**SRAMAYEVA JAYATHE**

# NARAYANA
**IIT-JEE/NEET/FOUNDATION** | **JAIPUR CENTER**

**46 YEARS OF EXCELLENCE**
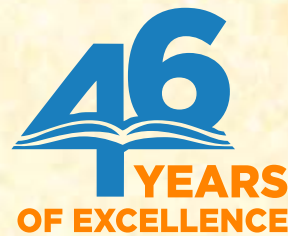
# N-ASAT

**NARAYANA ADMISSION & SCHOLARSHIP APTITUDE TEST**

**SAMPLE TEST PAPER**

**CLASS 11 (MOVING TO 12)**
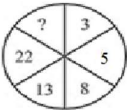
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**JEE (Main+Adv) / NEET**

## REASONING ABILITY

1.  A and B are sister. R and S are brother. A's daughter is R's sister. What is B's relation to S?

    (A) Mother                               (B) Grandmother

    (C) Sister                                  (D) Aunt

2.  Pointing to a boy, Namrata says "He is the son of my grandfather's only child". How is the boy related to Namrata?

    (A) Brother                             (B) Cousin

    (C) Uncle                                 (D) Data inadequate

3.  Find the missing character from among the given alternatives.

    

    (A) 50                                   (B) 39

    (C) 26                                   (D) 1

4.  Rajiv is the brother of Atul. Sonia is the sister of Sunil. Atul is the son of Sonia. How is Rajiv related to Sonia?

    (A) Nephew                            (B) Son

    (C) Brother                             (D) Father

5.  If in a certain code, LUTE is written as MUTE, FATE is written as GATE, then will BLUE be written in that code?

    (A) CLUE                              (B) GLUE

    (C) FLUE                              (D) TLUE

6.  If FISH is written as EHRG in a certain code would JUNGLE be written in that code?

    (A) ITMFKD                       (B) ITNFKD

    (C) KVOHMF                      (D) ITMHMF

7. Select from the alternatives, the box that can be formed by folding the sheet show in figure (X).



(X)

(A) 

(B) 

(C) 

(D) 
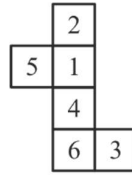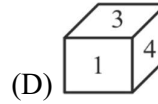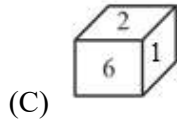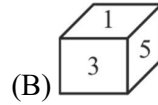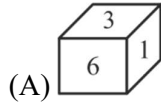
8. Find the number of rectangles
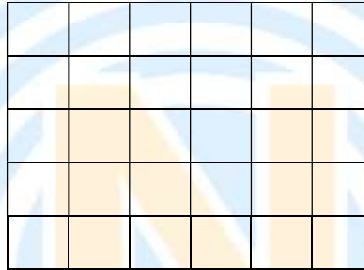


(A) 305
(C) 250

(B) 315
(D) 630

9. Pointing to a photograph of a boy, Avinash said, "He is the son of the only son of my mother." How is Avinash related to that boy?

(A) Brother
(C) Cousin

(B) Uncle
(D) Father

10. Which face will be opposite "T" after folding a cube?



(A) P
(C) R
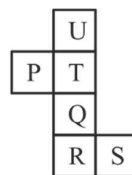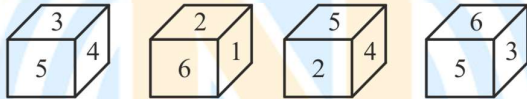
(B) Q
(D) S

11. How many such 4's are there in the following series which are preceded by 7, but are not followed by 8?

3 4 5 7 4 3 7 4 8 5 4 3 7 4 9 8 4 7 2 7 4 1 3 6

(A) 1  (B) 2

(C) 3  (D) 4

12. One evening Ram and Mahesh are sitting in a park face to face. If Ram's shadow is falling on Mahesh's left, then which direction is Mahesh facing?

(A) South  (B) East

(C) West  (D) North

13. Correct the following equations by interchanging two signs.

$5 - 9 \times 45 + 15 \div 3 = 5$

(A) + and –  (B) × and ÷

(C) + and ÷  (D) × and –

14. Which number is opposite to number 5?



(A) 6  (B) 5

(C) 1  (D) 3

15. Nisha starts walking straight towards East She walks a certain distance and then turns her right and walks again. After moving some distance she again turns right and moves on. Find the direction if her next turn is towards her left.

(A) North  (B) East

(C) South  (D) West

16. Pointing to a woman, Ashish said, "Her grand-daughter is the only daughter of my brother." How is the woman related to Ashish?

(A) Sister  (B) Grandmother

(C) Mother-in-law  (D) Mother

17. If A means '÷' B means '–', C means '×' then find the value of following equation 46A2B3C4 = ?

(A) 34  (B) 23

(C) 17  (D) 11

18. Meena walks 14 metres towards west, then truns to her right and walks 14 metres and then turns to her left and walk 10 metres. Again turning to her left, she walks 14 metres. What is the shortest distance between her starting point and the present position?

