
PART - I

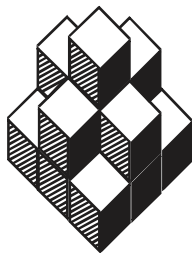
IQ (MENTAL ABILITY)

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. How many quadrilaterals are there in the following figure ?



- (1) 11 (2) 8
(3) 2 (4) 4
2. How many times will you write even digits, if you write all numbers from 291 to 300 ?
- (1) 13 (2) 16
(3) 14 (4) 15
3. In a certain code, MENTION is written as LNEITNO. How is PATTERN written in that code ?
- (1) ATAETNR (2) OTAETNR
(3) OTAESNR (4) STAETNR
4. **Statements:**
All the trucks are files.
Some scooters are files.
Conclusions:
I. All the trucks are scooters.
II. Some scooters are trucks.
(1) Only (I) conclusion follows
(2) Only (II) conclusion follows
(3) Either (I) or (II) follows
(4) Neither (I) or (II) follows
5. Count the number of cubes in the given figure.



- (1) 8 (2) 9
(3) 12 (4) 15

6. **Statement :-**

All poets are intelligent.

All singers are intelligent.

Conclusions :-

I. All singers are poets

II. All intelligent persons are not singers.

- (1) Only conclusion I follows
- (2) Only conclusion II follows
- (3) Either conclusion I or conclusion II follows
- (4) Neither follows.

7. Which number would replace '?' mark in the series ?

1, 6, 26, ?, 426

- (1) 86 (2) 76 (3) 106 (4) 96

8. How many times does the 29th day of the month occur in 400 consecutive years ?

- (1) 4497 (2) 4487 (3) 4397 (4) 4387

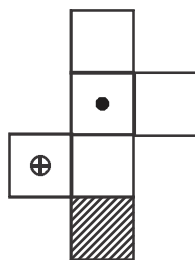
9. A girl introduced a boy as the son of the daughter of the father of her uncle. The boy is girl's

- (1) Son (2) Brother
- (3) Uncle (4) Nephew

10. A cube whose two adjacent faces are coloured is cut into 64 identical small cubes. How many of these small cubes are not coloured at all ?

- (1) 28 (2) 48 (3) 36 (4) 32

11. Choose the box that is similar to the box formed from the given sheet of paper (X).



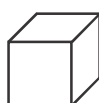
(X)



(1)



(2)



(3)



(4)

- (1) 1 only (2) 1 and 3 only
- (3) 1, 3 and 4 only (4) 1, 2, 3 and 4

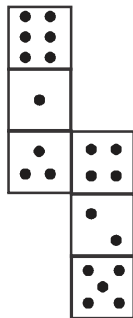
12. If 'tee see pee' means 'Drink fruit juice', 'see kee lee' means 'Juice is sweet' and 'lee ree mee' means 'He is intelligent', which word in that language means 'sweet' ?

- (1) see
- (2) kee
- (3) lee
- (4) pee

13. Starting from a point, a person walked 12 m North, he turned right and walked 10 m, he again turned right and walked 12m, then he turned left and walked 5m. How far is he now and in which direction from the starting point ?

- (1) 10 m, towards West
- (2) 15 m, towards East
- (3) 10 m, towards East
- (4) 5 m, towards West

14. How many dots lie opposite to the face having three dots, when the given figure is folded to form a cube ?



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

15. Find out the exact water- image from the following four diagrams :



Problem Figure

(X)



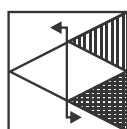
(1)



(2)



(3)



(4)

-
16. At what angle are the hands of the clock inclined at 20 minutes past 7?
- (1) 80°
 - (2) 90°
 - (3) 100°
 - (4) 120°
17. In a queue, Ratna is 10th from the front while Mukul is 25th from behind and Radha is just in the middle of the two. If there be 50 persons in the queue, what position does Radha occupy from the front ?
- (1) 20th
 - (2) 19th
 - (3) 18th
 - (4) 17th
18. Which of the following is not a leap year?
- (1) 500
 - (2) 400
 - (3) 1600
 - (4) 2000
19. How many times do the hands of a clock coincide in a day ?
- (1) 20
 - (2) 21
 - (3) 22
 - (4) 24
20. Pointing towards a person, a man said to a woman, " His mother is the only daughter of father." How is the woman related to that person?
- (1) Mother
 - (2) Sister
 - (3) Daughter
 - (4) Wife

