PART–I

IQ (MENTAL ABILITY)

This section contains **20 multiple choice questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

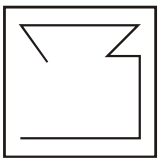
1. A man walks 30 m towards North. Then turning to his Left he walks 30 m. Then turning to his Right he walks 20 m. Again turning to his Right he walks 30 m. How far is he from his starting position:
(1) 30 m (2) 20 m (3) 80 m (4) None of these

2. What should come in place of the question mark (?) in the following number series ?
121, 144, 190, 259, ?, 466
(1) 351 (2) 349 (3) 374 (4) 328

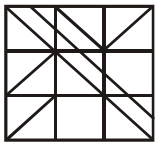
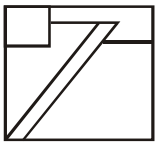
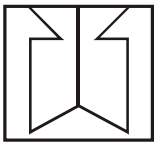
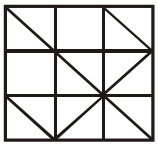
3. How many such pairs of digits are there in the number 95137248 each of which has as many digits between them in the number as when they are arranged in ascending order ?
(1) None (2) One (3) Two (4) Three

4. Introducing a man, a woman said, "His wife is the only daughter of my father". How is the man related to woman ?
(1) Brother (2) Father-in-law (3) Uncle (4) Husband

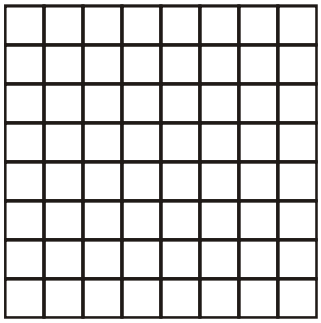
5. Find out the alternative figure which contains figure 'X'.



(X)

(1) 
(2) 
(3) 
(4) 

6. How many possible squares are there in the figure :



(1) 140 (2) 150 (3) 130 (4) 160

Direction (Q. 7 & Q. 8) :

In each of the following questions, two rows of numbers are given. The resultant number in each row is to be worked out separately based on the following rules and the questions below the row of numbers are to be answered. The operations of numbers progress from left to right.

Rules :

(i) If an odd number is followed by another odd number which is a perfect square then they are to be added.

(ii) If an even number is followed by an odd number or an odd number is followed by an even number, they are to be multipiled.

(iii) If an even number is followed by another even number, the first number is to be divided by the second number.

(iv) If an even number which is a multiple of 5 is followed by an odd number which is also a multiple of 5, then second member is to be subtracted from the first number.

7. 24 3 18 2
17 81 14 8
What is the product of the resultants of the two rows ?
(1) 108 (2) 102 (3) 98 (4) None of these

8. 9 121 10
m 12 26
If m is the resultant of the first row, what is the resultant of the second row ?
(1) 6 (2) 130 (3) 13 (4) Cannot be determined

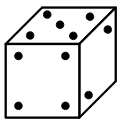
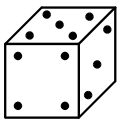
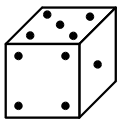
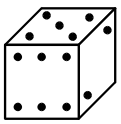
9. The year next to 2003 that has the same calendar as that of the year 2003 is :
(1) 2014 (2) 2008 (3) 2009 (4) 2010

10. How many 7s immediately preceded by 6 but not immediately followed by 4 are there in the following series?
7 4 2 7 6 4 3 6 7 5 3 5 7 8 4 3 7 6 7 2 4 0 6 7 4 3
(1) One (2) Two (3) Four (4) Six

11. In the series given below, count the number of 9s, each of which is not immediately preceded by 5 but is immediately followed by either 2 or 3. How many such 9s are there?
1 9 2 6 5 9 3 8 3 9 3 2 5 9 2 9 3 4 8 2 6 9 8
(1) One (2) Three (3) Five (4) Six

12. In a row of boys, Jeevan is seventh from the start and eleventh from the end. In another row of boys, Vikas is tenth from the start and twelfth from the end. How many boys are there in both the rows together?
(1) 36 (2) 37 (3) 39 (4) 38