(A) 10m  (B) 24m  (C) 28m  (D) 38m

19. Find the missing character from among the given alternatives.

| | 5 | |
|---|---|---|
| 16 | 109 | 2 |
| | 6 | |

| | 21 | |
|---|---|---|
| 22 | 53 | 19 |
| | 15 | |

| | 51 | |
|---|---|---|
| 17 | ? | 48 |
| | 13 | |
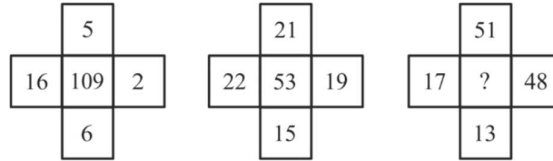
(A) 45                                    (B) 35
(C) 25                                    (D) 15

20. If P $ Q means P is the brother of Q; P # Q means P is the mother of Q; P*Q means P is the daughter of Q in A # B $ C * D; who is the father?

(A) D                                    (B) B
(C) C                                    (D) Data is inadequate

21. Find the missing character from among the given alternatives.

Circle figure: 4 7 5 1 64 3 11 27 ? 8 8 2

(A) 0                                    (B) 25
(C) 125                                  (D) 216

22. Find the missing character from among the given alternatives.

4, 9 → 6 ; 9, 16 → 12 ; 16, ? → 20
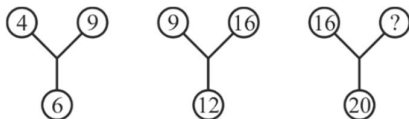
(A) 21                                    (B) 25
(C) 35                                    (D) 45

23. How many such 7s are there in the following number sequence which are followed by 4 but not immediately preceded by 8?

5 4 7 8 9 7 4 3 8 7 5 7 4 8 7 4 1 2 7 4 5 7 9 4

(A) Two                                    (B) Three
(C) Four                                   (D) Five

24. How many 6's are there in the following series of numbers which are preceded by 7 but not immediately followed by 9?

6 7 9 5 6 9 7 6 8 7 6 7 8 6 9 4 6 7 7 6 9 5 7 6 3

(A) One         (B) Two         (C) Three         (D) Four

25. How many points will be on the face opposite to the face which contains 2 points?



(A) 1         (B) 4         (C) 5         (D) 6

## PHYSICS

26. A boy standing a the top of a tower of 20m height drops a stone. The speed with which it hits the ground is (g = 10 m/s$^2$) (neglect air resistance)
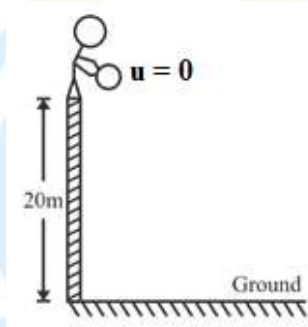


(A) 20 m/s         (B) 40 m/s         (C) 5m/s         (D) 10 m/s

27. A body is projected with velocity of 60 m/s at 30° to the horizontal. The velocity if the body after 3 seconds is; (g = 10 m/s$^2$)

(A) $20\hat{i} + 20\sqrt{3}\hat{j}$                 (B) $30\hat{i}$

(C) $10\sqrt{3}\hat{j}$                 (D) $30\sqrt{3}i$

28. Three masses of 16 kg, 8kg and 4 kg are placed in contact as shown in the figure. If a force of 140 N is applied on 4kg mass, then the normal force on 16 kg will be
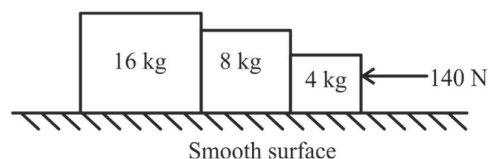


(A) 60 N         (B) 72 N         (C) 40 N         (D) 80 N

29. A block of mass 5 kg is released from top most point of a fixed rigid frictionless plank. The velocity of block when its kinetic energy will be equal to potential energy.
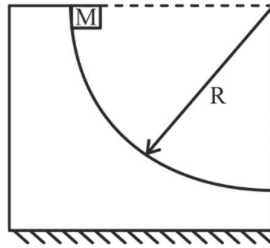


(A) 5gR

(B) $\sqrt{5gR}$

(C) $\sqrt{2gR}$

(D) $\sqrt{gR}$

30. Radius of gyration of the system of rings as shown in figure about y-y axis is
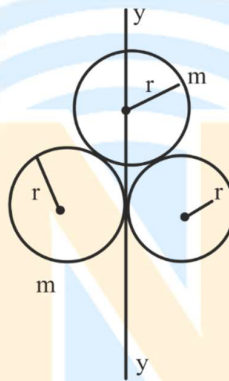


