MCA

1. Find the odd word from the following.
A) Swimming B) Sailing C) Diving D) Driving

2. Find the odd man out from the following.
A) 5720 B) 6715 C) 4278 D) 2640

3. If 'CAB' is coded as 'XZY', how 'DEAF' is coded?
A) WXVZ B) WXEV C) WVZU D) WZVU

4. John said to Mary, "The son of your only brother is the brother my wife." How Mary is related to John?
A) Mother B) Sister
C) Sister of father-in-law D) Maternal aunt

5. Bina is twice as old as Arun but twice younger than Fatima. Chitra is half the age of Arun but is twice older than Deva. Who is the second oldest?
A) Fatima B) Bina C) Chitra D) Deva

6. A man walks 1 km to East and then he turns to South and walks 5 km. Again he turns to East and walks 2 km. After this he turns to North and walks 9 km. Now, how far is he from his starting point?
A) 3 km B) 4 km C) 7 km D) 5 km

7. The number of times the hour hand and the minute hand of a clock are at right angle in a day are
A) 48 B) 24 C) 22 D) 44

8. **If** 26th January, 1996 was Friday, what day of the week was on 26th January, 1997?
A) Saturday B) Sunday C) Monday D) Thursday

9. **I**f after 10 years James's age will be 5 times his age 5 years back, What is his present age?
A) 6.2 years B) 7.7 years C) 8.7 years D) 10 years

10. In a row of children, Rohan is 7th from left end and 14th from right end. How many children are there in the row?

A) 18 B) 19 C) 20 D) 21

11. I enjoy _____ songs

A) to sing B) singing C) to singing D) sing

12. What is the synonym of PRAGMATIC?

A) Practical B) Curious C) Arrogant D) Theoretical

13. What is the synonym of SUCCINCT?

A) Next B) Peace C) Confuse D) Concise

14. What is the antonym of EMINENT?

A) Famous B) Imminent C) Unknown D) Happy

15. What is the antonym of ENIGMA?

A) Mystery B) Understood C) Angry D) Unhappy

16. Still waters run deep. The parts of speech of DEEP is

A) Adverb B) Adjective C) Proposition D) Conjunction

17. You will not succeed unless you work hard. The parts of speech of UNLESS is

A) Adverb B) Adjective C) Proposition D) Conjunction

18. Rajan is getting _____ the car.

A) From B) Out from C) Out of D) Outside

19. One must be careful when the luggage contains _____ items.

A) Virtuoso B) Fragile C) Voracious D) Vulnerable

20. Choose the word that is spelled wrongly.

A) Environment B) Successful C) Corridor D) Punctual

21. Making a mathematical model to copy the behavior of a real system is known as

A) Programming B) Hosting C) Modeling D) Simulation

22. In peer-to-peer networking, which of the following statements is true?

A) There is a server and many clients

B) There is a client and many servers

C) Every computer in the network can be a client, server or both at the same time

D) Every computer in the network can be a server

23. The full form of URL is

A) Universal Resource Locator B) Uniform Resource Locator

C) Universal Resource Location D) Uniform Resource Location

24. Several programs are in memory in the state of execution and whenever a program waits for input-output operation to complete, another program is executed by CPU. This is known as

A) Multiprocessing B) Multiprogramming

C) Timesharing D) Multitasking

25. The Binary equivalent of the decimal number 25.4375 is

A) 00011001.0111 B) 00011010.1011

C) 00110011.1100 D) 11100010.1010

26. _____standard is used to encode, represent and handle text in many local and international languages?

