

1. A bus has exactly six stop on its route. The bus first stops at stop one and then at stops two, three, four, five and six respectively. After the bus leaves stop six, the bus turns and return to stop one and repeats the cycle. These stop are at six buildings that are in alphabetical order L, M, N, O, P and Q. Some other information about the stops are as follows
P is the third stop
M is the sixth stop
O is the stop immediately before Q
N is the stop immediately before L
In case N is the fourth stop, which among the following must be the stop immediately before P ?
(a) O (b) Q (c) N (d) L
2. In a finite group Z is defined by $|Z - P| \geq 0$, where P is prime number then z will be in which group
(a) Z is cyclic group (b) z is non cyclic group
(c) z is not finite group (d) none of these
3. Mohan drives of Sushil's house at an average speed of 40 mph. If he can drive $\frac{2}{3}$ of the way in an hour, how far away is Sushil's house
(a) 60 miles (b) 20 miles (c) 80 miles (d) 50 miles

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

4. As Lave is related to Volacano, which of the following relations stands valid ?
(a) Ice : Glass (b) Cascade : Precipice (c) Stream : Geyser (d) Avalanche : Ice
5. A survey recently conducted revealed that marriage is fattening. The survey found that on an average, women gained 23 pounds and men gained 18 pounds during 13 years of marriage. The answer to which among the following questions would be the most appropriate in evaluating the reasoning presented in the survey?
(a) Why is the time period of the survey 13 years, rather than 12 or 14?
(b) Did any of the men surveyed gain less than 18 pounds during the period he was married?
(c) How much weight is gained or lost in 13 years by a single people of comparable age to those studied in the survey?
(d) When the survey was conducted were the women as active as the men?

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

6. Which of the following words is most opposite in meaning to the word ABATE?
(a) Attach (b) Alter (c) Assist (d) Augment

7. Six scientists A, B, C, D, E and F are to present a paper each at a one-day conference. Three of them will present in the morning session before the lunch break whereas the other three will be presented in the afternoon session. The lectures have to be scheduled in such a way that they comply with the following restrictions :
- B should present his paper immediately before C's presentation; their presentations cannot be separated by the lunch break. D must be either the first or the last scientist to present his paper. In case C is to be the fifth scientist to present his paper, then B must be the
- (a) first (b) second (c) third (d) fourth
8. The parabola $y^2 = 4a(x - c_1)$ & $x^2 = 4a(y - c_2)$ touches each other then locus of the point
- (a) $xy = 4a^2$ (b) $xy = 2a^2$ (c) $xy = a^2$ (d) None

9. $\int_{-1}^{\infty} \frac{\cos^2 x}{1+a^x} dx =$
- (a) $\frac{\pi}{2}$ (b) $\frac{a^2\pi}{2}$ (c) $\frac{a\pi}{2} - 1$ (d) ax

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)
 JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

10. $\int \frac{d^2}{dx^2} (\tan^{-1} x) dx =$
- (a) $\frac{1}{1+x^2} + c$ (b) $\tan^{-1} x - \frac{1}{2} \log(1+x^2)$ (c) $\tan^{-1} x$ (d) none of these

11. If $\begin{bmatrix} -3 & 0 \\ 0 & -2 \end{bmatrix}$ then A^{12}
- (a) $\begin{bmatrix} 54113 & 0 \\ 0 & 3368 \end{bmatrix}$ (b) $\begin{bmatrix} 53114 & 0 \\ 0 & 4096 \end{bmatrix}$ (c) $\begin{bmatrix} 53411 & 0 \\ 0 & 4049 \end{bmatrix}$ (d) None

12. Solution of differential eq. $\frac{dy}{dx} = \frac{1}{x+y+1}$
- (a) $y + 1 \pm \log(x + y + 2) = c$
 (b) $y + 1 = \log(x + y + 2) + c$
 (c) $y = \log(x + y + 2) + c$
 (d) none

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)
 JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

13. If y belong to the set $A = \{1, 2, 3, 5, 6, 10, 15, 30\}$ and x_1, x_2, x_3 also belongs to the set A , then no. of solution for $x_1 x_2 x_3 = y$
- (a) 64 (b) 84 (c) 27 (d) none of these
14. If $f(x) = \min\{x^2, x\}$ then which of the following is not true
- (a) F is continuous everywhere
 (b) F is no where differential
 (c) $F'(x) = 1$ when $x > 1$
 (d) all the above



