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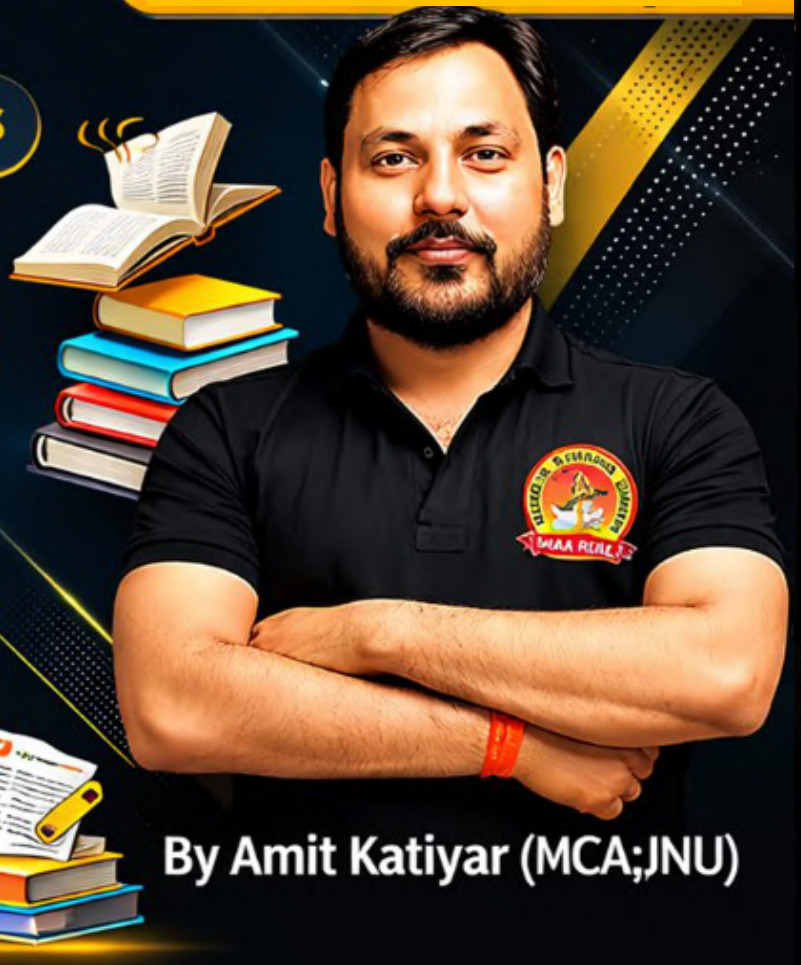


By Amit Katiyar (MCA;JNU)

1. Response error is a type of:

(a) Sampling error
(b) Non-sampling error
(c) Standard error
(d) None of the above

2. If the random variable X has the density function

$$f(x) = \begin{cases} e^{x-2} & , \quad x < 2 \\ 0 & , \quad otherwise \end{cases}$$

then the 75^{th} percentile and third quartile is

(a) $2 + \ln\left(\frac{3}{4}\right)$ and $2 + \ln\left(\frac{3}{4}\right)$
(b) $2 + \ln\left(\frac{3}{4}\right)$ and $1 + \ln\left(\frac{3}{4}\right)$
(c) $1 + \ln\left(\frac{3}{4}\right)$ and $2 + \ln\left(\frac{3}{4}\right)$
(d) $1 + \ln\left(\frac{3}{4}\right)$ and $1 + \ln\left(\frac{3}{4}\right)$

3. If a random sample of size 20 from a normal population with variance 225 has mean $\bar{x} = 64.3$, then the 95% confidence interval for the population mean μ is (Given that $Z_{0.025} = 1.96$).