(A) $\sqrt{\dfrac{6}{5}}r$

(B) $\sqrt{\dfrac{5}{6}}r$

(C) $\sqrt{\dfrac{6}{7}}r$

(D) $\sqrt{\dfrac{7}{6}}r$

31. The acceleration time graph of a particle moving in a straight line is as shown in figure. The velocity of the particle at time t = 0 is 2m/s. The velocity after 2 sec will be
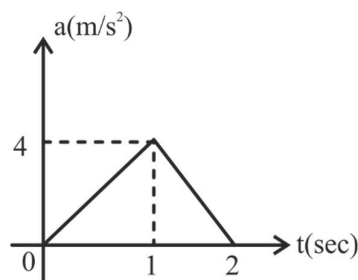


(A) 6 m/s

(B) 4 m/s

(C) 2 m/s

(D) 8 m/s

32. A pendulum of length $\ell = 1m$ is released from rest at angle $\theta_0 = 60°$ with vertical as shown in fig. $\theta_0 = 60°$. The rate of change of speed of bob at $\theta = 30°$ is; $(g = 10 \text{ m/s}^2)$
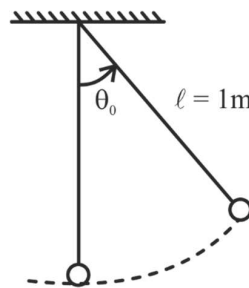


(A) $5\sqrt{3}$ m / s     (B) 5 m/s²     (C) 10 m/s²     (D) 2.5 m/s²

33. An elevator as shown in figure is descending with an acceleration of 2m/s². The mass of the block A is 500 g. The force exerted by the block A on the block B is $(g = 10 \text{ m/s}^2)$
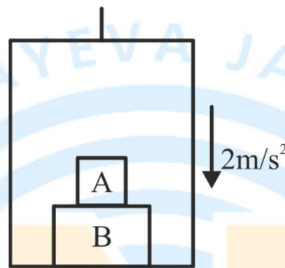


(A) 2 N     (B) 6N     (C) 4N     (D) 8N

34. A car drives along a straight level frictionless road by an engine delivering constant power. Then velocity is directly proportional to-

(A) t     (B) $\dfrac{1}{\sqrt{t}}$     (C) $\sqrt{t}$     (D) $t^2$

35. A particle of mass m is placed at rest on the top of a smooth wedge of mass M, which in turn is placed at rest on a smooth horizontal surface as shown in figure. Then the distance moved by the wedge as the particle reaches the foot of the wedge is



(A) $\dfrac{Ml}{m+M}$

(B) $\dfrac{ml}{m+M}$

(C) $\dfrac{2Ml}{m+M}$
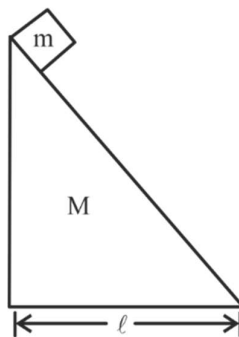
(D) $\dfrac{ml}{2m+M}$

36. A particle moves along x-axis such that x = (t – 1) (t – 2). Then

    (A) The particle was at origin initially

    (B) The particle moves with uniform acceleration of 2m/s²

    (C) The particle was moving forward initially

    (D) The speed of the particle increases gradually

37. The density of a non-uniform rod of length 1m is given by $\rho(x) = a\left(1 + bx^2\right)$ where a and b are constant and $0 \le x \le 1$. The centre of mass of the road will be at

    (A) $\dfrac{3(2+b)}{4(3+b)}$

    (B) $\dfrac{4(2+b)}{3(3+b)}$

    (C) $\dfrac{3(3+b)}{4(2+b)}$

    (D) $\dfrac{4(3+b)}{3(2+b)}$

38. Three forces $\vec{F_1}$, $\vec{F_2}$ and $\vec{F_3}$ are simultaneously acting on a particle of mass 'M'. Kept in equilibrium. If $\vec{F_1}$ force is reversed in direction only, the acceleration of the particle will be-

    (A) $\dfrac{\vec{F_1}}{M}$

    (B) $\dfrac{2\vec{F_1}}{m}$

    (C) $-\dfrac{\vec{F_1}}{m}$

    (D) $-\dfrac{2\vec{F_1}}{m}$

39. In the figure, the block A is released from rest when the spring is at its natural length. For the block B of mass M to leave contact with the ground at some stage. The minimum mass of A must be
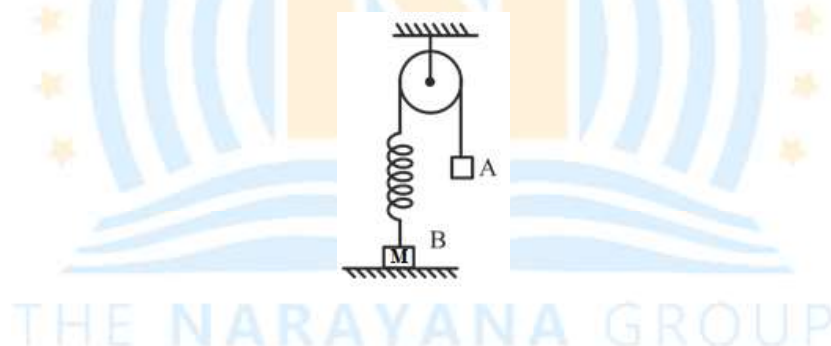
    