JITENDRA MISHRA ACADEMY

India's No. 1 Institute for All India MCA Entrance Training

15. The coefficient of x in the expansion of $(1 + 4x + x^2)^{4/2}$
(a) 1 (b) 0 (c) -1 (d) 2
16. The value of $1 + 2.2 + 3.2^2 + \dots + 1002^{99}$ will be
(a) $1002^{99} + 1$ (b) 1002^{99} (c) $1002^{99} + 1$ (d) $992^{99} + 1$
17. The two vector is said to be equal if they are
(I) same length (II) same support (III) same sense
(a) only I & II (b) Only II & III (c) Only I & III (d) All I, II & III
18. Solution of the equation $e^{\sin x} - e^{-\sin x} = 4$
(a) Infinitely many solution (b) exactly one solution
(c) more than 2 solution (d) No solution

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

19. $\sum_{k=1}^n \sum_{l=1}^k \sum_{j=1}^l 1 =$
(a) $\frac{n(n+1)}{2}$ (b) $\frac{n(n+1)(2n+1)}{6}$ (c) $\frac{n(n+1)(n+2)}{6}$ (d) None of these
20. $\int_0^{100} x - [x] dx =$
(a) 50 (b) 100 (c) 200 (d) none of these
21. If $\phi(x)$ be the inverse of $f(x)$ and $f'(x) = \frac{1}{1+x^5}$, $\phi'(x)$ is equal to
(a) $1 + [\phi(x)]^5$ (b) $1 + [f(x)]^5$ (c) $1 + x^5$ (d) none of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

22. The foci of the ellipse $\frac{x^2}{16} + \frac{y^2}{b^2} = 1$ and the hyperbola $\frac{x^2}{144} - \frac{y^2}{81} = \frac{1}{25}$ coincide then the value of b^2 is
(a) 5 (b) 7 (c) 1 (d) none of these
23. $\int_{\frac{1}{2e}}^{2e} \log |2x| dx$
(a) $e^{-1} - 1$ (b) $1 - e^{-1}$ (c) $2(1 + e)$ (d) None of these
24. Value of $\lim_{x \rightarrow 0} \frac{x}{|x|} =$
(a) 0 (b) 1 (c) -1 (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

25. Order and degree of the differential equation $\left\{1 + \left(\frac{d^2y}{dx^2}\right)\right\}^{2/3} = \frac{d^3y}{dx^3}$
(a) 2, 3 (b) 3, 3 (c) 3, 2 (d) none

26. 2^{2000} is divided by 17 then remainder will be
 (a) 1 (b) 2 (c) 6 (d) none of these
27. Greatest and minimum value of $|z + 1|$ where $|z + 4| = 3$
 (a) (6, 0) (b) (3, 3) (c) (4, 0) (d) None of these
28. Distance from the centre of circle $(x^2 + y^2 = 2x)$ from the line passes through the point of intersection of the circle
 $x^2 + y^2 + 5x - 8y + 25 = 0$
 $x^2 + y^2 - 3x - y - 1 = 0$
 (a) $1/3$ (b) 1 (c) 2 (d) 3

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

29. $1 + 2 + 3 + \dots + n$
 (a) $(n + 1)! - 1$ (b) $(n + 1) + 1$ (c) $n!$ (d) None of these
30. If three forces $3P$ and $2P$ and their resultant is R . If first force is double and then resultant is doubled then angled between the
 (a) 60° (b) 30° (c) 120° (d) None of these
31. If f_1 and f_2 are the flight time of two particle having the same initial velocity u and range R on the horizontal then $f_1^2 + f_2^2$ is equal to
 (a) $\frac{u^2}{g}$ (b) $\frac{4u^2}{g^2}$ (c) $\frac{u^2}{2g}$ (d) 1
32. Find the value of t , when $(2t^2 + 2t + 2, t^2 + t + 2)$ are satisfied in the equation $x + 2y = 1$
 (a) 4 (b) 8 (c) $\frac{4 \pm \sqrt{7}}{2}$ (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

