MAARULA CLASSES

FOR DETAILED SOLUTION VISIT

Website: https://question.maarula.in

MAARULA MATHEM E-LEARNING APP

Solved With Tricks

Scan The QR
Download
Our App Now.

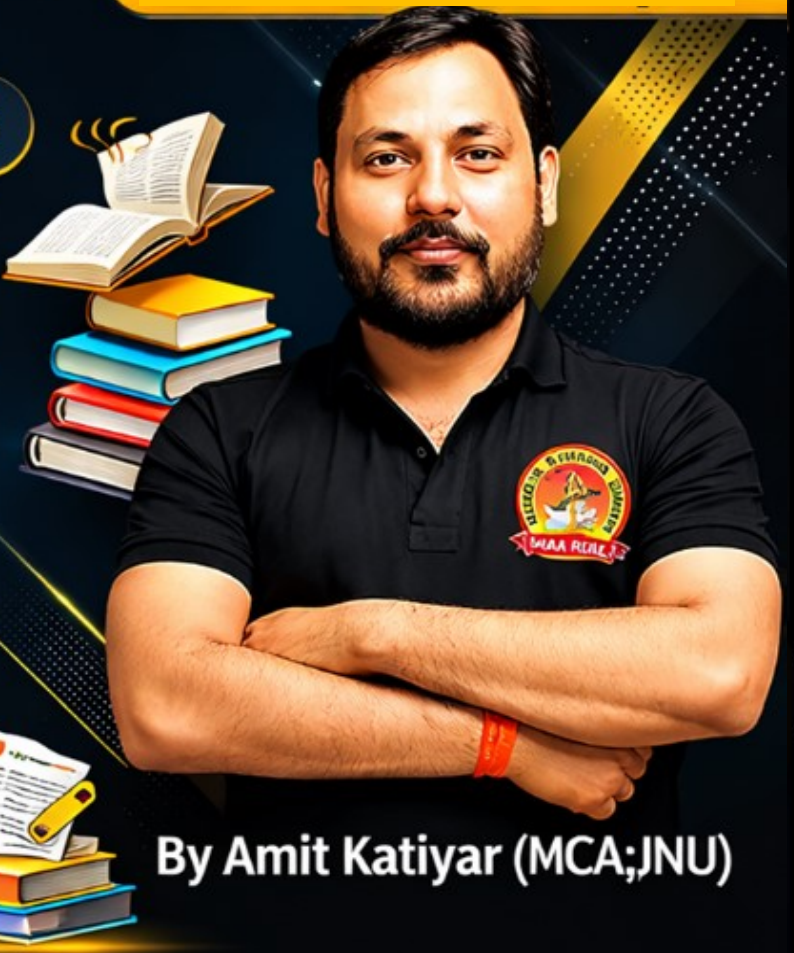
AMU MCA ENTRANCE
2017
PAPERS

https://youtube.com/@maarulaclasses?si=XkKXyJ_2a16NiK-K

MAARULA

AMU MCA ENTRANCE

- Topic Wise Weightage & Detailed Trend Analysis
- All 17 years Paper With Smart Solution
- Syllabus & Important Documents
- Topic Wise All PYQ's
- NIMCET-Free Test



By Amit Katiyar (MCA;JNU)

AMU MCA ENTRANCE PAPER 2016-17

1. The coordinates of the vertex of a parabola are $\left(-\frac{1}{5}, \frac{2}{5}\right)$ and the equation of its axis s $4x-3y+2=0$. If the length if its latus rectum is 8, then the coordinates of its focus are

   (a) (1, 2) (b) (1, −1)

   (c) (2, 1) (d) (−1, 2)