    (A) 2 M

    (B) M

    (C) M/2

    (D) 3M

40. A disc of radius 0.1 m rolls without sliding on a horizontal surface with a velocity of 6m/s. It then a second a smooth continuous track as shown in figure. The height upto which it will ascend is (g = 10 m/s²)
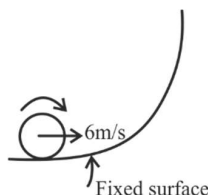
    

    (A) 2.4 m

    (B) 0.9 m

    (C) 2.7 m

    (D) 1.8 m

# CHEMISTRY

41. Formation of CO and $CO_2$ illustrates the law of _____.

    (A) Law of conservation of mass

    (B) Law of Reciprocal proportion

    (C) Law of constant proportion

    (D) Law of Multiple Proportion

42. Which among the following is a pair of isotones?

    (A) $_{11}^{23}Na$, $_{12}^{23}Mg$

    (B) $_{11}^{23}Na$, $_{12}^{24}Mg$

    (C) $_{11}^{24}Na$, $_{12}^{24}Mg$

    (D) $_{11}^{24}Na$, $_{12}^{23}Mg$

43. Which of the following electronic configurations of an atom has the lowest ionization enthalpy?

    (A) $1s^2, 2s^2, 2p^3$

    (B) $1s^2, 2s^2, 2p^6, 3s^1$

    (C) $1s^2, 2s^2, 2p^6$

    (D) $1s^2, 2s^2, 2p^5$

44. A reaction $A + B \rightarrow C + D + q$, is found to have a positive entropy change. The reaction will be.

    (A) Possible at high temperature

    (B) Possible at low temperature

    (C) Not possible at any temperature

    (D) Possible at any temperature

45. A certain buffer solution contains equal concentration of $X^-$ and HX. The $K_a$ for HX is $10^{-8}$. The pH of the buffer is

    (A) 3

    (B) 8

    (C) 11

    (D) 14

46. The total number of ions present in 111 g of $CaCl_2$ is

    (A) One Mole

    (B) Two Mole

    (C) Three Mole

    (D) Four Mole

47. Which of the following statements is not correct about the characteristics of cathode rays?

    (A) Characteristics of cathode rays depend upon the nature of gas present in the cathode ray tube.

    (B) Characteristics of cathode rays do not depend upon the material of electrodes in cathode ray tube

    (C) They travel in straight line in the absence of an external electrical or magnetic field.

    (D) They start from the cathode and move towards the anode.

48. Which of the following elements has the most negative electron gain enthalpy?

   (A) Oxygen　　　　　　　　　　　　　　(B) Chlorine

   (C) Fluorine　　　　　　　　　　　　　(D) Nitrogen

49. A system absorbs 10 kJ of heat at constant volume and its temperature rises from 27°C to 37° C. The value of $\Delta U$ is

   (A) 100 kJ　　　　　　　　　　　　　　(B) 10 kJ

   (C) 0 kJ　　　　　　　　　　　　　　　(D) 1 kJ

50. In a reversible chemical reaction at equilibrium, if the concentration of any one of the reactants is doubled, then the equilibrium constant will

   (A) Also be Doubled　　　　　　　　　(B) Be Halved

   (C) Remain the Same　　　　　　　　　(D) Become One-Fourth

51. What is the concentration of nitrate ions in the resulting solution, if equal volumes of 0.1 M $AgNO_3$ and 0.1 M NaCl are mixed together?

   (A) 0.1 M　　　　　　　　　　　　　　(B) 0.2 M

   (C) 0.05 M　　　　　　　　　　　　　(D) 0.25 M

52. Which of the following is not permissible?

   (A) n = 4, $l$ = 3, m = 0　　　　　　　(B) n = 4, $l$ = 2, m = 1

   (C) n = 4, $l$ = 4, m = 1　　　　　　　(D) n = 4, $l$ = 0, m = 0

53. Which of the following oxides is amphoteric in character?

   (A) $SnO_2$　　　　　　　　　　　　　(B) $CO_2$

   (C) $SiO_2$　　　　　　　　　　　　　(D) CaO

54. The species which by definition has ZERO standard molar enthalpy of formation at 298 K is

   (A) $Br_2$ (g)　　　　　　　　　　　　(B) $Cl_2$ (g)

   (C) $H_2O$ (g)　　　　　　　　　　　　(D) $CH_4$ (g)

55. Which of the following aqueous solutions will have the highest pH, for comparable concentration in their respective solutions?

