Unit –IV
Pointers and Polymorphism in C++

1. *State any two pointer operator.* **[2]**
2. *What* is *a pointer? Write down the general syntax of its declaration.* **[2]**
3. *Enlist any four operators which cannot* be *overloaded.* **[2]**
4. *List types of polymorphism.* **[2]**
5. *Explain the concept of pointer to object with suitable example.* **[4]**
6. *Distinguish between run-time polymorphism & compile-time polymorphism.* **[4]**
7. *Write a program* to *find length of a string* using *pointer* to *the string.* **[4]**
8. *State any four rules for operator overloading.* **[4]**
9. *Write a program* using *function overloading* to *swap* 2 *integer numbers* & *swap* 2 *float numbers.* **[4]**
10. *Explain the concept of 'this' pointer.* **[4]**
11. *Write a program* to *accept string from user & count number of vowels* in *the string* using *pointer* to *string.* **[2]**
12. *Explain virtual function with suitable example.* **[4]**
13. *Write a program* to *declare a class distance having data members feet* & *inches. Overload unary '_' operator* so *that when* it is *used .with object of this class,* it *will decrement values of inches by 1.* **[4]**
14. *Write a program* to *concatenate two strings by* using *pointers.* **[8]**
15. *Define polymorphism. List types of polymorphism.* **[2]**
16. *Define pointer variable. Give* its *syntax.* **[2]**
17. *Write a program* to *find reverse of* a *string* using *pointer* to *string.* **[4]**
18. *Write a program* to *overload binary' ++ operator.* **[4]**
19. *Differentiate between compile time polymorphism and runtime polymorphism.* **[4]**
20. *Write* a *program* to *calculate area of circle and area of rectangle* using *function overloading.* **[4]**
21. *Explain pointer arithmetic with example.* **[4]**
22. *Explain the concept of this pointer.* **[4]**
23. *State any four rules for operator overloading.* **[4]**
24. *Write* a *program to declare* a *class birthday having data members day., month, year. Accept this information for five-objects using pointer to the array of objects.* **[8]**
25. *What* is *pointer? Give any example.* **[2]**
26. *Write* syntax *to create* a *pointer for object.* **[2]**
27. *State any two types of polymorphism.* **[2]**
28. *Write* a *program to search the given element* in *the entered array using pointer.* **[4]**
29. *Differentiate between compile time* & *run time polymorphism.* **[4]**

30. *Write* a *program to find the length of* string *using pointer.* **[4]**
31. *Explain any four rules for virtual function.* **[4]**
32. *Write* a *program to evaluate the largest element* in *entered array using pointer.* **[4]**
33. *Explain various pointer arithmetic operations with examples.* **[4]**
34. *Explain various rules for overloading operators.* **[4]**
35. *Write* a *program to show use of virtual function.* **[4]**
36. *Define polymorphism. Explain any two types with example.* **[4]**
37. *Create* a *class ''Account'' with data member* as *acct.* no. *and balance. Create member function as getdata () and showdata (). Write* a *program* to *create* a *pointer for getdata () 'and showdata () function and access them using object of class "Account".* **[8]**
38. *How address of* (&) *operator* is *used* in *pointers, explain with example.* **[2]**
39. *Give any example where runtime polymorphism can* be *used.* **[2]**
40. *What* is *need of virtual function? Explain with example.* **[4]**
41. *Write* a *program to declare class product having data members* as *product-id and* price. *Accept and display data for one object using pointer to the object.* **[4]**
42. *Write* a *program using function overloading to calculate addition of ten integer numbers and five float numbers.* **[4]**
43. *What is pointer to array? Explain with example.* **[4]**
44. *Write* a *program to display elements of array* using *pointer to array of integers.* **[4]**
45. *Create class shape. Derive two class triangle and rectangle from class shape. Write appropriate functions* in *.both classes to accept dimensions and calculate area. Here make area ( ) function virtual which* is *common to* all *and will calculate area of both rectangle and triangle. Display area of both.* **[4]**
46. *Give any example where runtime polymorphism can* be *used.* **[2]**
47. *Describe 'this' pointer with respect* to its *use only.* **[2]**
48. *What is pointer to array? Explain with example.* **[4]**
49. *State any four rules of operator overloading.* **[4]**