2. The lines given by

   $x-y-z=0, \quad ayz+bzx+cxy=0$

   are at right angles if

   (a) a=b+c (b) a=b−c

   (c) $c=\frac{(a-b)}{2}$ (d) $b=\frac{(a+c)}{2}$

3. The locus of point of intersection of perpendicular tangents on a hyperbola $\frac{x^2}{a^2}-\frac{y^2}{b^2}=1$ is

   (a) a straight line (b) a parabola

   (c) a circle (d) an ellipse

4. The centre of the circle $r=3Cos\theta+4Sin\theta$ is

   (a) $\left(\frac{2}{5}, tan^{-1}\frac{3}{4}\right)$ (b) $\left(\frac{5}{2}, tan^{-1}\frac{3}{4}\right)$

   (c) $\left(\frac{5}{2}, tan^{-1}\frac{4}{3}\right)$ (d) $\left(\frac{2}{5}, tan^{-1}\frac{4}{3}\right)$

5. A vector of magnitude 5 and perpendicular to $2\hat{i}+\hat{j}+3\hat{k}$ and $\hat{i}-2\hat{j}+\hat{k}$ is

   (a) $\frac{5\sqrt{3}}{3}(\hat{i}+\hat{j}+\hat{k})$ (b) $\frac{5\sqrt{3}}{3}(\hat{i}+\hat{j}-\hat{k})$

   (c) $\frac{5\sqrt{3}}{3}(\hat{i}-\hat{j}+\hat{k})$ (d) $\frac{5\sqrt{3}}{3}(-\hat{i}+\hat{j}+\hat{k})$

6. The pt of inflexion of the curve

   $y=(x^2-x-6)(x-7)$ is

   (a) 8/3 (b) 2/3

   (c) 1/4 (d) 4/3

7. If $u=log\frac{x^2+y^2}{x+y}$, then the value of xu_x+yu_y is

   (a) 2 (b) −1

   (c) 1 (d) 0

8. For the curve $y^2(x-a)=x^2(x+a)$, $a>0$. The asymptotes are

   (a) $y=x+a; y=-x-a$ (b) $y=-x+a; y=-x-a$

   (c) $y=\frac{1}{2}x+a; y=-\frac{1}{2}x-a$ (d) $y=x+\frac{1}{2}; y=x-\frac{1}{2}$

9. The volume generated by the revolution of the curve $r=2a\,Cos\theta$ about the initial line is

   (a) $\frac{4\pi a^3}{3}$ (b) $4\pi a^3$

   (c) $\frac{4\pi}{5}a^3$ (d) πa^3

10. If $u=x^2-y^2; x=2r-3s+4, \; y=-r+8s-5$, then the value of $\frac{\partial u}{\partial r}$ at (2, 3) is

    (a) 14 (b) 12

    (c) 10 (d) 8

11. Which of the following relation is false?

    (a) $\mu\delta=\frac{1}{2}(\Delta+\nabla)$ (b) $\mu\delta=\frac{1}{2}\Delta(1+E^{-1})$

    (c) $\mu\delta=\frac{1}{2}(E-E^{-1})$ (d) $\mu\delta=\frac{1}{2}\Delta(1-E^{-1})$

12. If $y_1=4$, $y_3=12$, $y_4=19$ and $y_x=7$, then the value of x using inverse Lagrange's interpolation formula is

    (a) 2.82 (b) 1.36

    (c) 1.86 (d) 1.68

13. The largest eigen value and corresponding eigen vector of the matrix $\begin{bmatrix}5 & 4\\ 1 & 2\end{bmatrix}$ using power method by taking $\begin{bmatrix}1\\0\end{bmatrix}$ as an initial approximation, after second iteration is

    (a) 5 and $\begin{bmatrix}1\\0.2\end{bmatrix}$ (b) 5.8 and $\begin{bmatrix}1\\0.24\end{bmatrix}$

    (c) 6 and $\begin{bmatrix}1\\0.2\end{bmatrix}$ (d) 5.2 and $\begin{bmatrix}1\\0.28\end{bmatrix}$

14. The Chebyshev polynomials $T_n(x)$ satisfy the recurrence relation $T_{n+1}(x)=2x\,T_n(x)-T_{n-1}(x)$ $T_0(x)=1$, $T_1(x)=x$, then the value of x^2 is