   (A) NaCl　　　　　　　　　　　　　　(B) $CH_3COONa$

   (C) $Na_2CO_3$　　　　　　　　　　　(D) $NH_4Cl$

56. Herbarium is:

    (A) A garden where medicinal plants are grown

    (B) Garden where herbaceous plants are grown

    (C) Dry garden

    (D) Chemical to kill plants

57. Archaebacteria differ from eubacteria in one of the following features.

    (A) They have a nucleus

    (B) Their cell wall lacks peptidoglycan component

    (C) They have different types of nutrition

    (D) They are modern bacteria

58. An example of colonial and filamentous form of algae is respectively

    (A) *Laminaria* and *Chlorella*

    (B) *Volvox* and *Spirogyra*

    (C) *Ulothrix* and *Chlamydomonas*

    (D) *Spirogyra* and *Ulothrix*

59. Match the following:

| Column – I | | Column – II |
|---|---|---|
| A. *Sycon* | - | 1. Bath sponge |
| B. *Spongilla* | - | 2. *Scypha* |
| C. *Euspongia* | - | 3. Fresh water sponge |

    (A) A – 2, B – 3, C – 1,

    (B) A – 1, B – 2, C – 3

    (C) A – 3, B – 2, C – 1

    (D) A – 3, B – 1, C – 2

60. The four sketches (A, B C and D) given below, represent four different types of animal tissues. Which one of these is correctly identified in the options given, along with its correct location and function?


(a)


(b)


(c)


(d)
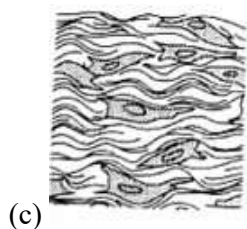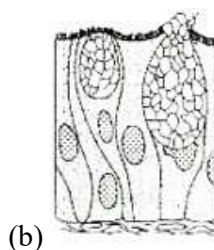
| Tissue | Location | Function |
|---|---|---|
| (A) (c) Collagen fibres | Cartilage | Attach skeletal muscles to bones |
| (B) (d) Smooth muscle tissue | Heart | Heart contraction |
| (C) (a) Columnar epithelium | Nephron | Secretion and absorption |
| (D) (b) Glandular epithelium | Intestine | Secretion |

61. The main arena of various types of activities of a cell is

(A) Plasma membrane      (B) Mitochondria

(C) Cytoplasm      (D) Ribosomes

62. Diploid somatic cells are divided by

(A) Meiosis      (B) Mitosis

(C) Amitosis only      (D) Free nuclear divisions only

63. The scientific name of Banyan is written as *Ficus benghalensis* L. Which of the following is a correct statement regarding this?

(A) Letter L signifies Latin language.

(B) The name should be reverse with *benghalensis* preceding Ficus

(C) Letter L signifies taxonomist Linnaeus

(D) *Benghalensis* is the generic name

64. Chief 'producers' in the ocean are

    (A) Chrysophytes          (B) Eugleoids

    (C) Desmids          (D) Diatoms


65. Asexual reproduction in most of brown algae is by zoospores, these zoospores are

    (A) Biflagellated and Pear shaped with Unequal flagella

    (B) Triflagellated and Pear shaped with Equal flagella

    (C) Biflagellated and Spiral shaped with Unequal flagella

    (D) Biflagellated and Oval shaped with Equal flagella


66. Mammalia means organism which possess

    (A) Exoskeleton          (B) Endoskeleton of bones

    (C) Mammary glands          (D) Two pair of limbs


67. In columnar epithelium, where is nucleus located?

    (A) At the base          (B) In the middle

    (C) At the top          (D) No nucleus present


68. Identify the A, B, C and D is this figure.
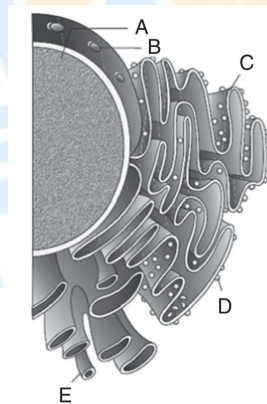


    (A) A – Nuclear pore, B – Nucleus, C – Ribosome, D – Smooth endoplasmic reticulum, E – Rough endoplasmic reticulum.

    (B) A – Rough endoplasmic reticulum, B – Nuclear pore, C – Ribosome, D – Smooth endoplasmic reticulum, E – Nucleus.

    (C) A – Ribosome, B – Nuclear pore, C – Nucleus, D – Smooth endoplasmic reticulum, E – Rough endoplasmic reticulum.

    (D) A – Nucleus, B – Nuclear pore, C – Rough endoplasmic reticulum, D – Ribosome, E – Smooth endoplasmic reticulum.