33. A velocity $1/4$ m/s resolved into two components along OA and OB making angle 30° and 45° respectively with the given velocity. Then the component along OB is
 (a) $\frac{1}{8}$ m/s (b) $\frac{1}{4}(\sqrt{3} - 1)$ (c) $\frac{1}{4}$ m/s (d) $\frac{1}{8}(\sqrt{6} - \sqrt{2})$ m/s
34. If $y = (1 + x)(1 + x^2)(1 + x^4) \dots (1 + x^{2^n})$ then $\frac{dy}{dx}$ at $x = 0$ is
 (a) -1 (b) 1 (c) 0 (d) None
35. Consider the force $\vec{P}, \vec{Q}, \vec{R}$ acting along IA, IB, IC where I is the incentre of a $\triangle ABC$. If the forces one is equilibrium then $\vec{P} : \vec{Q} : \vec{R}$ is
 (a) $\cos \frac{A}{2} : \cos \frac{B}{2} : \cos \frac{C}{2}$ (b) $\sin \frac{A}{2} : \sin \frac{B}{2} : \sin \frac{C}{2}$
 (c) $\sec \frac{A}{2} : \sec \frac{B}{2} : \sec \frac{C}{2}$ (d) $\operatorname{cosec} \frac{A}{2} : \operatorname{cosec} \frac{B}{2} : \operatorname{cosec} \frac{C}{2}$

36. The number of integral points exactly in the interior of the triangle with vertices $(0, 0)$, $(0, 21)$, $(21, 0)$ is
 (a) 133 (b) 190 (c) 233 (d) 105

37. $\lim_{n \rightarrow \infty} \frac{(n!)^{1/n}}{n}$
 (a) 0 (b) ∞ (c) $1/e$ (d) none

38. If \vec{a} and \vec{b} is a unit vector and θ is the angle between \vec{a} & \vec{b} then find $\sin \frac{\theta}{2} =$

- (a) $\frac{1}{2} |\vec{a} + \vec{b}|$ (b) $\frac{1}{2} |\vec{a} - \vec{b}|$ (c) $|\vec{a} + \vec{b}|$ (d) $\sqrt{\frac{1}{2}(1 - a \cdot b)}$

39. Which of the following is odd function
 (a) $\sin x + \cos x$ (b) $1 + x + x^2$ (c) $x + \sin x$ (d) none of these

40. $f(x) = x \max(x, 0)$
 (a) continuous nowhere (b) continuous everywhere
 (c) continuous somewhere (d) none of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

41. $\tan^{-1} \frac{1}{4} + \tan^{-1} \frac{2}{9}$
 (a) $\tan^{-1} \left(\frac{1}{2} \right)$ (b) $2 \tan^{-1} \left(\frac{2}{7} \right)$ (c) $\sin^{-1} \left(\frac{4}{7} \right)$ (d) None of these

42. If $a = 4$, $b = 3$ & $\angle A = 60^\circ$ then C is a root of the equation
 (a) $C^2 - 3C - 7$ (b) $C^2 + 3C + 7 = 0$ (c) $C^2 - 3C + 7 = 0$ (d) None of these

43. In a party there are some people if every person shakes hand with every other person, total handshakes is 66, then how many people were at the party
 (a) 11 (b) 12 (c) 13 (d) 14

44. The two vertical of a equilateral triangle lie on a integral point then the third vertices will be
 (a) Integral coordinate (b) Ration coordinate
 (c) At least one co-ordinate irrational (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

45. Find radius of circle touching of the circle $(x \pm 4)^2 + (y \pm 4)^2 = 4^2$
 (a) $8(\sqrt{2} - 1)$ (b) $2(\sqrt{2} - 1)$ (c) $4(\sqrt{2} - 1)$ (d) $\sqrt{2} - 1$

46. If $f(x + y + z) = f(x) f(y) f(z)$ and $f(2) = 4$ & $f(0) = 3$ then $f'(x)$
 (a) 12 (b) 6 (c) 8 (d) None

47. Determinant of the matrix $\begin{bmatrix} -2 & 6 & 7 & -1 \\ 3 & -9 & 2 & -2 \\ 0 & 0 & 4 & -3 \\ 0 & 0 & -1 & 5 \end{bmatrix}$
 (a) 1 (b) -1 (c) -1 (d) none of these