    (a) $\frac{1}{2}[T_2(x)+T_0(x)]$ (b) $\frac{1}{2}[T_2(x)-T_0(x)]$

    (c) $\frac{1}{4}[T_2(x)+T_0(x)]$ (d) $\frac{1}{3}[T_2(x)-T_0(x)]$

15. The particular integral of the difference equation

    $y_{x+2}-4y_x=2^x$ is

    (a) $\frac{x}{4}.2^{-x}$ (b) $x.2^x$

    (c) $\frac{x}{4}.2^x$ (d) $\frac{x}{8}.2^x$

16. What is the solution of the differential equation $Sinpx\,Cosy=Cospx\,Siny+p$?

    (a) $y=cx^2-Sin^{-1}c$ (b) $y=cx-Sin^{-1}c$

    (c) $y=cy-Sin^{-1}c$ (d) $y=cy^2-Sin^{-1}c$

17. The complete integral of zpq = p+q is

(a) $z^2 = 2(1+a)[x - (1/a)y] + b$
(b) $z^2 = 2(1+a)[x + (1/a)y] + b$
(c) $z^2 = 2(1-a)[x + (1/a)y] + b$
(d) $z^2 = 2(1+a)[-x + (1/a)y] + b$

Where a, b being arbitrary constants

18. The Laplace transform of Sin2x Sin3x is

(a) $\frac{24s}{(s^2-1)(s^2-25)}$
(b) $\frac{12s}{(s^2+1)(s^2+25)}$
(c) $\frac{24s}{(s^2-1)(s^2-25)}$
(d) $\frac{-12s}{(s^2+1)(s^2+25)}$

19. The general solution of $(y-z)p + (z-x)q = x-y$ is

(a) $\phi(x+y+z, x^2+y^2+z^2) = 0$
(b) $\phi(xyz, x+y+z) = 0$
(c) $\phi(xyz, x^2+y^2+z^2) = 0$
(d) $\phi(x^2+y^2+z^2, x-y-z) = 0$

20. A particular solution of

$4x^2\frac{d^2y}{dx^2} + 8x\frac{dy}{dx} + y = \frac{4}{\sqrt{x}}$ is

(a) $\frac{1}{2\sqrt{x}}$
(b) $\frac{(logx)}{2\sqrt{x}}$
(c) $\frac{(logx)^2}{2\sqrt{x}}$
(d) $\frac{(logx)\sqrt{x}}{2}$

21. If B is linearly independent subset of order 3 of a finite dimensional vector space V, then

(a) dim V = 3
(b) dim V ≠ 3
(c) dim V ≤ 3
(d) dim V > 3

22. If $u = \{x, y, z) | 2x + y - z) = 0$ and $w = \{x, y, z) | x + 2y + 2z = 0\}$ are subspaces of vector space R^3 over R, then dim (u+w) is equal to

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

23. If a linear transformation T: $R^3 \to R^3$ has eigen value 5 with an eigen vector (-1, 1, 4), then the eigen value $T^2 - 5T + 2I$, where I is identity transformation, is

(a) 2
(b) 5
(c) 4
(d) 3

24. If U and W are subspaces of a vector space V such that UUW is subspace of V, then

(a) $U \subseteq W$ and $W \subseteq U$
(b) Neither $U \subseteq W$ nor $W \subseteq U$
(c) $V = U + W$
(d) $U \subseteq W$ or $W \subseteq U$

25. If T: $R^2 \to R^2$ is linear transformation such that T(x,y) = (x – y, y), then the rank of T is

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

26. Let $f = \begin{cases} \frac{xy}{x^2+2y^2}, (xy) \neq (0,0) \\ 0 \quad , (xy) = (0,0) \end{cases}$

(a) f is not continuous at (0,0) but its partial derivatives exists at (0, 0)
(b) f is continuous at (0, 0) but its partial derivatives does not exists at (0, 0)
(c) f is continuous and its partial derivatives exists at (0, 0)
(d) None of these

27. If $u = sin^{-1}\{x^2+y^2) / (x+y)\}$, then the value of $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y}$ is

