MCA JNU PAPER 2016

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 sixth stop.

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 dries of Sushil's house at an average speed of 40 mph. If he can drive 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

4. As lave is related to Volcano, 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 has was married ?

(c) How much weight is gained or lost in 13 years by a single people of comparable age to those studied.

(d) When the survey was conducted were the women as active as the men.

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 present a paper each at 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. $\int_{-\pi}^{\pi} \frac{\cos^2 x}{1+a^x} dx =$

(a) $\frac{\pi}{2}$ (b) $\frac{a^2\pi}{2}$

(c) $\frac{a\pi}{2} - 1$ (d) ax

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 eg. $\frac{dy}{dx} = \frac{1}{1+y+1}$

(a) $y+1 \pm \log(x+y+2) = c$

(b) $y+1 = \log(x+y+2)+c$

(c) $y = \log(x+y+2)+c$

MCA JNU PAPER 2016

(d) none

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 number of solution for $x_1x_2x_3 = y$

(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.

15. The coefficient of x in the expansion of $(+4x+x^2)^{4/2}$;

(a) 1 (b) 0

(c) –1 (d) 2

16. The value of $1+22+32^2 + 1002^{99}$ will be;

(a) $1002^{99} + 1$ (b) 1002^{99}

(c) $1002^{99} + 1$ (d) $992^{99} + 1$

17. The two vectors is said to be equal if they are;

(i) same length (ii) same support

(iii) same sense

(a) only I and II (b) only II and III

(c) only I and III (d) all of these

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

19. $\sum_{k=1}^{n}\sum_{i=1}^{k}\sum_{j=1}^{i}1 =$ How

(a) $\frac{n(n+1)}{2}$ (b) $\frac{n(n+1)(2n+1)}{6}$

(c) $\frac{n(n+1)(n+1)}{6}$ (d) none of these

20. $\int_0^{100} x - [x] =$

(a) 50 (b) 100

(c) 200 (d) none of these

21. If $\phi(x)$ be the inverse of f(x) and $f'(x) = \frac{1}{1+x^5}.\varphi'(x)$ is equal to;

(a) $1+[\varphi(x)]^5$ (b) $1+[f(x)]^5$

(c) $1 + x^5$ (d) none

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. $\int_{1/2e}^{20} \log|2x|\,dx$

(a) $e^{-1} - 1$ (b) $1 - e^{-1}$

(c) 2 (1 + e) (d) none of these

24. Value of $\lim_{x\to 0}\frac{x}{|x|} =$

(a) 0 (b) 1

(c) –1 (d) none

25. Order and degree of the differential equation $\left\{1+\left(\frac{d^2y}{dx}\right)\right\}^{3/2} = \frac{d^3y}{dx^3}$

(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

27. Greatest and minimum value of |z + 1| where |z + 4| = 3;

(a) (6, 0) (b) (3, 3)

(c) (4, 0) (d) none

28. Distance from the centre of circle $(x^2 + y^2=2x)$ from the line passes through the poit 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

29. $1|\underline{1+2}|\underline{2+3}|\underline{3+.....n}|\underline{n}$

(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 double then angled between the;

(a) 60^0 (b) 30^0

(c) 120^0 (d) none

31. If f_1 and f_2 are the flinght 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 $(2t^2 + 2t + 2t^2 + t + 2)$ are satisfied in the equation x+2y=1

(a) 4 (b) 8

(c) $\frac{4+\sqrt{7}}{2}$ (d) none

33. A velocity ¼ m/s revolved into two components along OA and OB making angle 30^0 and 45^0 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 $y = (1+x)(1+x^2)(1+x^4).....(1+x^2n)$ 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 ΔABC. 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) $\text{cosec}\frac{A}{2}\text{cosec}\frac{B}{2}\text{cosec}\frac{C}{2}$

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) 223 (d)105

37. $\lim_{n\to\infty}\frac{(n!)^{1/n}}{n}$

(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 $\vec{a}$ and $\vec{b}$ 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) $\sqrt{\frac{1}{2}(1-ab)}$

39. Which of the following is odd function

(a) sinx + cosx (b) $1 + x + x^2$

(c) x + sinx (d) none of these

40. f(x) = x max (x, 0)

(a) continuous nowhere

(b) continuous everywhere

(c) continuous somewhere

(d) none of these

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

42. If a=4, b=3 and $\angle A = 60^0$ 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

43. In a party there are some people if every person shakes hand with every other person, total handshake 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

MCA JNU PAPER 2016

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(y) f(z) and f(2) = 4 and 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

48. If $a, b, c \in R$ 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 $\int_0^{\infty} f(x)dt$ is;

(a) even function (b) odd function

(c) neither even nor odd (d) none of these

50. $\log_{1/2} a + \log_{1/4} a + + \log_{1/8} a + \log_{1/16} a + ...$ 20 times is 840 then a is;

(a) 2 (b) 1

(c) 4 (d) $\sqrt{2}$

51. Number of point of the discontinuous of $\frac{1}{\log|x|}$ is;

(a) 1 (b) 3

(c) 4 (d) none

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

54. If $(1+ax)^n = 1 + 8x + 16x^2 + ...$ then the value of a and 2

(a) 2, 4 (b) 4, 2

(c) 3, 2 (d) none

55. If $A \cap (A \cup B)$ then which of the following true ?

(a) A (b) B

(c) $A' \cup B$ (d) none

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

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

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) fog = gof (b) fo(goh) = (fog)oh