(a) (65.7 , 70.9)
(b) (65.7 , 90.5)
(c) (57.7 , 90.5)
(d) (57.7 , 70.9)

4. A discrete random variable X satisfies the memory less property, then the random variable X follows

(a) Binomial distribution
(b) Poisson distribution
(c) Hypergeometric distribution
(d) Geometric distribution

5. Uniform distribution is a particular case of Beta distribution with parameters

(a) $m = 0, n = 1$
(b) $m = 1, n = 0$
(c) $m = 1, n = 1$
(d) $m = 2, n = 1$

6. While testing the independence of attributes using Chi-square distribution, suppose attribute A is specified into three classes and attribute B is classified into four classes, then the degree of freedom of Chi-square test is

(a) 11
(b) 12
(c) 6
(d) 10

7. If a random variable X takes the value 1, 2, 3, 4 such that

$$2P(X = 1) = 3P(X = 2) = P(X = 3) = 5P(X = 4),$$

then $P(X = 2)$ is :

(a) $\frac{15}{61}$
(b) $\frac{10}{61}$
(c) $\frac{30}{61}$
(d) $\frac{5}{61}$

8. Let p be the probability that a coin will fall head in a single toss in order to test $H_0 : p = \frac{1}{2}$ against $H_1 : p = \frac{3}{4}$. The coin is tossed 5 times and H_0 is rejected if more than 3 heads are obtained. Then, the probability of Type-I error is

(a) $\frac{1}{16}$
(b) $\frac{3}{16}$
(c) $\frac{5}{16}$
(d) $\frac{7}{16}$

9. Suppose that there are K treatments and n blocks in a randomized block design. In analysis of variance for this design, the error degrees of freedom is

(a) $K-1$ (b) $n-1$

(c) $(K-1)(n-1)$ (d) $nK-1$

10. In 4×4 Latin square design, the error degrees of freedom is

(a) 4 (b) 3

(c) 6 (d) 9

11. The following LPP:

Maximize $Z = 6x_1 - 2x_2$

Subject to :

$$2x_1 - x_2 \le 2$$
$$x_1 \le 3$$
$$x_1, x_2 \ge 0$$

has optimal value as

(a) 4 (b) 10

(c) 18 (d) 20

12. The following LPP

Minimize $Z = x - y$

Subject to:

$$2x + 3y \le 6$$
$$0 \le x \le 3$$
$$0 \le y \le 3$$

then the number of extreme points on the feasible region and the number of basic feasible solutions are

(a) 3, 4 (b) 3, 3

(c) 4, 3 (d) 4, 4

13. In an analysis of variance, one estimate of variance (σ^2) is based upon the difference between the treatment means and the

(a) means of each sample (b) sum of observations

(c) overall sample mean (d) means of each population

14. 30 men and 30 women with knee pain were subjects in a experiment to determine the effectiveness of a new pain medication. Fifteen of the 30 men and 15 of the 30 women were chosen randomly to receive the new drug. The remaining 15 men and 15 women received a placebo. The decrease in pain was measured for each subject. Then the design of experiment is

(a) randomized block by drug (b) randomized block by drug and gender

(c) randomized block by gender (d) Completely randomized with factor gender

15. A tie for leaving variables in simplex procedure implies :

(a) Cycling (b) Degeneracy

(c) Optimality (d) No solution

16. If α, β, γ be the angles which a line subtends with the positive direction of co-ordinate axes, then $\sin^2\alpha + \sin^2\beta + \sin^2\gamma$ equals

(a) 2 (b) 1
(c) 3 (d) 0

17. The plane $ax + by + cz = 0$ cut the cone $yz + zx + xy = 0$ in perpendicular lines if

(a) $a + b + c = 0$ (b) $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 0$
(c) $a^2 + b^2 + c^2 = 0$ (d) None of the above

18. The set Z of all integers from a group with respect to binary operation * defined by $a*b = a+b+1$, $\forall a,b \in Z$. Then the identity is

(a) 0 (b) 1
(c) -1 (d) 2

19. Which of the following relations is not true ? (Symbols have their usual meanings)

(a) $\mu\delta = \frac{\Delta - \nabla}{2}$ (b) $\Delta - \nabla = \delta^2$
(c) $\delta^2 E = \Delta^2$ (d) $\Delta = \mu\delta + \frac{\delta^2}{2}$