(a) Cot u
(b) Sin 2u
(c) tan u
(d) 0

28. The point on the surface $z^2 = xy + 1$ which is nearest to the origin is

(a) (±1, 0, 0)
(b) (0, ±1, ±1)
(c) (0, 0, ±1)
(d) (0, 1, –1)

29. The value of $\int_0^\infty \int_0^x e^{-xy} y\, dydx$ is

(a) $\int_0^\infty \int_y^\infty e^{-xy} y\, dydx = \frac{\sqrt{\pi}}{2}$
(b) $\int_0^\infty \int_y^\infty e^{-xy} y\, dydx = \frac{\pi}{2}$
(c) $\int_0^\infty \int_0^\infty e^{-xy} y\, dydx = \frac{\sqrt{\pi}}{2}$
(d) $\int_0^\infty \int_{y^2}^y e^{-xy} y\, dydx = \frac{\sqrt{\pi}}{2^2}$

30 The value of integral $\int_C (x^2+xy)dx + (x^2+y^2)dy$ where C is the square formed by the line $y = \pm 1$, $x = \pm 1$ is given by

(a) 0
(b) 1
(c) 1/2
(d) π/2

31. Three horses A, B and C are in a race. A is twice as likely to win as B, and B is twice as likely to win as C. The probability that A wins is

(a) $\frac{1}{7}$
(b) $\frac{2}{7}$
(c) $\frac{3}{7}$
(d) $\frac{4}{7}$

32. Let $X_1, X_2, \ldots\ldots, X_n$ be a random sample from the population.

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

Then mean $\bar{X}$ is an unbiased estimator of

(a) $1+\theta$ (b) θ

(c) $1-\theta$ (d) 2θ

33. If s^2 and S^2 are sample mean square and population mean square and σ^2 is the population variance, then for simple random sampling without replacement s^2 is an unbiased estimate of

(a) σ^2 (b) S^2

(c) S^2/σ^2 (d) $s^2.\sigma^2$

34. In testing statistical hypothesis, if α is the probability of type I error and β is the probability of type II error, then power of the test is given by

(a) $1-\alpha$ (b) $1-\beta$

(c) $\alpha-\beta$ (d) α/β

35. Suppose a sample of size 2 is drawn from a population of size 6 by the method of simple random sampling without replacement. Let population mean square be 3.5 and population variances be 2.917. Then the variance of sample mean is

(a) 1.167 (b) 1.111

(c) 1.317 (d) 1.200

36. Given that $P(A) = \frac{1}{3}, P(B) = \frac{1}{4}, P(A/B) = \frac{1}{6}$, the probability $P(B/A)$ is equal to:

(a) $\frac{1}{4}$ (b) $\frac{3}{4}$

(c) $\frac{1}{8}$ (d) None of the above

37. The mean difference between 9 paired observations is 15 and the standard deviation of difference is 5. The value of statistic t is:

(a) 27 (b) 9

(c) 3 (d) Zero

38. If n units are selected in a sample from N population units, the sampling fraction is given as

(a) $\frac{N}{n}$ (b) $\frac{1}{N}$

(c) $\frac{1}{n}$ (d) $\frac{n}{N}$

39. The middle value of an ordered series is called

(a) 2nd quartile (b) 5th decile

(c) 50 percentile (d) All the above

40. The maximum possible number of orthogonal contrasts among four treatments is

(a) Four (b) Three

(c) Two (d) One

41. In tossing three coins at a time, the probability of getting at most one head is

(a) $\frac{3}{8}$ (b) $\frac{7}{8}$

(c) $\frac{1}{2}$ (d) $\frac{1}{8}$

42. The degree of freedom for statistic t for paired t-test based on n pairs of observations is

(a) $2(n-1)$ (b) $n-1$

(c) $2n-1$ (d) None of the above

43. Formula for standard error of sample mean $\bar{x}$ based on sample size n having variances s^2, when population consisted of N items, is