13. If the first and the second letters interchange their positions and similarly the third and the fourth letters, the fifth and the sixth letters and so on, which letter will be the seventeenth from your right :
(1) F (2) H (3) I (4) J

14. If the total no. of dots on opposite faces of a cubical block is always 7, find the figure which is correct :
(1)  (2)  (3)  (4) 

15. How many squares are there in the chess board ?
(1) 64 (2) 256 (3) 204 (4) 192

Direction (Q. 16 to Q. 18) : Seven pots P, Q, R, S, T, U and W are arranged at 7 locations, 1 to 7, in a row one immediately after the other not necessarily in that order. The arrangement is as per the following restrictions.

T is to the left of R.

R has as many pots to its left as to its right.

There are exactly two pots between P and Q. S and W are adjacent to each other but neither of these two are adjacent to P.

16. Which of the following pots are on either side of P immediately next to it?
(1) U and R (2) Q and R (3) U and T (4) None of these

17. In how many ways can the pots be arranged :
(1) Two (2) One (3) Four (4) Six

18. If pot T is at place 1, then which of the following pots is at location 3?
(1) P (2) U (3) W (4) None of these

Direction (Q. 19 & Q. 20) : Five friends P, Q, R, S and T have collected some money. After counting all the money it is found that Q has more money than S, who has more money than R but less than T, who has more money than P but less than Q.

19. Who has the maximum money :
(1) T (2) Q (3) R (4) Cannot be determined

20. Who among the following can have the least amount ?
(1) R (2) S (3) T (4) Q

PART–II

SECTION–A : PHYSICS

This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

21. The co-ordinates of a moving particle at any time t are given by $x = ct^2$ and $y = bt^2$. The speed of the particle is given by:

(1) $2t(c+b)$ (2) $2t\sqrt{(c^2-b^2)}$ (3) $t\sqrt{(c^2+b^2)}$ (4) $2t\sqrt{(c^2+b^2)}$.

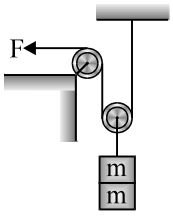
22. A projectile is thrown with an initial velocity of $\left[a\hat{i}+b\hat{j}\right]$ m/s. If the range of projectile is twice the maximum height reached by it, then

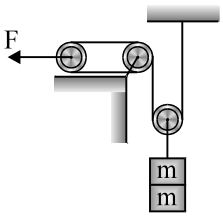
(1) b = a/2 (2) b = a (3) b = 2a (4) b = 4a

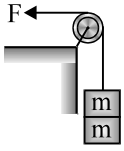
23. A particle of mass 'a' is projected from the origin with initial velocity $(3\hat{i}+4\hat{j})$ m/s in a field where it is acted upon by a force $2at\hat{j}N$. Its position after first 2s is :

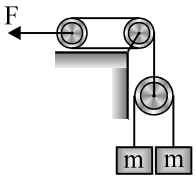
(1) $(6\hat{i}+32/3\hat{j})m$ (2) $(8\hat{i}+14\hat{j})m$ (3) $(3\hat{i}+80\hat{j})m$ (4) $(6\hat{i}+8/3\hat{j})m$

24. A man thinks about 4 arrangements as shown to raise two small bricks each having mass m. Which of the arrangement would take minimum time?

