate the use of function Templates ?*
26. *Explain the concept of function template with suitable example.*
27. *Write a C++ program to implement the concept of class template.*
28. *State and explain different file modes.*
29. *Write a c++ program to read the input from the user and write into the file. [Select a suitable file mode]*
30. *Write a C++ program to display the contents from the tile in a console mode [Select a suitable file mode]*
31. *Write a C++ program to copy the contents from one file to other file. [Select a suitable file mode]*