(a) $\frac{s}{n}$ (b) $\frac{s}{\sqrt{n-1}}$

(c) $\frac{s}{\sqrt{N-1}}$ (d) $\frac{s}{\sqrt{n}}$

44. Geometric mean of two observations can be calculated only if

(a) both the observations are positive (b) one of the two observations is zero

(c) one of them is negative (d) both of them are zero

45. While analysing the data of a KxK Latin square, the error degree of freedom in analysis of variance is equal to

(a) $(K-1)(K-2)$ (b) $K(K-1)(K-2)$

(c) K^2-2 (d) K^2-K-2

46. The mean and variance of a binomial distribution are 8 and 4 respectively, is equal to

(a) $\frac{1}{2^{12}}$ (b) $\frac{1}{2^4}$

(c) $\frac{1}{2^6}$ (d) $\frac{1}{2^8}$

47. Least square estimators of the parameters of a linear model is

(a) unbiased (b) BLUE

(c) UMVUE (d) All the above

48. The experiments in which the treatments are allocated to experimental units through a random process are categorized as

(a) completely randomized design
(b) partially randomized design
(c) randomized design
(d) All the above

49. O gives for more than type and less than type distributions intersect at

(a) mean
(b) median
(c) mode
(d) origin

50. Sampling frame is a term used for

(a) a list of random numbers
(b) a list of voters
(c) a list of sampling units of a population
(d) none of the above

51. The mutual potential energy V of two particles depend on their mutual distance r, as follows

$$V = \frac{a}{r^2} - \frac{b}{r} \qquad ; a > 0, b > 0$$

For what separation r, the particle are in static equilibrium

(a) 2a/b
(b) 2r/a
(c) 2b/a
(d) 2a

52. If the radius of the earth suddenly decreases to half its present value, the mass remaining constant, what would be the duration of the day

(a) 24 hours
(b) 6 hours
(c) 48 hours
(d) 12 hours

53. A particle of mass m, moves under the action of a central force whose potential is $v(r)$-kmr^3. The period of the circular motion of the particle will be

(a) $2\pi/\sqrt{3kr}$
(b) $\frac{\sqrt{3kr}}{2\pi}$
(c) $\frac{3\pi}{\sqrt{2kr}}$
(d) $\sqrt{2kr}$

54. A satellite moves in a circular orbit around the earth at a height R/2 from the earth surface, where R_e is the radius of earth. The period of revolution would be (R_e ~6.38×10^6m)

(a) 3.2×10^6 sec
(b) 4.6×10^6 sec
(c) 1.3×10^1 sec
(d) 9.3×10^3 sec

55. An electron is moving with a speed of 0.85 C in a direction opposite to that of a moving photon. The relative velocity of the electron and photon is

(a) 0
(b) 0.15 C
(c) 0.85 C
(d) C

56. In a parallel resonant circuit, at resonance the

(a) impedance of the circuit is maximum
(b) impedance of the circuit is minimum
(c) impedance is purely resistive
(d) admittance is maximum

57. The unit of polarisability, in SI system of units, is

(a) Farad.meter^2
(b) Farad.meter
(c) farad^2.meter
(d) Farad/meter

58. An achromatic doublet consists of lenses separated by a distance 8 cm. The first lens has focal length of 12 cm. The focal length of the whole system is

(a) 4 cm
(b) 6 cm
(c) 8 cm
(d) 12 cm

59. For the red cadmium line of wavelength 6438 Å, the coherence time is 10^{-9} s. The coherence length for this cadmium light is

(a) 30 mm
(b) 3 cm
(c) 30 cm
(d) 30 m

60. The least separation between wavelengths that can be resolved near 640 nm in second order using 5cm wide diffraction grating ruled with 320 lines per cm is

(a) 1 Å
(b) 2 Å
(c) 4 Å
(d) 6 Å

61. The midrange voltage gain of a RC amplifier is 100. The input RC circuit has lower cutoff frequency of 1KHz. Determine the actual voltage gain at f=100Hz

(a) 10
(b) 20
(c) 30
(d) 40

62. Distortion of an amplifier is reduced from 15% to 3% when 4% negative feedback is used. Find the voltage gain without feedback.