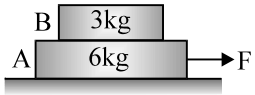
(1) 

(2) 

(3) 

(4) 

25. Two blocks A and B of masses 6 kg and 3 kg rest on a frictionless horizontal surface as shown in the figure. If coefficient of friction between A and B is 0.4, the maximum horizontal force which can make them move without separation is :

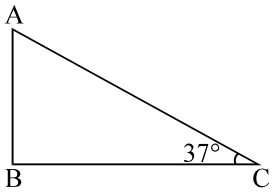


(1) 72 N (2) 40 N (3) 36 N (4) 20 N

26. Work done in time t on a body of mass m which is accelerated from rest to a speed v in time t_1 as a function of time t is given by :

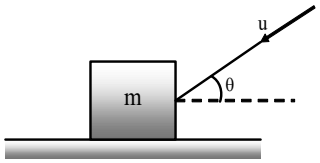
(1) $\frac{1}{2}m\frac{v}{t_1}t^2$ (2) $m\frac{v}{t_1}t^2$ (3) $\frac{1}{2}\left(\frac{mv}{t_1}t\right)^2 t^2$ (4) $\frac{1}{2}m\frac{v^2}{t_1^2}t^2$

27. ABC is a right angled triangular plate of uniform thickness. I_1, I_2 and I_3 are moments of inertia about AB, BC and AC respectively. Then which of the following relation is correct?



(1) $I_1 = I_2 = I_3$ (2) $I_2 > I_1 > I_3$ (3) $I_3 < I_2 < I_1$ (4) $I_3 > I_1 > I_2$.

28. A bullet of mass m fired with velocity u forming an angle θ with the horizontal and get embedded in a wooden block of same mass m. The block is placed on smooth surface. The magnitude of horizontal component of impulse on the block is :



(1) $\frac{mu\cos\theta}{2}$ (2) $\frac{mu\sin\theta}{2}$ (3) $mu\cos\theta$ (4) $mu\sin\theta$.

29. The resistance of a metallic wire becomes 8 times when

(1) length is doubled (2) length is triple

(3) length is doubled and radius is halved (4) length is halved and radius is doubled

30. A hollow sphere and a solid sphere having same mass and same radii are rolled down on a rough inclined plane from position simultaneously then

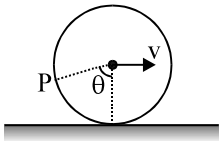
(1) the hollow sphere reaches the bottom first

(2) the solid sphere reaches the bottom with greater speed

(3) the solid sphere reaches the bottom with greater kinetic energy

(4) the two spheres will reach the bottom with same linear momentum .

31. A hoop rolls on a horizontal ground without slipping with linear speed v. Speed of a particle P on the circumference of the hoop at angle θ is :



(1) $2v\sin\left(\frac{\theta}{2}\right)$ (2) v sin θ (3) $2v\cos\left(\frac{\theta}{2}\right)$ (4) v cos θ

32. A monochromatic beam of light passes from a denser medium to a rarer medium. As a result

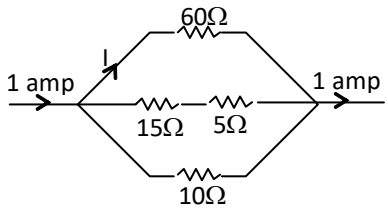
(1) its velocity increases (2) its velocity decreases

(3) its frequency decreases (4) its wavelength decreases

33. A plane mirror is approaching you at 10 cm per sec. You can see your image in it. At what speed will your image approach you?

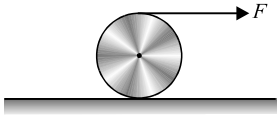
(1) 10 cm/sec (2) 5 cm/sec (3) 20 cm/sec (4) 15 cm/sec

34. The magnitude of I in ampere unit is



(1) 0.1 (2) 0.3 (3) 0.6 (4) none of these

35. A solid sphere of radius R and mass M is pulled by a force F acting at the top of the sphere as shown in figure. Friction coefficient enough to provide rolling without slipping. Work done by force F when the centre of mass moves through a distance S is :



(1) FS (2) 2FS (3) zero (4) 3FS/2

Comprehension for (Q. 36 & Q. 37) :

A piece of wood of mass 0.03 kg is dropped from the top of a building 100 m high. At the same time a bullet of mass 0.02 kg is fired vertically upwards with a velocity of 100 m/s from the ground. The bullet gets embeded in the wooden piece after striking it. [Take:g =10m/s^2]