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. A uniform rope (not weightless) of length l hangs from the roof of a building. A transverse wave pulse is generated at the bottom end of the rope. The time taken by it to travel the rope will be :

(1) $\sqrt{\frac{l}{g}}$ (2) $2\sqrt{\frac{l}{g}}$ (3) $\sqrt{\frac{2l}{g}}$ (4) $\sqrt{\frac{l}{2g}}$

22. While measuring the acceleration due to gravity by a simple pendulum, a student makes a positive error of 1% in the length of the pendulum and a negative error of 3% in the value of time period. His percentage error in the measurement of g by the relation $g = 4\pi^2(l/T^2)$ will be :

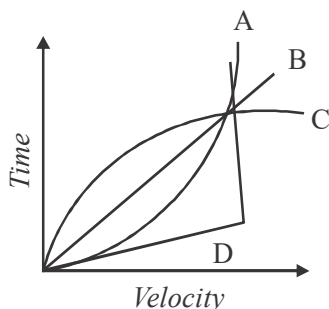
(1) 2% (2) 4% (3) 7% (4) 10%

23. A particle executes vertical SHM about the highest point of a projectile. When the particle is at the extreme position, a Projectile is fired at an angle 30° to the horizontal, with a speed of 20 ms^{-1} . If the projectile hits the oscillating particle, then, which of the following cannot be the time period of the oscillating particle ? ($g = 10 \text{ ms}^{-2}$)

(1) $1\frac{1}{3}$ second (2) $\frac{4}{5}$ second

(3) 2 second (4) 4 second

24. A small spherical ball is dropped in a viscous medium. The variation in velocity of the ball, in relation to time, is best described by curve:

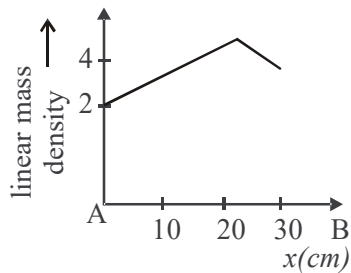


(1) A (2) B (3) C (4) D

25. A man can swim in still water with a speed of 2 m/s. If he wants to cross a river of water current speed $\sqrt{3}$ m/s along shortest possible path, then in which direction should he swim?

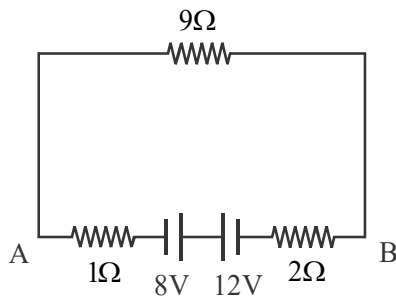
- (1) at an angle 120° to the water current
- (2) at an angle 150° to the water current
- (3) at an angle 90° to the water current
- (4) none of these

26. The variation of linear mass density (mass per unit length) ρ of a rod AB of length 30 cm with distance x from end A is shown. The distance of centre of mass of the rod from end A is



- (1) 10cm
- (2) 15cm
- (3) 20cm
- (4) 18cm

27. In the circuit shown in the fig, the potential difference $V_B - V_A$ is



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

31. Photoelectrons are generated by irradiating a photosensitive substance by suitable electromagnetic waves. The frequency of the radiation is increased by 25%. The stopping potential then :

- (1) Increases by 25%
- (2) Increases by 56%
- (3) Remains unchanged
- (4) Cannot be determined due to incomplete information.

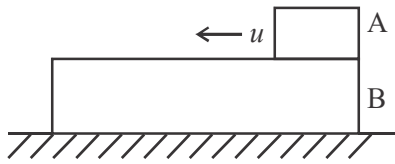
32. In an interference pattern, the intensity is I_0 due to each source. The intensity at a point P is less than I_0 . The phase difference between the waves must be ($n \in I$):

- (1) $2n\pi + \varphi; |\varphi| < \pi/3$
- (2) $(2n+1)\pi + \varphi; |\varphi| < \pi/3$
- (3) $2n\pi + \varphi; |\varphi| < \pi/6$
- (4) $(2n+1)\pi + \varphi; |\varphi| < \pi/6$

33. A ray of light passes from vacuum into a medium of refractive index μ . If the angle of incidence is twice the angle of refraction, then the angle of incidence is