(a) 100
(b) 150
(c) 200
(d) 250

63. The definite integral $\int_0^{2\pi} \frac{d\theta}{5+4\cos\theta}$ has the value

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

64. Which one of the following is the Legendre polynomial of order 3

(a) $y = \frac{1}{2}(3x^2 - 1)$
(b) $y = \frac{1}{2}(5x^3 - 3x)$
(c) $y = (8x^3 - 12x)$
(d) $y = \frac{9x^2 - x^3 - 18x + 6}{3!}$

65. A heater of 220 volt boils a volume of water in 5 minutes time. If the heater is operated at 110 volt, the same volume of water will boil in

(a) 5 minutes (b) 8 minutes
(c) 10 minutes (d) 20 minutes

66. A proton, deutron and an α-particles are accelerated through the same potential difference, their kinetic energies will be in the ratio:

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

67. The ratio of frequencies of revolution of electron in n =1 and n=3 Bohr orbits is

(a) 1 (b) 2
(c) 4 (d) 27

68. Which of the following nuclei has maximum value of binding energy per nucleon?

(a) ^{16}O (b) ^{32}S
(c) ^{56}Fe (d) ^{100}MO

69. Which of the following wavelengths can not be selected from a He – Ne laser?

(a) 6328 Å (b) 6943 Å
(c) 1.15 μm (d) 3.39 μm

70. In a body-centred cubic crystal, the plane consisting of maximum number of lattice points is

(a) (110) (b) (100)
(c) (211) (d) (235)

71. Maximum number of nodes of any level *l* of a binary tree is

(a) 2^l (b) $2^l + 1$
(c) $2^l - 1$ (d) 2^{l+1}

72. Maximum degree of any vertex in a simple graph with *n* vertices is

(a) n (b) $n-1$
(c) $n+1$ (d) $2n-1$

73. If the sequence of operations – push (1), push (2), Pop, Push (1), Push (2), Pop, Pop, Pop, Push(2), Pop are performed on a stack, the sequence of popped out values are

(a) 2, 2, 1, 1, 2 (b) 2, 2, 1, 2, 2
(c) 2, 1, 2, 2, 1 (d) 2, 1, 2, 2, 2

74. Height balanced binary search tree is known as

(a) Spanning tree (b) Minimum Spanning tree
(c) AVL tree (d) None of the above

75. In C-language 'break' statement is used to exit from

(a) a do loop (b) a for loop
(c) a switch statement (d) All of the above

76. Dynamic binding is

(a) Resolving the function call at compile time (b) Defining binding statically
(c) Resolving function call at run time (d) None of the above

77. Polish notation of infix string

(a + b ^ c ^ d) * (e + f / d) is

(a) ab ^ cd ^ e + fd / + * (b) abcd ^ ^ + e f d + / *
(c) abcd ^ ^ + e f d / + * (d) ab ^ ^ cd + e f d + / *

78. Postfix expression of an expression A $ B* C – D + E / F / (G + H) is:

(Note $ is the exponential operator)

(a) AB $ C* D – EF / GH + + / (b) AB $ C* D – EF / GH + / +
(c) AB $ C* D – EF / / GH + + (d) AB C* $ D – EF / GH + / +

79. A binary tree in which every non-leaf node has non-empty left and right sub trees is called a strictly binary tree. Such a tree with 10 leaves

(a) Cannot have more than 19 nodes (b) Has exactly 19 nodes
(c) Has exactly 17 nodes (d) Cannot have more than [illegible] nodes

80. Linked lists are not suitable for implementing

(a) Insertion sort (b) Binary search
(c) Radix sort (d) Polynomial manipulation

81. Best case running time complexity of Bubble sort, Quick sort and insertion sort are respectively:

(a) O (n^2), O(n^2) and O (nlogn) (b) O(nlogn), O(n^2) and O(n^2)
(c) O(n), O(nlogn) and O(n) (d) O(n^2), O(nlogn) and O(nlogn)

82. In a linked list of n elements, what is the time taken to insert an element after an element pointed by some pointer?

