Date: Email: Mobile:

1. If the class name is X, what is the type of its "this" pointer (in a non static, non-const member function)?

a. const X* const b. X* const c. X* d. X&

2. Which one of the following is not a fundamental data type in C++

a. float b. stringc. int d. wchar_t

3. What's wrong? while((i < 10) && (i > 24))
a. the logical operator && cannot be used in a test condition
b. the while loop is an exit-condition loop
c. the test condition is always false d. the test condition is always true

4. A continue statement causes execution to skip to
a. the return 0; statement b. the first statement after the loop
c. the statement following the continue statement d. the next iteration of the loop

5. What is the difference between overloaded functions and overridden functions?
a. Overloading is a dynamic or run-time binding and Overriding is static or compile-time binding
b. Redefining a function in a friend class is called function overriding while Redefining a function in a derived class is called an overloaded function.
c. Overloading is a static or compile-time binding and Overriding is dynamic or run-time binding
d. Redefining a function in a friend class is called function overloading while Redefining a function in a derived class is called as overridden function.

6. If class A is friend of class B and if class B is friend of class C, which of the following is true?
a. Class C is friend of class A b. Class A is friend of class C
c. Class A and Class C do not have any friend relationship d. None of the above

7. Latency time is:
a. Time taken by read/write head mechanism to position itself over appropriate cylinder
b. Time taken to transfer a data from memory
c. Time taken by appropriate sector to come under read/write head d. None of above

8. What happens when a pointer is deleted twice?
a. It can abort the program b. It can cause a failure
c. It can cause an error d. It can cause a trap

9. The output of this program is

```
int a = 10;
void main()
{
int a = 20;
cout << a << ::a;
}
```

a. Syntax error b. 10 20 c. 20 10 d. 20 20

10. Is bool a fundamental datatype in C++?
a) Yes b) No, it is a typedef of unsigned char c) No, it is an enum of {false,true}
d) No, it is expanded from macros

11. Select the right option: Given the variables p, q are of char type and r, s, t are of int type (1) t = (r * s) / (r + s); (2) t = (p * q) / (r + s);
a) 1 is true but 2 is false b) 1 is false and 2 is true c) both 1 and 2 are true
d) both 1 and 2 are false

12. Programs designed to perform specific tasks is known as
A) system software B) application software C) utility programs D) operating system

13. A computer has very low failure rate because it uses electronic components. It produces very consistent results. This is highlighted by which of the feature of computer?
A) Accuracy B) Reliability C) Versatility D) Automatic

14. On which aspect the analog computers are better than digital?
A) Speed B) Accuracy C) Reliability D) Automatic

15. When inorder traversing a tree resulted E A C K F H D B G; the preorder traversal would return
a. FAEKCDBHG b. FAEKCDHGB c. EAFKHDCBG d. FEAKDCHBG

16. Which of the following data structures are indexed structures?
a. linear arrays b. linked lists c. both of aboved. none of above

17. The memory address of fifth element of an array can be calculated by the formula
a. LOC(Array[5]=Base(Array)+w(5-lower bound), where w is the number of words per memory cell for the array
b. LOC(Array[5])=Base(Array[5])+(5-lower bound), where w is the number of words per memory cell for the array
c. LOC(Array[5])=Base(Array[4])+(5-Upper bound), where w is the number of words per memory cell for the array
d. None of above

18. A variable P is called pointer if
a. P contains the address of an element in DATA. b. P points to the address of first element in DATA
c. P can store only memory addresses d. P contain the DATA and the address of DATA

19. Which of the following is not a limitation of binary search algorithm?

a. must use a sorted array
b. requirement of sorted array is expensive when a lot of insertion and deletions are needed
c. there must be a mechanism to access middle element directly
d. binary search algorithm is not efficient when the data elements are more than 1000.

20. Binary search algorithm cannot be applied to
a. sorted linked list b. sorted binary trees c. sorted linear array d. pointer array

21. The complexity of Bubble sort algorithm is
a. O(n) b. O(log n) c. O(n2) d. O(n log n)

22. Linked lists are best suited
a. for relatively permanent collections of data
b. for the size of the structure and the data in the structure are constantly changing
c. for both of above situation d. for none of above situation

23. Using 4-bit numbers (n = 4) if k = (0011)2 how is k expressed in 2's complement.
A. (1011)2 B. (1101)2 C. (1100)2 D. (0101)2

24. If 137+276=435 how much is 731+672?
A. 534 B. 1403 C. 1623 D. 1513

25. The smallest integer that can be represented by an 8-bit number in 2's complement form is
(A) -256 (B) -128 (C) -127 (D) 0

26. Consider the following program in C language:

```
#include <stdio.h>
main()
{
int i;
int *pi = &i;
scanf("%d",pi);
printf("%d\n", i+5);
}
```

Which one of the following statements is TRUE?
(A) Compilation fails. (B) Execution results in a run-time error.
(C) On execution, the value printed is 5 more than the address of variable i.
(D) On execution, the value printed is 5 more than the integer value entered.