JITENDRA MISHRA ACADEMY

India's No. 1 Institute for All India MCA Entrance Training

48. If $a, b, c \in \mathbb{R}$ and the equation $ax^2 + bx + c = 0$ have exactly two solution of $x^3 + 3x^2 + 3x + 2 = 0$ then
 (a) $a = b = -c$ (b) $a = -b = c$ (c) $a = b = c$ (d) None of these

49. If $f(x)$ is odd function then the $\int_0^x f(x)dt$ is
 (a) even function (b) odd (c) neither even or odd (d) none of these

50. $\log_{1/2} a + \log_{1/4} a + \log_{1/8} a + \log_{1/16} a + \dots$ 20 terms is 840 then a is
 (a) 2 (b) 1 (c) 4 (d) $\sqrt{2}$

51. No. of point of the discontinuous of $\frac{1}{\log|x|}$ is
 (a) 1 (b) 3 (c) 4 (d) None

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

52. $[x^2 + (x-1)^{1/2}]^5 + [x^2 - (x^6 - 1)^{1/2}]^5$ then degree of polynomial
 (a) 10 (b) 12 (c) 13 (d) None of these

53. If the function of polynomial of degree 2 then $f(x)$ where $f(x) = \begin{vmatrix} f(x) & g(x) & h(x) \\ f'(x) & g'(x) & h'(x) \\ f''(x) & g''(x) & h''(x) \end{vmatrix}$
 (a) -1 (b) 1 (c) 0 (d) None of these

54. If $(1 + ax)^n = 1 + 8x + 16x^2 + \dots$ then value of a and 2
 (a) 2, 4 (b) 4, 2 (c) 3, 2 (d) None of these

55. If $A \cap (A \cup B)'$ then which of the following is true
 (a) A (b) B (c) $A' \cap B$ (d) None of these

56. If $a + b + c = 0$ then root of equation $(b + c - a)x^2 + (a + c - b)x + (a + b - c) = 0$ has
 (a) distinct and real (b) real and imaginary (c) equal root (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

57. If a, b, c, d in GP then $(a^2 + b^2 + c^2)(b^2 + c^2 + d^2) =$
 (a) $(ab + bc + cd)^2$ (b) $(ad + bc + ca)^2$ (c) $(ab + ac + ad)^2$ (d) None

58. If $a^2 + b^2 + c^2 = 1$ then $(ab + bc + ac)$
 (a) equal to 1 (b) less than 1 (c) Greater than 1 (d) None of these

59. $(3, 2)$ is reflected about y -axis and moved 5 meter in negative distance of y -axis then co-ordinate of new position
 (a) $(-3, -3)$ (b) $(3, -3)$ (c) $(-3, 3)$ (d) $(3, 3)$

60. In the permutations of the function, which is wrong
 (a) $f \circ g = g \circ f$ (b) $f \circ (g \circ h) = (f \circ g) \circ h$ (c) $f \circ f^{-1} = f^{-1} \circ f$ (d) None

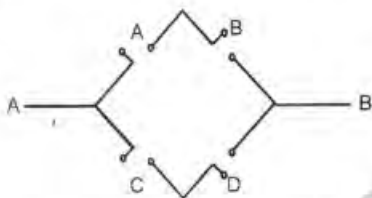
61. Let F be the ellipse $\frac{x^2}{9} + \frac{y^2}{4} = 1$ and C be the circle $x^2 + y^2 = 9$. Let $P(1, 2)$ and $Q(2, 1)$ be two point then
 (a) Q lies inside C but outside E (b) Q lies outside both C and E
 (c) P lies inside both C and E (d) P lies inside C but outside E

62. Let a and b two unit vector. If the vector $a + 2b$ and $5a - 4b$ are \perp to each other then angle between a and b is
 (a) $\pi/2$ (b) $\pi/3$ (c) $\pi/4$ (d) $\pi/6$