69. Given below is the representation of a certain event at a particular stage of a type of cell division. Which is this stage?
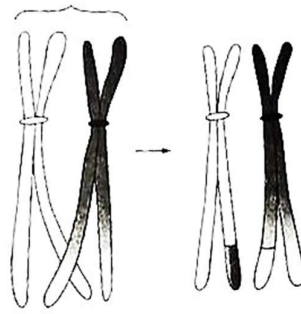


(A) Prophase I during meiosis

(B) Prophase II during meiosis

(C) Prophase of mitosis

(D) Both prophase and metaphase of mitosis

70. Choose the incorrect match from following:-

(A) Slime mould – Saprophytic protists

(B) Protozoans – Predators or parasites

(C) Diatoms – Marine environment

(D) Dinoflagellates – Mostly fresh water

71. Examine the figure A, B, C and D and identify them.
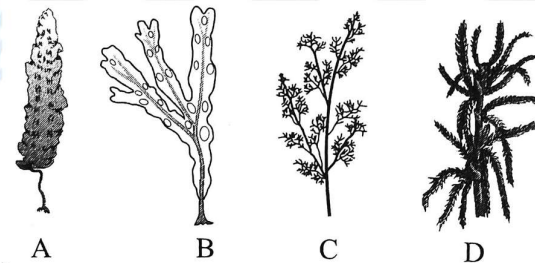


|  | A | B | C | D |
|---|---|---|---|---|
| (A) | Laminaria | Dictyota | Chara | Polytrichum |
| (B) | Fucus | Dictyota | Chara | Funaria |
| (C) | Laminaria | Fucus | Polysiphonia | Sphagnum |
| (D) | Fucus | Laminaria | Sphagnum | Polysiphonia |

72. Below figure shows which type of symmetry



(A) Bilateral                    (B) Radial

(C) Biradial                   (D) Asymmetry

73. Each ovary in Cockroach is made up of how many ovarian tubules or ovarioles?

(A) 6                         (B) 4

(C) 8                         (D) 10

74. Identity the incorrect statements:

(A) Class like Mammalia is involved in phylum Chordata

(B) Order like Insecta is involved in class Mandibulata

(C) Genus like *Panthera* is involved in family Felidae.

(D) Order like Primate is involved in class Mammalia

75. In Mucor, asexual reproduction takes place by non-motile spores named as

(A) Conidia                   (B) Zoospores

(C) Aplanospores             (D) Oidia

## MATHEMATICS

76. A survey shows that 73% of the persons working in an office like coffee, whereas 65% like tea. If x denotes the percentage of them, who like both coffee and tea, then x cannot be:

(A) 63                      (B) 38

(C) 54                      (D) 36

77. If A = {1, 2, 3, 4} and B = {5, 6, 7, 8}, then which of the following are relations from A to B?

(A) $R_1 = \{(1,5),(2,7),(3,8)\}$        (B) $R_2 = \{(5,2),(3,7),(4,7)\}$

(C) $R_3 = \{(6,2),(3,7),(4,7)\}$        (D) All are correct

78. The total number of solutions of $\tan x + \cot x = 2\,\mathrm{cosec}\,x$ in $[-2\pi, 2\pi]$ is

(A) 2                       (B) 4

(C) 6                       (D) 8

79. If $z = \left(\dfrac{1-i}{1+i}\right)^{50}$, then principal value of arg(z) is

(A) $\dfrac{\pi}{2}$      (B) $-\dfrac{\pi}{2}$      (C) $\pi$      (D) 0

80. Let $T_n$ be the number of all possible triangles formed by joining vertices of n-sided regular polygon. If $T_{n+1} - T_n = 10$, then the value of n is:

(A) 7             (B) 5

(C) 10           (D) 8

81. Let $a_1, a_2, a_3,\ldots\ldots,a_n$ be in A.P. If $a_3 + a_7 + a_{11} + a_{15} = 72$, then the sum of its first 17 terms is equal to

(A) 204          (B) 153

(C) 612          (D) 306

82. If the centroid of a triangle formed by (4, x), (y, –5) and (7, 8) is (3, 5), then the values of x and y are respectively

(A) 2, 12        (B) –12, 13

(C) 12, –2       (D) 13, –2

83. In a school, there are three types of games to be played. Some of the students play two types of games, but none play all three games. Which Venn diagrams can justify the above statements?



P       Q       R
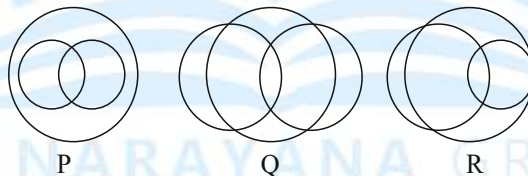
(A) P and Q          (B) P and R

(C) Q and R          (D) P, Q and R

84. If $[x]^2 - 5[x] + 6 = 0$, where [.] denote the greatest integer function, then

(A) $x \in [3, 4]$        (B) $x \in (2, 3]$

(C) $x \in [2, 3]$        (D) $x \in [2, 4)$

85. The value of $1+\cos\dfrac{\pi}{9}+\cos\dfrac{2\pi}{9}+\cos\dfrac{3\pi}{9}+\cos\dfrac{4\pi}{9}+\cos\dfrac{5\pi}{9}+\cos\dfrac{6\pi}{9}+\cos\dfrac{7\pi}{9}+\cos\dfrac{8\pi}{9}$ is