36. The time after which bullet strikes the wooden block is :

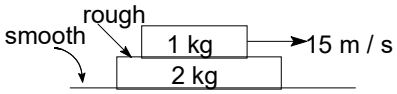
(1) 1 sec (2) 0.5 sec (3) 1.5 sec (4) 2 sec

37. The velocity of the (block + bullet) system after the collision is :

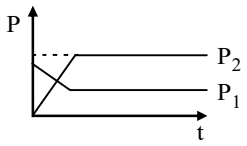
(1) 14 m/sec (2) 21 m/sec (3) 42 m/sec (4) 30 m/sec

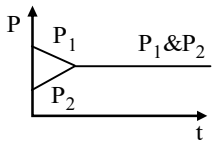
Comprehension for (Q. 38 to Q. 40) :

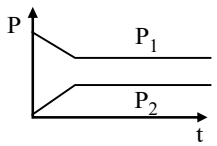
A 1 kg block is given a velocity of 15 m / s towards right over a very long rough plank of mass 2 kg as shown in the figure.

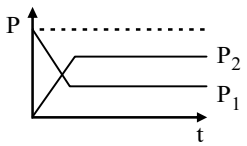


38. The correct graph showing linear momentum of 1 kg i.e. (P_1) and of 2 kg i.e. (P_2) VS time is

(1)


(2)


(3)


(4)


39. If coefficient of friction between the two blocks is equal to 0.4. Then the magnitude of initial slope of P_1 vs t and P_2 vs t respectively are

(1) 4 and 2 (2) 2 and 4 (3) 4 and 4 (4) 2 and 2

40. Momentum of both the blocks will become equal at time :

(1) 1.75 (2) 1.875 (3) 2.5 (4) 1.25

SECTION–B : CHEMISTRY

This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

41. For $N_2 + 3H_2 \rightarrow 2NH_3$ equilibrium constant is k then equilibrium constant for $2N_2 + 6H_2 \rightarrow 4NH_3$ is- (Temperature is constant)

(1) k (2) k^2 (3) k/2 (4) $\sqrt{k}$

42. Carbon atoms in $C_2(CN)_4$ are :

(1) sp-hybridised (2) sp^2 -hybridised

(3) sp and sp^2-hybridised (4) sp, sp^2 and sp^3-hybridised

43. For the compounds, the vapour pressure of B at a particular temperature will be if A=p-nitrophenol, B = o-nitrophenol

(1) Higher than A (2) Lower than that of A

(3) Same as that of A (4) Unable to predict.

44. For which of the following reaction, will ΔH be equal to ΔE .

(1) $H_2(g) + \frac{1}{2}O_2(g) \longrightarrow H_2O(l)$ (2) $H_2(g) + I_2(g) \longrightarrow 2HI(g)$

(3) $2NO_2(g) \longrightarrow N_2O_4(g)$ (4) $2SO_3(g) \longrightarrow 2SO_2(g) + O_2(g)$

45. The number of structural isomers C_6H_{14} will be

(1) 4 (2) 5 (3) 6 (4) 7

46. At a temperature

$K_W(H_2O) = 1 \times 10^{-10}$

A solution of pH 5.4 under these conditions is said to be :

(1) acidic (2) basic (3) neutral (4) amphoteric

47. 0.1 M acetic acid solution is titrated against 0.1 M NaOH solution. What would be the difference in pH between 1/4 and 3/4 stages of neutralisation of acid ?

(1) 2 log 3/4 (2) 2 log 1/4 (3) log 1/3 (4) 2 log 3

48. Which of the following gases will have the same rate of diffusion under identical conditions?

(i) CO, (ii) CO_2, (iii) N_2O, (iv) N_2,

(v) C_2H_4 (vi) C_3H_8

(1) CO, CO_2, C_2H_4 (2) CO_2, C_2H_4, N_2O

(3) C_3H_8, N_2O, CO_2 (4) CO, N_2, C_2H_4, C_3H_8

49. Which of the following has zero dipole moment ?

(1) NH_3 (2) H_2O (3) BCl_3 (4) SO_2

50. The bond present in $CuSO_4.5H_2O$ will be

(1) ionic bond and hydrogen bond (2) covalent bond

(3) coordinate bond (4) all of the above

51. Which of the following has pyramidal geometry ?

(1) PCl_3 (2) SO_3 (3) CO_3^{-2} (4) NO_3^-

52. $B_2H_6 + 2X \longrightarrow [BH_2X_2]^{\oplus}\,[BH_4]^- \xrightarrow[D]{150^\circ C}$ Inorganic Benzene "Z"