A) ASCII B) BCD C) Hexadecimal D) UNICODE

27. The decimal equivalent of the Hexadecimal number 3A.BC3 is

A) 58.718 B) 48.635 C) 58.735 D) 68.688

28. Which operation is performed by the following C program segment (p and q are integers)?

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p = q + p;
q = p – q;
p = p – q;
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A) Doubles the contents of p B) Doubles the contents of q

C) Doubles the contents of p and q D) swaps the contents of p and q

29. The following C program segment results in what?

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for (i = 3; i < 15; i+ = 3);
 printf("%d", i);
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A) Printing of 15 B) A syntax error C) Printing of 12 D) An execution error

30. Who among the following devised a test to know whether a computer system has achieved Intelligence or not?

A) John McCarthy B) Charles Babbage C) Alan Turing D) Ada Lovelace

31. One Exabyte is approximately equal to how many Bytes?

A) 10^{15} B)10^{18} C) 10^{21} D) 10^{24}

32. Consider the operation of addition. For two numbers the operation would generate a sum. If the operands are strings, the same operation would produce a third string by concatenation. This feature is known as

A) Encapsulation B) Polymorphism C) Inheritance D) Dynamic binding

33. What will be the output of the following C language statement?
printf ("%c", 100);

A) 100 B) Garbage

C) Hexadecimal value of 100 D) ASCII value of 100

34. Worst case complexity of quick sort algorithm to sort n numbers is

A) n*log n B) n C) n*n D) log n

35. The command 'mv' in Unix is used for

A) Removing a file B) Renaming a file

C) Copying a file to other D) Deleting a file

36. If $f(x) = |x| + x^2$, then $f^1(-1) = ?$

A) -3 B) -1 C) 1 D) 3

37. The differentiation of sin*x* with respect to cos*x* is ?

A) tan*x* B) -tan*x* C) cot*x* D) -cot*x*

38. $\int \ln e^{2x}\, dx$ = ?

A) $x + c$ B) $x^2 + c$ C) $\ln x + c$ D) $e^x + c$

39. Suppose three dice are thrown. What is the probability to get equal number on the face of each one?

A) 1/6 B) 1/3 C) 1/36 D) 1/12

40. What is the value of v if A = $\begin{bmatrix} 3 & 4 \\ 6 & v \end{bmatrix}$ is a singular matrix?

A) 5 B) 6 C) 8 D) 7

41. If A= {1,2,3} and B= {4, 5}, which of the following is not a function from A to B?

A) { (1, 4), (2,5) , (3, 4)} B) { (1, 4), (2,4) , (3, 4)}

C) { (2, 4), (3,5) , (1, 4)} D) { (1, 4), (1,5) , (2, 4) (2, 5), (3,4) , (3, 5)}

42. $i^{100} + i^{101} + i^{102} + i^{103}$ =?

A) 0 B) 1 C) I D) -i

43. If the remainder obtained by dividing $f(x) = kx^3 - 4x^2 - 3x + 5$ by x+1 is 3, the value of k is

A) 1 B) -1 C) 2 D) -2

44. What is the quotient obtained after dividing $x^3 - 6x^2 + 11x - 6$ by $x^2 - 5x + 6$?

A) x+1 B) x-1 C) x+2 D) x-2

45. $\sin(x - \pi/2)$ = ?

A) sin x B) cos x C) -sin x D) -cos x

46. $\cos(\sin^{-1} \sqrt{(3/2)})$ =

A) 0 B) 1 C) 1/2 D) √3

47. If $\log(x+2) - \log(x-1) = \log(2)$, the value of x =

A) 2 B) 4 C) 3 D) 5

48. If $9 + e^{(2x-4)} = 10$, the value of x =

A) 2 B) 3 C) 4 D) 5

49. What is the 11th term of the sequence m - 2n, m - n, m,…?

A) m + n B) m + 6n C) m - n D) m + 8n

50. The sum of the series $\sum_{k=1}^{15} k^2$ is

A) 1200 B) 875 C) 1240 D) 1345

51. Which of the following cannot be used for graphical representation of statistical data?

A) Bar chart B) Histogram C) Frequency polygon D) Flow chart

52. If sum of the roots of a quadratic equation is 5 and the product of the roots is 6, then the quadratic equation is

A) $x^2 - 5x + 6 = 0$ B) $x^2 - 5x - 6 = 0$ C) $x^2 + 5x - 6 = 0$ D) $x^2 + 5x + 6 = 0$