(A) $\dfrac{1}{2}$      (B) $-\dfrac{1}{2}$      (C) 0      (D) 1

86. The equation formed by decreasing each root of $ax^2 + bx + c = 0$ by 1 is $2x^2 + 8x + 2 = 0$, then

(A) $a = -b$ 

(B) $b = -c$

(C) $c = -a$ 

(D) $b = a + c$

87. If the roots of equation $mx^2 + (3-m)x + 1 = 0$ are both real and distinct; then $m \in$

(A) $[1, 9]$

(B) $(1, 9)$

(C) $(-\infty, 1) \cup (9, \infty)$

(D) $(-\infty, 1] \cup [9, \infty)$

88. A number consists of three digits which are in G.P. the sum of the right hand and left hand digits exceeds twice the middle digit by 1 and the sum of the left hand and middle digits is two third of the sum of the middle and right-hand digits. Find the numbers.

(A) 269       (B) 496       (C) 469       (D) 296

89. If $\dfrac{\sin 3\theta}{\sin \theta} = k$ then $\tan^2 \theta =$

(A) $\dfrac{3+k}{1+k}$       (B) $\dfrac{3-k}{1-k}$       (C) $\dfrac{3-k}{1+k}$       (D) $\dfrac{3+k}{1-k}$

90. Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ where A and B are subset of U and B′ is complement of B, A = $\{1, 2, 5\}$, B = $\{6, 7\}$ then A $\cap$ B′ is

(A) B′       (B) A       (C) A′       (D) B

91. The number of real solutions to the equation $5\sin x + 12\cos x = 14$ in the interval $[0, 10\pi]$ is

(A) 10 

(B) 12

(C) 0 

(D) 1

92. The value of $\dfrac{\left(1+\tan 8^\circ\right)\left(1+\tan 37^\circ\right)}{\left(1+\tan 22^\circ\right)\left(1+\tan 23^\circ\right)}$ is

(A) 0 

(B) 2

(C) 8 

(D) 1

93. If roots of the equation $5x^2 - 6x + 4 = 0$ are $\alpha$, $\beta$ then the equation having roots $\dfrac{1}{\alpha}$ and $\dfrac{1}{\beta}$ is

(A) $4x^2 - 6x + 5 = 0$ 

(B) $4x^2 - 6x - 5 = 0$

(C) $5x^2 + 4x - 6 = 0$ 

(D) $5x^2 + 6x - 4 = 0$

94. The number of integers greater than 6000 that can be formed, using the digits 3, 5, 6, 7 and 8 without repetition, is:

(A) 120

(B) 72

(C) 216

(D) 192

95. Let $a_1, a_2, a_3, \ldots, a_n$ are in A.P., where $a_i > 0$ for all i, then the value of

$$\frac{1}{\sqrt{a_1} + \sqrt{a_2}} + \frac{1}{\sqrt{a_2} + \sqrt{a_3}} + \ldots + \frac{1}{\sqrt{a_{n-1}} + \sqrt{a_n}} =$$

(A) $\dfrac{n-1}{\sqrt{a_1} + \sqrt{a_n}}$

(B) $\dfrac{n+1}{\sqrt{a_1} + \sqrt{a_n}}$

(C) $\dfrac{n-1}{\sqrt{a_1} - \sqrt{a_n}}$

(D) $\dfrac{n+1}{\sqrt{a_1} - \sqrt{a_n}}$

*****

# ANSWER KEY

| Que. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------|---|---|---|---|---|---|---|---|---|----|
| Ans. | D | A | B | B | A | A | D | B | D | C |
| Que. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Ans. | C | A | D | C | C | D | D | B | C | A |
| Que. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Ans. | D | B | B | C | D | A | D | D | D | D |
| Que. | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Ans. | A | B | C | C | B | B | A | D | C | D |
| Que. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| Ans. | D | B | B | D | B | C | A | B | B | C |
| Que. | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Ans. | C | C | A | B | C | C | B | B | A | D |
| Que. | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| Ans. | C | B | C | D | A | C | A | D | A | D |
| Que. | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| Ans. | A | A | C | B | C | D | A | B | C | B |
| Que. | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| Ans. | D | C | D | D | D | B | C | C | C | B |
| Que. | 91 | 92 | 93 | 94 | 95 | | | | | |
| Ans. | C | D | A | D | A | | | | | |

# NARAYANA
## OPERATIONS ACROSS INDIA

Schools, Colleges & Coaching Centers

**DELHI NCR Schools**

GURUGRAM
- South City-II
- Sector 37C
- M G Road
- Palam Vihar
- Manesar

- Sector 77, Faridabad
- Sector 87, Faridabad
- Raj Nagar Extn. Ghaziabad
- Greater Noida
- Rohtak
- Hisar
- Kanpur
- Meerut