Incorrect statement about compound 'Z' is :-

(1) "Z" is planar structure (2) Each atom has sp^2-hybridised state in compound Z

(3) Compound 'Z' is non aromatic (4) M.F. of 'Z' is $B_3N_3H_6$

53. The correct statement about the borax compound is :-

(1) Each boron atom cantains one –OH group (2) Each boron atom has sp^3-hybridised state

(3) Each boron atom has sp^2-hybridised state (4) Borax compound contains four B–O–B linkage

54. The temperature of an ideal gas is increased from 140 K to 560 K. If at 140 K the root-mean square velocity of the gas molecules is V, at 560 K it becomes :

(1) 5 V (2) 2 V (3) V/2 (4) V/4

55. In which of the following neutralization reactions, the heat of neutralization will be highest ?

(1) HCl and NaOH (2) CH_3COOH and NaOH

(3) CH_3COOH and NH_4OH (4) HCl and NH_4OH

Comprehension for (Q. 56 & Q. 57) :

The reaction between aluminium and iron (III) can generate temperature approaching 3000°C and is used in welding metals $2Al + Fe_2O_3 \rightarrow Al_2O_3 + 2Fe$ in one process 108 gm Al are reacted with 480 gm of Fe_2O_3. Then ans. the following : (Atomic mass of Al = 27, O = 16, Fe = 56)

56. Calculate the no. of mol of Al_2O_3 formed-

(1) 0.5 (2) 2 (3) 1.5 (4) 1.25

57. How much is the excess reagent left at the end of the reaction ?

(1) 1 mol (2) 0.5 mol (3) 0.75 mol (4) 0.25 mol

Comprehension for (Q. 58 to Q. 60) :

Numerous forms of the periodic table have been devised from time to time. A modern version, which is most convenient and widely used is the long or extended form of periodic table. The aufbau principle (electrons are filled in the progressive order of their increasing energy i.e. by $n + \ell$ rule) and the electronic configuration of atom provide a theoretical foundation for the periodic classification. The horizontal rows are called periods. There are altogether seven periods. The first period consist of 2 elements. The subsequet periods consist of 8, 8, 18, 18 and 32 elements respectively. The seventh period is incomplete and like the sixth period would have maximum of 32 elements.

Elements having similar outer electronic configurations in their atoms are grouped in vertical columns. These are referred to as groups of families. According to the recommendation of IUPAC, the groups are numbered 1 to 18 replacing the older notation of groups 0, IA, IIA ..... VII A, VIII, IB, ... VII B.

Each successive period in the periodic table is associated with the filling up next higher principal energy level following aufbau sequence. The number of elements in each period is twice the number of atomic orbitals available in the energy level that is being filled. All the elements are classified into four blocks, i.e., s-block, p-block, d-block and f-block depending on the type of atomic orbitals that are being filled with the last electron of the element.

58. The element with atomic number 56 is likely to have the same outer shell configuration as the element with atomic number :

(1) 12 (2) 18 (3) 14 (4) 22

59. Elements A, B, C, D and E have the following electronic configurations :

(a) $1s^2, 2s^2 2p^1$ (b) $1s^2, 2s^2 2p^6, 3s^2 3p^1$

(c) $1s^2, 2s^2 2p^6, 3s^2 3p^3$ (d) $1s^2, 2s^2 2p^6, 3s^2 3p^5$

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

Which among these will belong to the same group in periodic table.