20. $\lim_{x \to 0} \frac{\left(\sin x - x + \frac{x^3}{6}\right)}{x^5}$ is equal to

(a) $\frac{1}{120}$ (b) $\frac{1}{24}$
(c) $\frac{1}{6}$ (d) $\frac{1}{720}$

21. The asymptotes of $\frac{a^2}{x^2} + \frac{b^2}{y^2} = 1$, are

(a) $x = \pm a, y = \pm b$ (b) $x = \pm b, y = \pm a$
(c) $x = y + a, y = x + b$ (d) $x + y = a, x - y = b$

22. The number of asymptotes of the curve $y^2 = ax$ is

(a) Two (b) Three
(c) One (d) Zero

23. In what direction is the derivatives of $f(x,y) = x^2 - xy + y^2 - y$ at $P(1, -1)$ equal to zero ?

(a) $\frac{3}{5}\hat{i} - \frac{4}{5}\hat{j}$ (b) $\frac{3}{5}\hat{i} + \frac{4}{5}\hat{j}$
(c) $\frac{-3}{5}\hat{i} + \frac{4}{5}\hat{j}$ (d) $\frac{4}{5}\hat{i} - \frac{3}{5}\hat{j}$

24. The value of the integral

$$I = \int_R \int e^{x^2+y^2} dy\, dx$$

where R is the semicircular region bounded by the x-axis and the curve $y = \sqrt{1-x^2}$ is

(a) $\frac{\pi}{2}(e+1)$ (b) $\frac{\pi}{2}(e-1)$

(c) $\pi(e+1)$ (d) $\pi(e-1)$

25. If $I = \oint_C e^x\, dx + 2ydy - dz$,

where C is the curve $x^2 + y^2 = 4$ and $z = 2$, then the value of I is

(a) 1 (b) –I

(c) 0 (d) 2

26. If Laplace transform $L[F(x)] = \frac{1}{s}e^{-\frac{1}{s}}$, then $L[e^{-x}F(3x)]$ is

(a) $\frac{1}{3(S+1)}e^{-\frac{1}{3(s+1)}}$ (b) $\frac{3}{(S+1)}e^{-\frac{3}{(s+1)}}$

(c) $\frac{1}{(S-1)}e^{-\frac{3}{(s-1)}}$ (d) $\frac{1}{(S+1)}e^{-\frac{3}{3(s+1)}}$

27. Solution of differential equation $y^2 \log y = xy\frac{dy}{dx} + \left(\frac{dy}{dx}\right)^2$ is

(a) $y = Cx + C^2$ (b) $y^2 = Cx^2 + C^2$

(c) $\log y = Cx + C^2$ (d) $\log y = Cx^2 + C^2$

28. The tangents at the extremities of a focal chord of a Parabola intersects on the directrix at an angle

(a) $\frac{\pi}{6}$ (b) $\frac{\pi}{4}$

(c) $\frac{\pi}{3}$ (d) $\frac{\pi}{2}$

29. The equation $\frac{8}{r} = 4 - 5\cos\theta$ represents

(a) A straight line (b) A circle

(c) A parabola (d) A hyperbola

30. The condition that the line $\frac{\ell}{r} = a\cos\theta + b\sin\theta$ touches the circle $r = 2c\cos\theta$ is:

(a) $c^2\ell^2 = (b^2 + a^2)$ (b) $b^2c^2 + 2ac = 1$

(c) $a^2c^2 = b^2 + ac - 1$ (d) $a^2e^2 = b^2 - ac - 1$

31. If the centre of mass of three particles of masses 10, 20 and 30 gram be at the point (1, –2, 3), where should a fourth particle of 40 gram be placed so that the combined centre of mass may be (1, 1, 1) ?