**DELHI NCR Coaching Centers**
- Kalu Sarai*
- Punjabi Bagh*
- Dwaraka (Sec-12)*
- Janakpuri*
- Mayur Vihar*
- Gurgaon*
- Faridabad*
- Preet Vihar*

- Jammu
- Amritsar-Alpha City
- Amritsar-Blue Valley
- Ludhiana - Jalandhar Bypass
- Ludhiana - Dugri
- Ludhiana*
- Ludhiana - Chandigarh Road
- Chandigarh*
- Mohali
- Bathinda
- Jalandhar

- Jaipur-Vaishali Nagar
- Jaipur-Pratap Nagar
- Jaipur-Jhotwara
- Jaipur-Gopalpura*
- Jaipur-Hanuman Nagar*
- Bhilwara
- Ajmer
- Alwar
- Jodhpur

- Bhopal (STT Nagar)
- Bohal (Kolar Road)
- Indore
- Ujjain
- Gwalior

- Dehradun*

- Noida*
- Aligarh*
- Lucknow*
- Varanasi*
- Kanpur*

- Guwahati*

- Ranchi*
- Dhanbad*
- Jamshedpur*

- Bhopal*
- Indore, South Tukoganj*
- Indore, Vijaynagar*
- Gwalior*
- Jabalpur*
- Indore

- Ahmedabad*
- Adajan*
- Vesu*
- Surat*

- Newtown
- Andal
- Andul
- Asansol
- Barasat
- Burdwan
- Durgapur
- Fulbari
- Haldia
- Howrah
- Kalyani Town
- Maheshtala
- Rishra
- Siliguri
- Sodepur (kal Exp)
- Sonarpur
- Park Street*
- Kalimpong
- Park Circus

- Unit-8
- Patia
- Cuttack - Naupada

- Andheri
- Nagpur
- Bhayandar
- Borivali
- Dombivli
- Kalyan
- Thane
- Nalasopara
- Ulhasnagar
- Beed
- Jalna
- Aurangabad
- Pune

**Maharastra Coaching Centers**
- Aurangabad*
- Pune*
- Nasik*
- Nagpur*

- Bannerghatta
- Bellandur
- Bellary
- Madoor
- Electronic City
- HSR Layout
- JP Nagar
- Kadigudi Rd.
- Kaggadasapura
- Kammanahalli
- Kasturi Nagar
- Koramangala
- KR Puram
- Marathahalli
- Nagarabhavi
- Nandini Layout
- RK Layout
- RM Nagar
- RT Nagar
- Sahakar Nagar
- Vidyaranyapura
- Yelahanka New Town
- Margondanahalli
- Mallasandra
- Whitefield
- Uttarahalli

**Karnataka Coaching Centers**
- Jayanagar*
- Rajajinagar*
- Hubballi*
- Belagavi*
- Mangalore*
- Hosur*
- Banaswadi*
- Whitefield*
- Mysuru*

**KERALA Coaching Centers**
- Thiruvanthapuram*

- Anantapur
- Chittoor
- East Godavari
- Guntur
- Kadapa
- Krishna
- Kurnool
- Nellore
- Prakasam
- Srikakulam
- Vijayanagaram
- Visakhapatnam
- West Godavari

- Nalgonda
- Suryapeta
- Miryalaguda
- Khammam
- Kothagudem
- Warangal
- Mahabubabad
- Karimnagar
- Jagityala
- Mancherial
- Siddipet
- Nizamabad
- Nirmal
- Vikarabad
- Rangareddy
- Hyderabad*
- Medchal

- Ambattur
- Arumbakkam
- Chinmaya Nagar
- ECR
- Gopalapuram
- Kolathur
- Maduravoyal
- Mogappair
- M.R Nagar
- OMR
- Pallavaram
- Pattalam
- Porur
- Poonamallee Outer Ring Road (Hostel)
- Ramapuram
- Tambaram
- Valsarvakkam
- Walltax Road

**TAMILNADU Coaching Centers**
- Coimbatore*
- Madurai*
- Salem*
- Anna Nagar*
- Medavakkam*
- Trichy*
- Ashok Nagar*

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\* JEE (Main+Advanced)/NEET/FOUNDATION COACHING CENTERS

## Narayana Jaipur Center (North India Head Quarter)

**Campus-1(City H.O.):** B-28,10-B Scheme, Near Ridhi Sidhi Circle, Gopalpura Bypass
**Campus-2:** B-293,10-B Scheme, Rudra Tower, Opp. Indian Oil Pump, Gopalpura Bypass
**Campus-3:** 392, Shri Gopal Nagar, Gopalpura Bypass
**Campus-4:** Plot A-14 & 36, Near Khatipura Tiraha, Hanuman Nagar
**Campus-5:** Plot No.4, Shri Gopal Nagar, Near Zudio, Gopalpura Bypass
**Campus-6:** 3-A, D. L. Tower, Vidyashram Institutional Area, Behind RAS Club, JLN Marg

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