(1) a and c (2) a and b (3) a and d (4) d and e

60. If instead of 'n + *l* energy is indicated only by 'n', then Ca-20 will be placed in _____ block.

(1) s- (2) p- (3) d- (4) f-

Attempt any one of the section C or D

SECTION-C : MATHEMATICS

FOR ADMISSION IN ENGINEERING STREAM

This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

61. Area of the triangle formed by the points represented by z, z + iz and iz is equal to

(1) $\frac{1}{4}|z|^2$ (2) $|z|^3$ (3) $\frac{1}{2}|z|^2$ (4) None of these

62. The number of solutions of the equation $z^2 + \bar{z} = 0$ is

(1) one (2) two (3) four (4) None of these

63. If α, β are roots of the equation $x^2 + ax + b = 0$ then maximum value of the expression $-(x^2 + ax + b)$ will be

(1) $\frac{(\alpha+\beta)^2}{4}$ (2) $\frac{(\alpha-\beta)^2}{4}$ (3) $\frac{-(\alpha-\beta)^2}{4}$ (4) $\frac{-(\alpha+\beta)^2}{4}$

64. If the expression $a^2(b^2 - c^2)x^2 + b^2(c^2 - a^2)x + c^2(a^2 - b^2)$ is a perfect square then

(1) a, b, c are in A.P. (2) a^2, b^2, c^2 in A.P. (3) a^2, b^2, c^2 are in H.P. (4) None of these

65. Given two A.P.'s 2, 5, 8, 11, ... 60 terms and 3, 5, 7, 9, ... 50 terms, then the number of terms which are identical is

(1) 19 (2) 15 (3) 17 (4) None of these

66. The value of $\cos^2\theta + \cos^2\left(\theta + \frac{2\pi}{3}\right) + \cos^2\left(\theta - \frac{2\pi}{3}\right)$ is

(1) + 1 (2) $\frac{3}{2}$ (3) – 1 (4) None of these

67. If $x^2y^3 = 6$ $(x,y > 0)$. Find the least value of 3x + 4y

(1) 10 (2) 5 (3) 15 (4) None of these

68. $\tan(100^\circ) + \tan(125^\circ) + \tan(100^\circ)\tan(125^\circ)$ is equal to

(1) 0 (2) $\frac{1}{2}$ (3) – 1 (4) 1

69. Number of solutions of $\sum_{r=1}^{5} \cos(rx) = 5$ in the interval $[0, 4\pi]$ is

(1) 0 (2) 2 (3) 3 (4) None of these

70. If $\log_{0.6}\left(\log_6\left(\frac{x^2+x}{x+4}\right)\right) < 0$, the complete set of value of 'x' is

(1) $(-4, -3) \cup (8, \infty)$ (2) $(-\infty, -3) \cup (8, \infty)$ (3) $(8, \infty)$ (4) None of these

71. If $\frac{x^2}{a} + \frac{y^2}{b} + \frac{2xy}{h} = 0$ represents pair of straight lines and slope of one line is twice the other, then $ab : h^2$ is

(1) 9 : 8 (2) 8 : 9 (3) 1 : 2 (4) None of these

72. Let $A \equiv (-2, 0)$ & $B \equiv (2, 0)$, then the number of integral values of a, $a \in [-10, 10]$ for which line segment AB subtends an acute angle at point $C \equiv (a, a + 1)$ is

(1) 15 (2) 17 (3) 19 (4) None of these

73. If (x, y) satisfies $x^2 + y^2 - 4x + 2y + 1 = 0$ then the complete set of values, the expression $\sqrt{x^2+y^2-10x-6y+34}$ can take, is :

(1) [0, 6] (2) [1, 5] (3) [2, 6] (4) [3, 7]

74. The shortest distance from the line $3x + 4y = 25$ to the circle $x^2 + y^2 = 6x - 8y$ is equal to :

(1) $\frac{7}{3}$ (2) $\frac{9}{5}$ (3) $\frac{7}{5}$ (4) None of these

75. Let H be the orthocenter of triangle ABC, then angle subtended by side BC at the centre of incircle of ΔCHB is

(1) $\frac{A}{2}+\frac{\pi}{2}$ (2) $\frac{B+C}{2}+\frac{\pi}{2}$ (3) $\frac{B-C}{2}+\frac{\pi}{2}$ (4) None of these