(a) O (1) (b) O ($\log_2$ n)
(c) O (n) (d) O (n $\log_2$ n)

83. What is the average running time to search an item in a list according to Binary search algorithm?

(a) O ($\log_2$ n) (b) O ($\log_{10}$ n)
(c) O (n $\log_{10}$ n) (d) O (n)

84. The number of swapping needed to sort numbers 8, 22, 7, 9, 31 in ascending order using bubble sort is:

(a) 3
(b) 4
(c) 5
(d) 25

85. With Round-robin CPU scheduling in a time sharing system

(a) Using very large time slices degenerates into first-come-first-served (FCFS) algorithm
(b) Using extremely small time slices improves performance
(c) Using very small time slices degenerates into last-in-first-out (LIFO) algorithm
(d) Using medium sized time slices leads to Shortest Request Time First (SRTF) algorithm

86. Moving process from main memory to disk is called

(a) scheduling
(b) caching
(c) Swapping
(d) Spooling

87. The running time T(n), where n is the input size of a recursive algorithm is given as follows

$T(n) = T(n/2) + c$, if $n > 1$

$= d$, if $n \leq 1$

The order of this algorithm is:

(a) $\log_2 n$
(b) $\log_{10} n$
(c) $n \log_{10} n$
(d) $n \log_2 n$

88. A system program that combines the separately compiled modules of a program into a form suitable for execution

(a) assembler
(b) linking loader
(c) [illegible]er
(d) load and go

89. Addition of 10_2 and 11_2 is

(a) $(100)_2$
(b) $(101)_2$
(c) $(111)_2$
(d) $(110)_2$

90. What is the correct arrangement of Memory types in increasing order of average access time?

(a) Cache, Main Memory, Disk Memory
(b) Cache, Disk Memory, Main Memory
(c) Disk Memory, Main Memory, Cache
(d) Main Memory, Cache, Disk Memory

91. Plum is related to fruit as willow is related to .....?

(a) wood
(b) tree
(c) leaves
(d) branch

92. C4X, F9U, 116R, ?

(a) K25P
(b) L25P
(c) L25O
(d) L27P

93. YEB, WFD, UHG, SKI, ?

(a) QOL
(b) QGL
(c) TOL
(d) QNL

94. 1, 6, 13, 22, 33, ?

(a) 44
(b) 45
(c) 46
(d) 47

95. Man : House; Bird : Nest; Fish: ?

(a) River
(b) Water
(c) Hole
(d) Rain

96. Exempt : obliged

(a) Affluent : Fluent
(b) Immune : Susceptible
(c) Valiant : Puissant
(d) Steadfast : Putative

97. M2, P3, U7, X13, ?

(a) C 26
(b) C 27
(c) C 28
(d) C 29

98. Choose the group of letters which is different from others.

(a) DXCLQZ
(b) PFZUBM
(c) XGKNTY
(d) NWMBIJ

99. Dungeon: Confinement : : Asylum : ?

(a) Refuge
(b) Mercy
(c) Truancy
(d) Remorse

100. Doctor : Nurse : : ? : Follower

(a) Employer
(b) Leader
(c) Worker
(d) Manager

ALIGARH MUSLIM UNIVERSITY, ALIGARH

M.C.A. Admission Test - 2016-17

Answer Key

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

50	C
51	A
52	B
53	A
54	D
55	D
56	A
57	A
58	B
59	C
60	B
61	A
62	A
63	B
64	B
65	C
66	D
67	D
68	C
69	B
70	A
71	A
72	B
73	A
74	C
75	D
76	C
77	C
78	B
79	B
80	B
81	C
82	A
83	A
84	A
85	A
86	C
87	A
88	B
89	B
90	A
91	B
92	C
93	A
94	C
95	B
96	B
97	B
98	B
99	A
100	B