(a) (–1, 5.5, 2) (b) (1, –5.5, 2)

(c) (1, 5.5, 2) (d) (1, 5.5, –2)

32. A sphere of mass of 0.5 kg and diameter 0.1m rolls without slipping with a velocity of 0.2 m/s. The total energy of the sphere will be

(a) 1.4×10^{-2} joule
(b) 1.4×10^{2} joule
(c) 2.4×10^{-2} joule
(d) 2.4×10^{2} joule

33. The origin of two frames of reference S and S' coincide initially. The frame S' is moving with velocity $(2\hat{i}+3\hat{j}+4\hat{k})$ m/s relative to S. After 2 seconds if the coordinates of any point as observed by an observer at the origin of S are (4, –5, –6) m, the coordinates of the same point with reference to the frame of reference S', will be

(a) (0, +11, –14)
(b) (0, –11, –14)
(c) (0, –11, +14)
(d) (0, +11, +14)

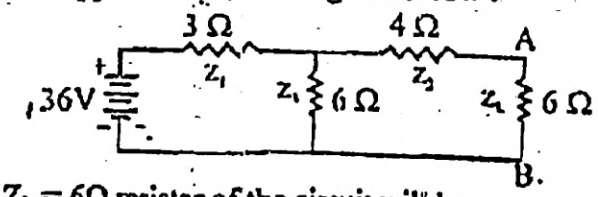
34. A body of mass m_0 is placed in a rocket. The rocket is moving with a velocity v = 0.8c. Then, the mass observed by a person sitting in the rocket is

(a) m_0
(b) $\frac{m_0}{2}$
(c) $\frac{4}{5}m_0$
(d) $\frac{5}{4}m_0$

35. Two particles of rest mass, m_0 approach each other with equal and opposite velocities, v in the lab frame. The total energy of one particle as measured in the rest frame of the other will be

(a) $E=\dfrac{\left[1+\frac{v^2}{c^2}\right]}{\left[1-\frac{v^2}{c^2}\right]}m_0c^2$
(b) $E=\dfrac{\left[1-\frac{v^2}{c^2}\right]}{\left[1+\frac{v^2}{c^2}\right]}m_0c^2$
(c) $E=\dfrac{\left[1+\frac{v^2}{c^2}\right]^{1/2}}{\left[1-\frac{v^2}{c^2}\right]^{1/2}}m_0c^2$
(d) $E=\dfrac{\left[1-\frac{v^2}{c^2}\right]^{1/2}}{\left[1+\frac{v^2}{c^2}\right]^{1/2}}m_0c^2$

36. If the Thevenin's theorem is applied to the circuit given below :



The current through the $Z_L = 6\Omega$ resistor of the circuit will be

(a) 0.33 A
(b) 1.00 A
(c) 1.33 A
(d) 2.00 A

37. A circuit consists of a capacitor of 100pF connected in series with a coil of resistance 5 Ω and inductance 100 μH. The Q-factor of the circuit will be

(a) 100
(b) 200
(c) 300
(d) 400

38. The electrical susceptibility of a material is 44.3×10^{-12} coulomb^2 / Newton-meter^2. The value of dielectric constant will be

(a) 4
(b) 5
(c) 6
(d) 7

39. An anti-reflection coating of thickness 0.1μm is to be deposited on a glass plate for normal incidence of light of wavelength 0.5μm. What should be the refractive index of the film ?

(a) 0.5 (b) 1.0
(c) 1.25 (d) 1.5

40. Un-polarized light of intensity I_o passes through a polarizer P_1. The light coming out of the polarizer falls on a quarter plate with its optical axis at 45° with respect to the polarization axis of P_1 and then passes through another polarizer P_2 with its polarization axis perpendicular to that of P_1. If the intensity of light coming out of P_2 is I, then the ration I_o/I is

(a) 1/2 (b) 2
(c) 3 (d) 4

41. When the temperature is increased, what happens to the collector current after a feedback is given?

(a) it remains same (b) it increase
(c) it cannot be predicated (d) it decreases

42. A CE transistor amplifier has a following set of hybrid parameters :

$h_{ie} = 900\ \Omega$, $h_{re} = 3\times10^{-4}$, $h_{fe} = 50$, $h_{oe} = 4\times10^{-5}\ \Omega^{-1}$ and $R_L = 8\ k\Omega$