Comprehension for (Q. 76 & Q. 77) :

Let $P(x)$ be a quadratic poly nomial with real coefficients such that for all real x the relation $2(1 + P(x)) = P(x - 1) + P(x + 1)$ holds

If $P(0) = 8$ and $P(2) = 32$ then :

76. The sum of all the coefficient of $p(x)$ is

(1) 20 (2) 19 (3) 17 (4) 15

77. If the range of $P(x)$ is $[m, \infty)$, then the value of m is

(1) – 12 (2) 15 (3) – 17 (4) – 5

Comprehension for (Q. 78 to Q. 80) :

Let a, b, c are respectively the sines and p, q, r are respectively the cosines of $\alpha, \alpha+\frac{2\pi}{3}$ and $\alpha+\frac{4\pi}{3}$, then

78. The value of $(a + b + c)$ is

(1) 0 (2) $\frac{3}{4}$ (3) 1 (4) None of these

79. The value of $(ab + bc + ca)$ is :

(1) 0 (2) $-\frac{3}{4}$ (3) $-\frac{1}{2}$ (4) – 1

80. The value of $(qc - rb)$ is :

(1) 0 (2) $-\frac{\sqrt{3}}{2}$ (3) $\frac{\sqrt{3}}{2}$ (4) depends on α

SECTION–D : BIOLOGY

FOR ADMISSION IN MEDICAL STREAM

This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

81. Consider following fungi–

Rhizopus, *Penicillium*, *Neurospora*, *Agaricus*, *Alternaria*

In how many of the above members dikaryophase is seen

(1) 1 (2) 2 (3) 3 (4) 4

82. Select wrongly matched pair–

	Plants		**Peculiar feature**
(1)	*Sphagnum*	–	Protonema
(2)	Ferns	–	Prothallus
(3)	Conifers	–	Triploid endosperm
(4)	Monocots	–	Double fertilization

83. Consider following statements

A. In epigynous flowers thalamus and ovary wall are fused.

B. In the pea posterior petal is called keel.

Select true statement

(1) Only A (2) Only B (3) Both (A) and (B) (4) Neither (A) nor (B)

84. Number of chromatid in each chromosome during the mitotic metaphase, Metaphase – I and Metaphase – II respectively is

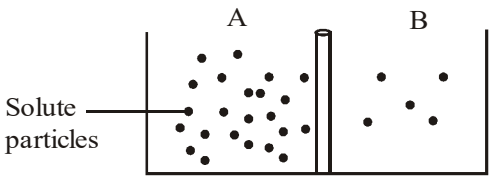
(1) 1, 2, 1 (2) 1, 1, 2 (3) 2, 1, 2 (4) 2, 2, 2

85. Event occuring during s-phase in the cytoplasm is

(1) DNA replication (2) Chromosome duplication

(3) Centriole duplication (4) All of these

86. Consider two solutions & associated statements and select wrong statement.



(1) Chamber A contains low Ψw

(2) Chamber B have higher kinetic energy of solvent molecule

(3) Ψs of chamber A is lower than the B

(4) Ψs of chamber A is less negative

87. Which group of tissues is not the part of bark ?

(1) Secondary cortex (2) Phellogen

(3) Vascular cambium (4) Secondary phloem

88. An animal posses the following features :

(i) Tympanum represents the ear

(ii) Common chamber cloaca is present

(iii) Skin is moist & helpful in repiration

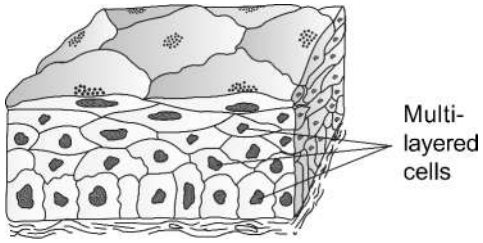
Select the group in which the above animal can be classified-

(1) Reptilia (2) Osteichthyes (3) Amphibia (4) Aves

89. Which of the following animals is triploblastic & possess open type of circulatory system ?

(1) Tapeworm (2) Filarial worm (3) Earthworn (4) Silk worm

90. Go through the following figure of animal tissue



How many of the following structures possess the type of epithelium shown in the above figure.