63. If $|z| = 1$ then $\frac{z-1}{z+1} = ?$

- (a) purely imaginary (b) purely real
 (c) both real and imaginary (d) none of these
64. If $y = e^x (A \cos x + B \sin x)$ then
 (a) $y'' - 2y' + y = 0$ (b) $y'' + y' + y = 0$ (c) $y'' - (y')^2 + y = 0$ (d) None of these

65. If



If input is either form A to the given logic circuit P is the probability of B with is closed and $1 - P$ is the probability of with not closed. Then find the probability that signal is transmitted

- (a) $2P^2$ (b) $1 - (1 - P)^2$ (c) $1 - (1 - P^2)^2$ (d) $1 - 2P^2$

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

66. solution of $m = 3 \pmod{13}$ & $m = 2 \pmod{5}$
 (a) 52 (b) 42 (c) 30 (d) None of these

67. The domain of definition of the function $f(x) = \sin^{-1} \left\{ \log_2 \left(\frac{x^2}{2} \right) \right\}$ is
 (a) $[-2, -1]$ (b) $[1, 2]$ (c) $[-2, -1] \cup [1, 2]$ (d) None

68. How many number between 1 & 100 which is not only exactly divisible by 4 by but have at least one 1 digit 4
 (a) 7 (b) 20 (c) 12 (d) 21

69. Let r is the inradius of regular polygon of side h & R is the circumcentre then $r + R =$

- (a) $a \cot \frac{\pi}{2h}$ (b) $\frac{a}{2} \cot \frac{\pi}{2h}$ (c) $\frac{a}{2} \tan \frac{\pi}{2h}$ (d) $\frac{a}{2} \operatorname{cosec} \left(\frac{\pi}{2h} \right)$

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

70. Sum of the product of each term of $[10, 11, 12, \dots, 20]$ with each term of $[21, 22, \dots, 30]$ equal to
 (a) 46075 (b) 56371 (c) 46750 (d) None of these

71. If a, b, c, d are four consecutive vector of sides of quadrilateral then what is necessary condition for quadrilateral is a parallelogram

- (a) $a + d = 0$ (b) $a + c = 0$ (c) $a = c$ (d) a, c both

72. $f(x) = \frac{h}{2} (y_0 + 2y_1 + 2y_2 + \dots + 2y_{n-1} + y_n)$ is represent which rule ?

- (a) trapezoidal rule (b) simpson rule (c) George Rule (d) None of these

73. If $f(n) = \frac{n}{2} + \frac{1}{4}[1 - (-1)^n]$ then function is
 (a) one - one and onto (b) onto but not one
 (c) neither one - one nor onto (d) none of these
74. Two friends decided to meet at a location independently. They both arrive at a time uniformly distributed among 10:00 AM to 11:00 AM. Then what is the probability that one who come first have to wait longer than 10 minute
 (a) $\frac{1}{36}$ (b) $\frac{11}{36}$ (c) $\frac{35}{36}$ (d) $\frac{25}{36}$
75. $f(x) = \begin{cases} 2(1-x) & 1 < x < 0 \\ 0 & \text{otherwise} \end{cases}$ the find $E[2x + 1]^2$
 (a) 5 (b) 3 (c) 1 (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

76. If x is binomial distribution with h & θ unbiased estimate of θ is
 (a) $E\left(\frac{x}{h}\right)$ (b) $E(hx)$ (c) median (d) none of these
77. If $A \oplus B$ denote the symmetric difference of A and B , then which of the following is false
 (a) $(A \oplus B) \oplus C = A \cap B$
 (b) $A \oplus A = A$
 (c) $A \oplus Q = A$
 (d) $A \oplus C = B \oplus C$ if $A = B$
78. Let $y = f(x)$ be a function such that $(x_1, y_1) (0, 1)$ and $(x_2, y_2) (1, 1)$. Then the first order divided difference for which this satisfy
 (a) 0 (b) -1 (c) $-\infty$ (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