(c) $fof^{-1} = f^{-1}of$ (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 perpendicular to each other then angle between a and b is

(a) $\pi/2$ (b) $\pi/3$

(c) $\pi/4$ (d) $\pi/6$

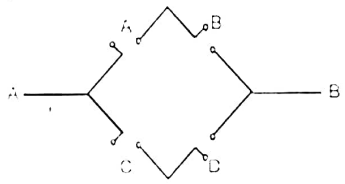
63. If $|z| = 1$ then $\left|\frac{z-1}{z+1}\right| = ?$

(a) purely imaginary
(b) purely real
(c) both real and imaginary
(d) none

64. If $y = e^x(A\cos x + B\sin x)$ then

(a) $y^{11} - 2y^1 + y = 0$ (b) $y^{11} + y^1 + y = 0$
(c) $y^{11} - (y^1)^2 + y = 0$ (d) none

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) $1 - (1 - P)^4$
(c) $1 - (1 - P^2)^2$ (d) $1 - 2P^2$

66. solution of m=3 (mod 13) & m=2 (mod 5)

(a) 52 (b) 42
(c) 30 (d) none

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 and 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 and 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) $\frac{a}{2}\text{cosec}\left(\frac{\pi}{2h}\right)$

70. Sum of the product each term of [10, 11, 12, .. 20] with each term of [21, 22, ... 30] equal to;

(a) 46075 (b) 56371
(c) 46750 (d) none

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

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

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

(a) trapozodial rule (b) simpson rule
(c) George rule (d) none

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 time uniformly distributed among 10 am to 11 am. then what is the probability that one who come first have to wait longer than 10 minute;

(a) 1/36 (b) 11/36
(c) 35/36 (d) 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

76. If 'x' is binomial distribution with h and 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

MCA JNU PAPER 2016

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. $\sum_{j=1}^{21} aj = 693$, $a_1, a_2, a_3, \ldots$ 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

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

83. What will be the value of k for which the function given by $f(x, y) = kxy$ for n=1, 2, 3, ..., y = 1, 2, 3, ... can serve as joint probability distribution;
(a) 1/9 (b) 1/18
(c) 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 distinct
(d) none

85. If A and B are square matrix then;
(i) det (AB = dt (BA)
(ii) det (AB) = 0 if either det (A)=0 or det (B) = 0
(iii) det (AB^{-1}) = dt (A perpendicular B)
(a) only (i) statement is correct
(b) only (ii) statement are correct.
(c) all are correct.
(d) none of these

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 σ=681235947 and τ=627184593 be permutation on (1, 2, 3, 4, 5, 6, 7, 8, 9) in one live notation (based on the usual order integer). What of the following is correct gate rotation for τ.C.
(a) 12495368 (b) 142597368
(c) 142953768 (d) 1425368

88. Find odd out;
(a) guava (b) litchi
(c) watermelon (d) papaya

89. Opposite word of ABATE
(a) Augument (b) Attach
(c) After (d) Astist

90. Rank of Navya is 9^{th} from the top and 38^{th} 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 turning to right from there he travels his uncles house straight 30 m and then travels 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

92. village PQRS are such that q lies south west of P and R lies east of Q and south east of P, P lies 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

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 7^{th} day of month is 3 day earlier than Friday then what will be the 19^{th} day of the month ?
(a) Sunday (b) Monday
(c) Saturday (d) Friday

MCA JNU PAPER 2016

95. As aeroplane is related to cockpit, then train is related to;
(a) Engine (b) compartment
(c) Each (d) Wagon

96. The english alphabet which comes 16^{th} to the right of the 4^{th} letter to the left letter is I;
(a) U (b) V
(c) S (d) None

97. A + B means, A is brother of B, A×B means A is daughter of B and A–B means A is father of B then P+QR 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 an volleyball section 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 kmh then in how many hour does swimmer crosses the river ?
(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

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 the probability of head is 2/5 of a coin. If there are 150 coin are tossed;
(a) 96 (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

104. In normal distribution density function in defined as with variance 16 and mean 45 also given $\frac{1}{\sqrt{2\pi}}\int_{-\infty}^{0.25} e^{-t^2/2}dt = 0.5892$ then find $|z| < 3$;
(a) 0.5892 (b) 0.4827
(c) 0.7285 (d) none

105. If two vertices of triangle are (6, 4) and (4, 5). Third vertices lie on the equation 9x+7y=28. Then find the locus of centriod 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 $F(x)=(x-1)^4$. $0 \le x \le 1$. Then find the distribution of function;

(a)
x	0	1	4
P(x)	1/4	3/4	2/4

(b)
x	0	1	4
P(x)	3/8	4/8	1/8

(c)
x	0	1	4
P(x)	1/2	3/4	1/8

(d)
x	0	1	4
P(x)	1/2	0	1/2

107. Solve the equation $\frac{dy}{dx} = x + y$, with initial condition y(0)=1 by ruge kutta rule, from x=0 to x=0.4 with h=0.1
(a) 0.7732 (b) 1.5835
(c) 2.5836 (d) none

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 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

109. There are 7 friends which accommodate in 3 in 1 flate and two in 2 flate. Then the number of ways;
(a) 210 (b) 3000
(c) 5040 (d) none

110. There are 2 brothers and 6 are more person are other. They sit in a row then find the number of ways these two brother are not sit together;
(a) 5040 (b) 14400
(c) 620 (d) none