27. Which of the following function is more appropriate for reading in a multi-word string?
a. printf(); b.scanf(); c. gets(); d.puts();

28. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.
A.4 B.7 C.9 D.13

29. Six bells commence tolling together and toll at intervals of 2, 4, 6, 8 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together?
A. 4 B. 10 C.15 D. 16

30. A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?
A. 3.6 B. 7.2 C.8.4 D.10

31. A rectangular sheet of paper, when halved by folding it at the midpoint of its longer side, results in a rectangle, whose longer and shorter sides are in the same proportion as the longer and shorter sides of the original rectangle. If the shorter side of the original rectangle is 2, what is the area of the smaller rectangle?
(1) $\sqrt{4}$ 2 (2) $2\sqrt{2}$ (3) 2 (4) None of the above

32. A father and his son are waiting at a bus stop in the evening. There is a lamp post behind them. The lamp post, the father and his son stand on the same straight line. The father observes that the shadows of his head and his son's head are incident at the same point on the ground. If the heights of the lamp post, the father and his son are 6 metres, 1.8 metres and 0.9 metres respectively, and the father is standing 2.1 metres away from the post then how far (in metres) is son standing form his father?
(1) 0.9 (2) 0.75 (3) 0.6 (4) 0.45

33. A chemical plant has four tanks (A, B, C and D), each containing 1000 litres of a chemical. The chemical is being pumped from one tank to anther as follows.
From A to B @ 20 litres/minute, From C to A @ 90 litres/minute
From A to D @ 10 litres/minute, From C to D @ 50 litres/minute
From B to C @ 100 litres/minute, From D to B @ 110 litres/minute
Which tank gets emptied first, and how long does it take (in minutes) to get empty after pumping starts?
(1) A, 16.66 (2) C, 20 (3) D, 20 (4) D, 25

34. Let $n! = 1 \times 2 \times 3 \times \ldots \times n$ for integer n 1. If $p = 1! + (2 \times 2!) + (3 \times 3!) + \ldots + (10 \times 10!)$, then p + 2 when divided by 11! Leaves a remainder of
(1) 10 (2) 0 (3) 7 (4) 1

35. What is the smallest number by which 2880 must be divided in order to make it into a perfect square ?
(a) 3 (b) 4 (c) 5 (d) 6

36. A father is 30 years older than his son however he will be only thrice as old as the son after 5 years what is father's present age ?
(a) 40 yrs (b) 30 yrs (c) 50 yrs (d) none of these

37. A simple interest amount of rs 5000 for six month is rs 200. What is the annual rate of interest?
a) 10% b) 6% c) 8% d) 9%

38. On a particular day A and B decide that they would either speak the truth or will lie. C asks A whether he is speaking truth or lying? He answers and B listens to what he said. C then asks B what A has said B says "A says that he is a liar" What is B speaking?
(a) Truth (b) Lie (c) Truth when A lies (d) Cannot be determined

39. The petrol tank of an automobile can hold g liters. If a liters was removed when the tank was full, what part of the full tank was removed?
(a)g-a (b)g/a (c) a/g (d) (g-a)/a (e) (g-a)/g

40. Three types of tea the a,b,c costs Rs. 95/kg,100/kg and70/kg respectively. How many kgs of each

should be blended to produce 100 kg of mixture worth Rs.90/kg, given that the quantities of band c are equal

a)70,15,15 b)50,25,25 c)60,20,20 d)40,30,30

41. If a sum of money compound annually amounts of thrice itself in 3 years. In how many years will it become 9 times itself?

(a) 6 (b) 8 (c) 10 (d) 12

42. Two trains move in the same direction at 50 kmph and 32 kmph respectively. A man in the slower train observes the 15 seconds elapse before the faster train completely passes by him. What is the length of faster train?

(a) 100m (b) 75m (c) 120m (d) 50m

43. How many mashes are there in 1 square meter of wire gauge if each mesh is 8mm long and 5mm wide?

(a) 2500 (b) 25000 (c) 250 (d) 250000

44. The price of sugar increases by 20%, by what % should a housewife reduces the consumption of sugar so that expenditure on sugar can be same as before?

(a) 15% (b) 16.66% (c) 12% (d) 9%

45. A coffee shop blends 2 kinds of coffee, putting in 2 parts of a 33p. a gm. grade to 1 part of a 24p. a gm. If the mixture is changed to 1 part of the 33p. a gm. to 2 parts of the less expensive grade, how much will the shop save in blending 100 gms.

A Rs.90 B Rs.1.00 C Rs.3.00 D. Rs.8.00

46. There are 200 questions on a 3 hr examination. Among these questions are 50 mathematics problems. It is suggested that twice as much time be spent on each maths problem as for each other question. How many minutes should be spent on mathematics problems

A.36 B.72 C.60 D. 100

47. In a group of 15, 7 have studied Latin, 8 have studied Greek, and 3 have not studied either. How many of these studied both Latin and Greek

A.0 B.3 C.4 D.5

48. What is the angle between the two hands of a clock when time is 8:30

(a) 30 (b) 75 (c) 90 (d) 120

49. Which of the following is incorrect?

a. 11101 + 10 = 11111 b. (8)8 + (2)8 = (11)8 c. (8)16 + (7)16 = E d. All of them are incorrect

50. If a boat is moving in upstream with velocity of 14 km/hr and goes downstream with a velocity of 40 km/hr, then what is the speed of the stream?

(a) 13 km/hr (b) 26 km/hr (c) 34 km/hr (d) none of these

Note: Negative Marks for wrong answers