79. Given $A(1, 0, -1)$, $B(2, 0, -3)$, $C(-1, 2, 0)$ & $D(3, -2, 1)$. Find project of Ab on CD is
 (a) $\frac{6}{\sqrt{33}}$ (b) $\frac{6}{\sqrt{165}}$ (c) $\frac{6}{\sqrt{169}}$ (d) None
80. $\sum_{j=1}^{21} a_j = 693$, a_1, a_2, a_3, \dots are in AP then Find $\sum_{i=10}^{10} a_{2i+1}$ is
 (a) 361 (b) 396 (c) 363 (d) Data incomplete
81. If the centroid of a triangle is given that $(2, 3)$ and one of the vertex is $(4, 3)$ then the other two vertex are
 (a) $(1, 3 \pm \sqrt{3})$ (b) $(2, 3 \pm \sqrt{5})$ (c) $(4, 3 \pm \sqrt{5})$ (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

82. If A be lower triangle matrix then A^{-1} will be
 (a) Upper triangular matrix (b) lower triangular matrix
 (c) Diagonal matrix (d) None of these



JITENDRA MISHRA ACADEMY

India's No. 1 Institute for All India MCA Entrance Training

83. What will be the value of k for which the function given by $f(x, y) = kxy$ for $n = 1, 2, 3, \dots, y = 1, 2, 3, \dots$ can serve as joint probability distribution

- (a) $\frac{1}{9}$ (b) $\frac{1}{18}$ (c) $\frac{1}{36}$ (d) 1

84. If $A = \begin{bmatrix} 1 & 2 & 3 \\ 0 & -2 & -1 \\ 0 & 0 & -1 \end{bmatrix}$ then

- (a) Eigen value are equal
(b) Eigen value are real and distinct
(c) two eigen value are equal
(d) none of these

85. If A and B are square matrix then

- (I) $\det(AB) = \det(BA)$
(II) $\det(AB) = 0$ if either $\det(A) = 0$ or $\det(B) = 0$
(III) $\det(AB^{-1}) = \det(A^T B)$
(a) Only one statement correct (b) only two statement are correct
(c) All are correct (d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

86. A particle acted by constant forces $4i + j - 3k$ and $3i + j - k$ displaced from the point $(i + 2j + 3k)$ to point $(5i + 4j + k)$ where i, j and k are unit vector then work done by the force is

- (a) 20 unit (b) 30 unit (c) 40 unit (d) none of these

87. Let $\sigma = 681235947$ and $\tau = 627184593$ be permutation on $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ in one line notation (based on the usual order integer). What of the following is correct gate rotation for $\tau \circ \sigma$.

- (a) 12495368 (b) 142597368 (c) 142953768 (d) 1425368

88. Find odd out

- (a) Guvva (b) Litchi (c) Watermelon (d) Pappya
(e) jackfruit

89. Opposite word of ABATE

- (a) Augument (b) Attach (c) After (d) Astist

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

90. Rank of Navya is 9th from the top and 38th from the bottom. How many student are there

- (a) 47 (b) 46 (c) 48 (d) 45

91. A boy is search of his father travels 80 m/s in east before turning to right and 20 m before truning to right from there he travels his uncles house straight 30 m and then travel 90 m to north and there he meets his father then find he distance from the starting point where he meet the father

- (a) 100 (b) 120 (c) 80 (d) None

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

92. Village PQRS are such that Q lies south west of P and R lies east of Q and south east of P. P lie north of R on the line of PQ. What is the position of R in respect to P

- (a) North east (b) South west (c) South (d) North



JITENDRA MISHRA ACADEMY

India's No. 1 Institute for All India MCA Entrance Training

93. System is coded as SYSMET and NEARER is coded as AENRER the how is FRACTION coded
(a) CARFATINO (b) NOITCARF (c) FRACNOIT (d) CARFOIT
94. The 7th day of month is 3 day earlier than friday then what will be the 19th day of the month ?
(a) Sunday (b) Monday (c) Saturday (d) Friday
95. As aeroplane is related to Cockpit, then train is related to
(a) engine (b) Compartment (c) Coach (d) wagon
96. The english alphabet which comes 16th to the right of the 4th letter to the left letter is I
(a) U (b) V (c) S (d) None