The current gain and input resistance are :

(a) −37.9, 809 Ω (b) −40.2, 314 Ω
(c) −53.4, 210 Ω (d) −59.3, 150 Ω

43. The effect of emitter resistance in a CE amplifier is

(a) to increase the input impedance (b) to stabilize the voltage gain
(c) to stabilize the dc bias (d) to introduce all the above advantages

44. The emitter of a transistor is generally doped heaviest because it

(a) has to dissipate maximum power (b) has to supply charge carriers
(c) is the first region of the transistor (d) must possess low resistance

45. The integral $\int_0^1 P_m(x)P_n(x)dx$, where $P_m(x)$ and $P_n(x)$ are Legendre polynomials of order m and n respectively, vanish for which of the following conditions of $m \neq n$?

(a) all m, $m \neq n$ (b) $n = m \pm 1$
(c) $m - n$ is an odd integer (d) $m - n$ is a non zero even integer

46. The integral $I = \oint \frac{\sin z}{2z-\pi} dz$ bounded by a circle $|z| = 2$ has the value,

(a) $\frac{\pi}{2}$ (b) 0
(c) $-\frac{\pi}{2}$ (d) $+\pi i$

47. If $\vec{A} = 2x\hat{i} + 3y\hat{j} + 4z\hat{k}$ and $u = x^2 + y^2 + z^2$, then div (uA) at (1, 1, 1) is

(a) 0 (b) 15
(c) 28 (d) 45

48. A nucleus disintegrates into two nuclear fragments which have their velocities in the ratio 8 : 1. The ratio of their nuclear sizes will be

(a) 1 : 2 (b) 2 : 1
(c) 8 : 1 (d) 1 : 8

49. Atomic mass number of an element is 232 and its atomic number is 90. The end product of this radioactive element is an isotope of lead (atomic mass 208 and atomic number 82). The number of alpha and beta particles emitted are

(a) $\alpha = 6$ and $\beta = 0$ (b) $\alpha = 6$ and $\beta = 4$
(c) $\alpha = 4$ and $\beta = 6$ (d) $\alpha = 3$ and $\beta = 3$

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50. Two radiations of photons with energy 1 eV and 2.5 eV successfully illuminate a photo sensitive metallic surface of work function 0.5 eV. The ratio of maximum speeds of the emitted electron is

(a) 1 : 4 (b) 1 : 2
(c) 1 : 1 (d) 1 : 5

51. The directory can be viewed as ..... that translate filenames into their directory entries

(a) Symbol table (b) Partition
(c) Swap space (d) Cache

52. The minimum number of comparisons required to determine if an integer appears more than n/2 times in a sorted array of n integers is

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(a) $\Theta(n)$ (b) $\Theta(\log n)$
(c) $\Theta(\log^* n)$ (d) $\Theta(1)$

53. In network terminology UTP means

(a) Unshielded Twisted pair (b) Ubiquitious Teflon port
(c) Uniformly Terminating port (d) Unshielded T-connector port

54. Which one of the following is not a client server application?

(a) Internet chat (b) Web browsing
(c) E-mail (d) Ping

55. The physical location of a record determined by a formula that transforms a file key into a record location is

(a) Hashed file (b) B-Tree file
(c) Indexed file (d) Sequential file

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56. Physical topology of FDDI is ?

(a) Bus (b) Ring
(c) Star (d) None of the above

57. A semaphore is a shared integer variable

(a) that cannot drop below zero (b) that cannot drop below one
(c) that cannot be more than one (d) that cannot be more than zero

58. In the following program, how many times "for" loop will be executed ?

```
#include<stdio.h>
int main()
{
    int i=59, j=10;
    for( ; j; ;)
    printf("%d", i);
}
```

(a) 59 times
(b) 10 times
(c) Infinite times
(d) Compiler error

59. Match the following for Unix system calls:

List – I		List – II
1. exec	(i)	Creates a new process
2. brk	(ii)	Invokes another program overlaying memory space with a copy of an executable file.
3. wait	(iii)	To increase or decrease the size of data region
4. fork	(iv)	A process synchronizes with termination of child process.