Pharynx, Stomach, PCT of Nephron, Buccal cavity

(1) 4 (2) 3 (3) 2 (4) 1

91. Select the incorrect statement for Cockroach:

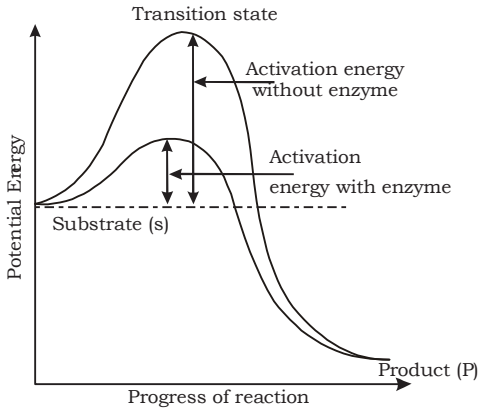
(1) Antennae are segmented structures.

(2) Hepatic caecae are present at the junction of foregut & midgut.

(3) Total 20 spiracles are present on the lateral side of the body.

(4) The nocturnal vision with more resolution & less sensitivity.

92. The following given figure represents the concept of activation energy during a biochemical reaction:



Which of the following statement is incorrect regarding the above figure.

(1) The formation of ES complex during the reaction is a transient phenomenon.

(2) It is an exothermic reaction

(3) Enzyme can accelerates the rate of reaction by increasing the activation energy

(4) Stability is something that related to energy status of the molecule.

93. Which of the following biomolecules does not contain nitrogen in its structure ?

(1) Arachidonic acid (2) Adenylic acid (3) Glutamic acid (4) Chitin

94. Which of the following blood vessels carries oxygenated blood in human ?

(1) Pulmonary Artery (2) Pulmonary vein

(3) Vena cava from lower body (4) Vena cava from upper body

95. The finger like processes called villi are found in which part of human digestive tract

(1) Stomach (2) Small Intestine (3) Large Intestine (4) Both (1) and (2)

Comprehension for (Q. 96 to Q. 98) :

Read the following comprehension thoroughly.

Sexually reproducing plants contains two types of bodies–Gametophyte and Sporophyte. Both these phases alternate with each other. Out of these two generations longlived & free living phase is considered dominant phase.

Answer following questions based on the above paragraph.

96. Free living sporophyte is absent in

(1) *Volvox* (2) Seeded plants (3) Ferns (4) Flowering plants

97. In which of the following plants gametophyte donot have free living, independent existance

(1) Liverworts (2) Gymnosperms (3) Moss (4) Ferns

98. During the alternation of generation gametes are formed through the ..... and the spores are formed through the .....

(1) Mitosis, Meiosis (2) Meiosis, Mitosis (3) Mitosis, Mitosis (4) Meiosis, Meiosis

Comprehension for (Q. 99 & Q. 100) :

Go through the following paragraph.

"A type of connective tissue has cells & fibres **loosely arranged** in a semifluid ground substance. Fibres & fibroblasts are **compactly packed** in a type of tissue in which orientation of **fibres show a regular pattern** some tissue have **hard & nonpliable ground substance** rich in calcium salts & collagen fibres."

99. The bold statement '**fibres show a regular pattern**' can be explaned by which of the following structure

(1) Skin (2) Blood (3) Tendon (4) Adipose tissue

100. The bold statement "**hard & nonpliable ground substance**" indicates a tissue, which is classified under

(1) Loose connective tissue (2) Specialized connective tissue

(3) Dense connective tissue (4) Muscular tissue

SPACE FOR ROUGH WORK