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

97. A + B means, A is brother of B, $A \times B$ means A is daughter of B and $A - B$ means A is father of B then P + Q R what means
(a) P is uncle of R (b) P is son of R (c) P is brother of R (d) P is mother of R
98. Ravi and Kunal are good in hockey and volleyball Sachin and Ravi are good in hockey and baseball. Gaurav and Kunal are good in cricket and volleyball. Sachin, Gaurav and Micheal are good football and baseball. So who is good in hockey, volyball and baseball ?
(a) Ravi (b) Sachin (c) Kunal (d) Michel
99. If a swimmer swims in a still water at 5 m/h crosses a River, which is 24 meter apart and water flows with 4 kmph then in how many hour does swimmer crosses thriver ?
(a) 8 (b) 9 (c) 19 (d) 20
100. LOWER is coded as WORLE then from the following which is alike
(a) AMONG : OMNAG (b) GLAZE : AGELZ (c) WORDS : ROSWD (d) ENTRY : RNYET

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

101. If G means add to, J means "multiplied by T means" subtracted from" K means "divided by" then the value of $30 K 2 G 3 J 6 T 5$
(a) 28 (b) 31 (c) 39 (d) 103
102. Find the variance if the probability of head is $\frac{2}{5}$ of a coin. If there are 150 coin are tossed
(a) 36 (b) 56 (c) 46 (d) 45
103. In a MCA group there is 3 subject that is CS1, CS2, CS3. If 20 student learn CS1, 25 student learn CS2, 30 learn CS3. If 10 student learn CS1 and CS2, 20 CS2 and CS3 and 15 learn CS1 and CS3 and 7 student all three subject then find the number of student
(a) 37 (b) 35 (c) 38 (d) none

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

104. In normal distribution density function in defined as with variance 16 and mean 4 also given $\int_{-\infty}^{0.25} \frac{e^{-t^2}}{\sqrt{2\pi}} dt = 0.5892$
then find $|z| < 3$
(a) 0.5892 (b) 0.4827 (c) 0.7285 (d) None of these
105. If two vertices of triangle are (6, 4) and (4, 5). Third vertices lie on the equatio $9x + 7y = 28$. Then find the locus of centroid is
(a) $9x + 7y - 58 = 0$ (b) $9x + 7y + 58 = 0$ (c) $9x + 7y + 28 = 0$ (d) $9x + 7y - 28 = 0$

106. If probability distribution is defined as $F(x) = (x - 1)^4$, $0 \leq x \leq 1$. Then find the distribution of function

(a) $x \quad 0 \quad 1 \quad 4$

$P(x) \quad \frac{1}{4} \quad \frac{3}{4} \quad \frac{2}{4}$

(b) $x \quad 0 \quad 1 \quad 4$

$P(x) \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{1}{8}$

(c) $x \quad 0 \quad 1 \quad 4$

$P(x) \quad \frac{1}{2} \quad \frac{3}{4} \quad \frac{1}{8}$

(d) $x \quad 0 \quad 1 \quad 4$

$P(x) \quad \frac{1}{2} \quad 0 \quad \frac{1}{2}$

107. Solve the equation $\frac{dy}{dx} = x + y$, with initial condition $y(0) = 1$ by Runge-Kutta rule, from $x = 0$ to $x = 0.4$ with

$h = 0.1$

(a) 0.7732

(b) 1.5836

(c) 2.5836

(d) None of these

JITENDRA MISHRA ACADEMY (JMA), INDORE (India's No. 1 Institute for All India MCA Entrance Training)

JMA HOUSE - 7, CHANDRALOK COLONY, INDORE (M.P.) Ph.: 0731 - 4236844 / 2566799 Visit us : www.jmaindore.com

108. A particle moves 1 unit from origin to up, $\frac{1}{2}$ unit right, $\frac{1}{4}$ unit below, $\frac{1}{8}$ left, $\frac{1}{16}$ up and so on then what is the end point of the particle

(a) $\left(\frac{2}{5}, \frac{4}{5}\right)$

(b) (0, 0)

(c) $\left(\frac{3}{5}, \frac{1}{5}\right)$

(d) None of these

109. There are 7 friends which accommodate in 3 in 1 flat and two in 2 flats. Then the number of ways

(a) 210

(b) 3000

(c) 5040

(d) None of these

110. There are 2 brothers and 6 are more persons are other. They sit in a row then find the number of ways if these two brothers are not sit together

(a) 5040

(b) 14400

(c) 620

(d) None of these