(a) 1-(ii), 2-(iii), 3-(i), 4-(iv)
(b) 1-(ii), 2-(iii), 3-(iv), 4-(i)
(c) 1-(iii), 2-(ii), 3-(iv), 4-(i)
(d) 1-(ii), 2-(iv), 3-(iii), 4-(i)

60. What are the minimum possible logic gates for the Boolean function

$$F(w, x, y, z) = \Sigma(3, 7, 11, 13, 14, 15)$$?

(a) 4
(b) 8
(c) 16
(d) 32

61. A pointer is

(a) The address of a variable
(b) an indication of the variable to be accessed next
(c) A variable for storing address
(d) The data type of an address variable

62. Which of the following is not collision resolution technique?

(a) Hash addressing
(b) Chaining
(c) Both (a) and (b)
(d) Indexing

63. Most efficient way of implementing priority queue is:

(a) Circular array
(b) heap
(c) B + tree
(d) linked list

64. The Gray code of 321_{10} is:

(a) 101011011
(b) 1110100
(c) 1010101
(d) 111100001

65. What is the output of the program given below?

```
#include<stdio.h>
void main()
{
        int i=500, j=1000, k=100;
        if (j==1000 && i > 400)
                k= (j== 1000 && i > 499);
                printf("k=%d", k);
        else
                printf("k=%d", k);
        }
```

(a) k=1
(b) k=100
(c) k=499
(d) k=1499

66. Ethernet uses

(a) Ring topology
(b) Bus topology
(c) Star topology
(d) Tree topology

67. Consider a relation R(A, B, C, D) with set of functional dependencies AB → CD and D → A. Let R_1(A, D) and R_2(B,C,D) are two decompositions over R. Which of the following statement is TRUE?

(a) Dependency preserves but lossy
(b) Not dependency preserve but lossless
(c) Dependency preserves but lossless
(d) Not dependency preserve but lossy

68. In which file, the records are organized in sequence and an index table is used to speed up access to the records without requiring a search of the entire file?

(a) Sequential file
(b) Direct file
(c) Indexed sequential file
(d) Random file

69. Find the odd term out

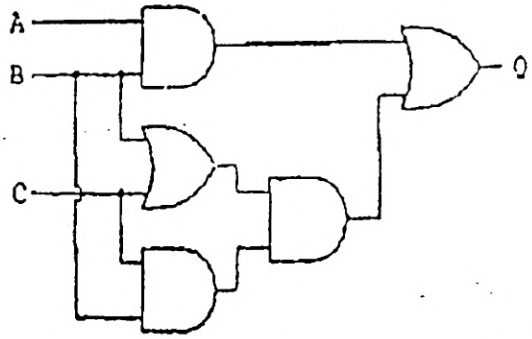
(a) MS-DOS
(b) C++
(c) UNIX
(d) WIDOWS-95

70. What is the output of the following program?

```
#include<stdio.h>
int main()
{
        int i=100, j=300, k;
        j = i^j;
        i = i^j;
        i = i^j;
        printf("The values of i and j are %d, %d", i, j);
        return 0;
}
```

(a) 100, 300
(b) 300, 100
(c) 100, 328
(d) 328, 300

71. What is the value of Q in the following circuit ?



(a) $(A+B)\cdot(B\cdot C)+(B+C)$ (b) $A\cdot B + A\cdot C + B\cdot C$

(c) $(A+B)\cdot(A+C)\cdot(B+C)$ (d) $A\cdot B + B\cdot C$

72. Consider a system having 'm' resources having same resource type. These resources are shared by 3 processes A, B, C, with a maximum need of 3, 4, 6 instances respectively. The minimum value of 'm' that ensure that deadlock will never occur is:

(a) 9 (b) 10

(c) 11 (d) 12

73. Data Mining can be used as a ..... tool.

(a) Software (b) Hardware

(c) Research (d) Process

74. A computer-controlled device for imparting training that duplicates the work environment is a

(a) Duplicator (b) Simulator

(c) Trainer (d) COM device

75. What is the purpose of the following C-function?

```
void str_function (char *s1)
{
  char *p1, *p2, t1;
  p1 = s1;
       p2 = s1
       while(*p2 != '\0')
             p2++;
       p2--;

       while (p1 < p2)
       {
         t1 = *p1;
         *p1 = *p2
         *p2 = t1:
          p1++;
          p2--;
        }
}
```

(a) Extracting a substring from Middle (b) Extracting a substring from left

(c) Reversing a string (d) Appending a string to another string

76. How many swapping will be required to sort the following list in increasing order using Bubble sort algorithm?

72, 12, 40, 5, 3, 4

(a) 12 (b) 11
(c) 13 (d) 14

77. Which of the following processor has a fixed length of instruction?

(a) CISC (b) RISC
(c) EPIC (d) Multi-core

78. A Top-down Parse generates:

(a) Right-most derivation (b) Left-most derivation
(c) Right-most derivation in reverse (d) Left-most derivation in reverse

79. The cumulative addition of the four bits (1 + 1 + 1 + 1) gives

(a) 1111 (b) 111
(c) 100 (d) 1001

80. What is the value of X in the following equation?

$(11101101000)_2 + (765)_{16} = (X)_8$

(a) 3545 (b) 7315
(c) 1285 (d) 4580

81. How does the software trigger an interrupt?

(a) sending signals to CPU through bus (b) executing a special operation called system call
(c) executing a special operation called system program (d) executing a special operation called interrupt trigger program

82 Which of the following system call is used to create new process in UNIX operating system?

(a) init() (b) stime()
(c) fork() (d) wait()

83. Which of the following is not a type of database?

(a) hierarchical (b) decentralized
(c) network (d) distributed

84. What will be the output of the following code fragment?
(Assume that i, j and k are int variables)

```
i = j = k = 1;
(j+2) % k / (i+1);
```

(a) 3 (b) 1
(c) 2 (d) 0

85. The size of IP address in ipv4 and ipv6 are

(a) 128 bits and 32 bits
(b) 32 bits and 128 bits
(c) 64 bits and 64 bits
(d) 128 bits and 128 bits

86. Match the following:

List – I		List – II	
(A)	No attribute can be added	(1)	Determinants
(B)	Uniquely identified a row	(2)	Candidate key
(C)	A constraint between two attribute	(3)	Non-redundancy
(D)	Group of attributes on the left hand side of arrow of function dependency.	(4)	Functional dependency

(a) A-3, B-2, C-1, D-4
(b) A-4, B-2, C-3, D-1
(c) A-3, B-2, C-4, D-1
(d) A-3, B-4, C-1, D-2

87. Consider a relations schema R(A, B, C, D) with the following set of functional dependencies:

$FD = \{ A \rightarrow BC, \quad B \rightarrow C, \quad A \rightarrow B, \quad AB \rightarrow C, \quad AC \rightarrow D \}$

Which of the following is irreducible set of the above defined FDs ?

(a) $A \rightarrow B, B \rightarrow C, A \rightarrow D$
(b) $A \rightarrow B, B \rightarrow C, A \rightarrow C$
(c) $A \rightarrow B, A \rightarrow C, A \rightarrow D$
(d) $A \rightarrow B, B \rightarrow C, C \rightarrow D$

88. If we have six stack operation; pushing and popping each of A, B and C such that push(A) must occur before push(B) which must occur before push (C), then A, B, C is a possible order for the pop operations, since this would be our sequence: push(A), pop(A), push(B), push(C), pop(C), pop(B). Which one of the following orders could not be then order the pop operations are run, if we are to satisfy the requirements described above?