53. The highest common factor of the polynomials: $20x^2 - 9x + 1$ and $5x^2 - 6x + 1$ is

A) 5x+1 B) 5x -1 C) 4x-1 D) 4x+1

54. If e is the edge of a cube, the total surface area of the cube is

A) e^2 B) $3e^2$ C) $6e^2$ D) $8e^2$

55. Which of the following is not a convex region?

A) $\{ (x,y): x^2 + y^2 \leq 1 \}$ B) $\{ (x,y): x^2 + y^2 \geq 1 \}$

C) $\{ (x,y): 4x^2 + 9y^2 = 36 \}$ D) $\{ (x,y): y \geq 1 \text{ and } y \leq 4 \}$

56. The harmonic mean of the numbers 1, 4, and 4 is

A) 2 B) 3 C) 2.5 D) 1.5

57. If the coefficients of x^7 and x^8 in the expansion of $(2+x/3)^n$ are equal, then n =

A) 56 B) 55 C) 45 D) 15

58. The equation of the line joining the points (1, 3) and (-2, 5) is
A) 3x +2y +23 =0 B) 5x-4y+9 = 0 C) 2x+3y-11=0 D) 2x -3y +11 =0

59. The points (0,0), (3,4), (7,4) and (4, 0) form a
A) Rhombus B) Square C) Parallelogram D) Rectangle

60. What is the angle between the vectors 3i+2j-5k and 5i-3j-2k?
A) 30° B) 60° C) 45° D) 90°

61. The standard deviation is the best measure of _____
A) Correlation B) Frequency C) Regression D) Dispersion

62. If the mean of a data is 22.5 and the median value is 20, what is the value of mode?
A) 20 B) 30 C) 15 D) 18

63. The number of different permutations of the word 'BANANA' is
A) 60 B) 720 C) 180 D) 120

64. The number of diagonals that can be drawn by joining the vertices of an octagon are
A) 30 B) 30 C) 48 D) 20

65. If A and B are two sets such that A U B has 18 elements. If A has 8 elements and B has 15 elements, then the number of elements of A ∩ B will be
A) 7 B) 5 C) 4 D) 8

66. Lim $(x - \sin x) / x^3$ is
$x \to 0$

A) 1/2 B) 1 C) 1/6 D) 2

67. lim $(1^2+2^2+3^2+.....+n^{2)} / n^3 =$
$n \to \infty$

A) 1 B) 0 C) 1/2 D) 1/3

68. The derivative of $\sin^2 x$ with respect to x is

A) Sin x B) sin 2x C) cos 2x D) cos x

69. If the absolute value of $X < 1$, the sum of the infinite series $1 + X + X^2 + X^3 + X^4 + \ldots$ is

A) 1 B) 1+X C) 1/ (1-X) D) 1/ (1+X)

70. The distance of the point P(x, y, z) from the x-axis is

A) $\sqrt{(y^2 + z^2)}$ B) $\sqrt{(z^2 + x^2)}$ C) $\sqrt{(x^2 + y^2)}$ D) $\sqrt{(x^2 + y^2 + z^2)}$

71. There are 10 lamps in a hall and each one of them can be switched on independently. The number of ways in which the hall can be illuminated is

A) 2020 B) 1010 C) 1023 D) 23456

72. If $\cos\alpha$, $\cos\beta$, $\cos\gamma$ are direction cosines of a line, then the value of $\sin^2\alpha + \sin^2\beta + \sin^2\gamma$ =

A) 1 B) 0 C) 3 D) 2

73. The relation y = A Sinx + B cos x, where A and B are any constants can be represented by the differential equation

A) $dy/dx = y$ B) $d^2y/dx^2 + y = 0$ C) $d^2y/dx^2 = y$ D) $dy/dx = -y$

74. The number relations on set A containing n elements is

A) 2 to the power of n B) n^2

C) 2 to the power of n^2 D) 2 to the power of 2n

75. The area of the region bounded by the curve $y=2x-x^2$ and the line y=x is

A) 1/3 B) 1/2 C) 1/4 D) 1/6

x-x-x