(a) ABC
(b) CAB
(c) BAC
(d) CBA

89. What is the name of storage device which is used to compensate for the difference in rates of flow of data from one device to another.

(a) Buffer
(b) Cache
(c) Serial Bus
(d) Concentrator

90. What will be the output of the following program:

```
int main() {
        int *p, a = 12;
        p = &a;
        *p += 1;
        printf("12,");
        -1;
        printf("%d, %d\n", *p, a);
        return 0;
}
```

(a) Error
(b) 12,
(c) 12,12,13
(d) 12,13,13

91. You want to check whether a given set of items is sorted or not. Which of the following sorting method will be the most efficient if it is already in sorted.

(a) Bubble sort
(b) Selection sort
(c) Insertion Sort
(d) Merge sort

92. What is the value of X in the following equation ?

$$(21043)_5 + (765)_{16} = (X)_2$$

(a) 1101100111011
(b) 0110011011011
(c) 1011101001011
(d) 1101101001011

93. Who invented cut/copy & paste?

(a) Bill Gates
(b) Steve Jobs
(c) Steve Wozniak
(d) Larry Tesler

94. The first operating system of Micro-processor is .....

(a) ATLAS
(b) CP/M
(c) SAGE
(d) T.H.E

95. What are two types of semaphores ?

(a) Digital semaphore and Binary semaphore
(b) Analog semaphore and octal semaphore
(c) Critical semaphore and system semaphore
(d) Counting semaphore and Binary semaphore

96. Which statement is true about process 0 in the Unix operating system?

I. Process 0 is called init process.
II. Process 0 is not created by fork system call.
III. After forking process 1, process 0 becomes swapper process.
IV. Process 0 is a special process created when system boots.

(a) I, II, III
(b) II, III, IV
(c) I, III, IV
(d) I, II, IV

97. The criteria for calculation of priority of a process are :

(A) Weight assigned to the group of User.
(B) Processor utilization by an individual process.
(C) Processor utilization by a user as group of process priority is calculated in fair scheduler.

(a) All
(b) Both (A) and (B)
(c) Both (B) and (C)
(d) None of the above

98. A front-end processor is usually used in

(a) Multi-programming
(b) Virtual Storage
(c) Time sharing
(d) Multi-processing

99. What are the minimum number of bits required to multiply two numbers X=25 and Y= –1030 using Booth's multiplication Algorithm?

(a) 8
(b) 10
(c) 12
(d) 16

0. What is the output for the program given below?

```
#include<stdio.h>
int main()
{
  char i =2;
  switch(i)
  {
      case '1':
            printf("Black\n");
      case '2':
            printf("White\n");
      default:
            print("Red\n");
  }
  rintf("Blue");
  return 0;
}
```

(a) Black
Blue

(b) White
Blue

(c) Red
Blue

(d) Black
White
Blue

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Answer Key M.C.A. Admission Test 2022-23

SERIES: A

Q.No.	Answer
1	B
2	A
3	D
4	D
5	C
6	C
7	B
8	B
9	C
10	C
11	B
12	B
13	C
14	C
15	B
16	A
17	B
18	C
19	A
20	A
21	A
22	D
23	B
24	B
25	C
26	D
27	C
28	D
29	D
30	B
31	D
32	A
33	B
34	A
35	A
36	D
37	B
38	C
39	C
40	D

Q.No.	Answer
41	D
42	A
43	D
44	B
45	D
46	D
47	C
48	A
49	B
50	B
51	A
52	B
53	A
54	D
55	A
56	B
57	A
58	D
59	B
60	A
61	C
62	D
63	B
64	D
65	A
66	B
67	B
68	C
69	B
70	C
71	D
72	C
73	C
74	B
75	C
76	C
77	B
78	B
79	B
80	B

Q.No.	Answer
81	B
82	C
83	B
84	D
85	B
86	C
87	D
88	B
89	A
90	D
91	D
92	B
93	D
94	B
95	D
96	B
97	A
98	A
99	C
100	C

COORDINATOR

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