- (1) $\cos^{-1}(\mu/2)$
- (2) $\sin^{-1}(\mu/2)$
- (3) $2 \cos^{-1}(\mu/2)$
- (4) $2 \sin^{-1}(\mu/2)$

34. A long block B rests on a smooth horizontal plane. A small block A of mass half that of B is placed at one end of block B and given a horizontal velocity u . If μ be the coefficient of friction between the two blocks, then the time elapsed, before the two blocks attain a common velocity is :



- (1) $\frac{2u}{3\mu g}$ (2) $\frac{3u}{2\mu g}$
- (3) $\frac{u}{\mu g}$ (4) $\frac{u}{2\mu g}$
35. The radius of a water drop is 0.5 mm. The order of magnitude of number of drops in 1 litre of water will be :
- (1) 10^0 (2) 10^1 (3) 10^3 (4) 10^6
36. A particle of mass 2 kg revolves in a circular path on X - Y plane with a constant speed of 5 ms^{-1} , along the path $x^2 + y^2 - 25 = 0$. The force (in N) acting on the particle when at the position $(-3m, 4m)$ will be

- (1) $(3\hat{i} - 4\hat{j})$
- (2) $(6\hat{i} - 8\hat{j})$
- (3) $(6\hat{i} + 8\hat{j})$
- (4) $(8\hat{i} - 6\hat{j})$

37. A solid sphere rolls down without slipping on an inclined plane of inclination θ . What is the linear acceleration of sphere?

(1) $\frac{5}{7}g \sin \theta$ (2) $\frac{3}{5}g \sin \theta$

(3) $\frac{2}{7}g \sin \theta$ (4) $\frac{2}{9}g \sin \theta$

38. If η_1 moles of a gas having $C_p/C_v = \gamma_1$ is mixed with another gas, with corresponding quantities η_2 and γ_2 , then the value of $C_p/C_v = (\gamma \text{ say})$ for the mixture will be given by

(1) $\gamma = \frac{\eta_1 \gamma_1 + \eta_2 \gamma_2}{\eta_1 + \eta_2}$

(2) $\frac{\eta_1 + \eta_2}{\gamma} = \frac{\eta_1}{\gamma_1} + \frac{\eta_2}{\gamma_2}$

(3) $\frac{\eta_1 + \eta_2}{\gamma - 1} = \frac{\eta_1}{\gamma_1 - 1} + \frac{\eta_2}{\gamma_2 - 1}$

(4) $\frac{\eta_1 + \eta_2}{\gamma + 1} = \frac{\eta_1}{\gamma_1 + 1} + \frac{\eta_2}{\gamma_2 + 1}$

39. A non-conducting rod PQ of length a has a uniform linear charge density λ . It is rotated about end P whose axis is normal to the rod PQ, at an angular speed ω . The magnetic moment of the system is :

(1) $\frac{\lambda \omega a^3}{6}$ (2) $\frac{\lambda \omega a^3}{3}$ (3) $\frac{2}{3} \lambda \omega a^3$ (4) $\frac{\lambda \omega a^3}{2}$

40. In an L - R circuit, the inductive reactance is equal to the resistance of the circuit. An emf

$V = V_0 \sin\left(\omega t - \frac{\pi}{3}\right)$ is applied to the circuit.

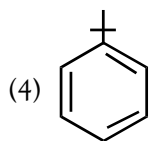
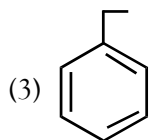
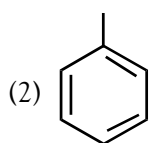
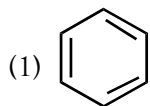
The power consumption in the circuit is

(1) $\frac{V_0^2}{R}$ (2) $\frac{V_0^2}{\sqrt{2}R}$ (3) $\frac{V_0^2}{2R}$ (4) $\frac{V_0^2}{4R}$

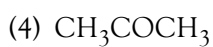
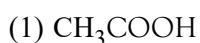
SECTION-B : CHEMISTRY

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

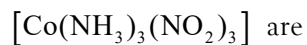
41. Which one of the following compounds have maximum π electron density in aromatic ring:



42. Which of the following compound will give silver mirror test-



43. The number of geometric isomers of



(1) 0

(2) 2

(3) 3

(4) 4

44. The standard heat of combustion of solid boron is equal to :-

(1) $\Delta H_f^\circ(\text{B}_2\text{O}_3)$

(2) $\frac{1}{2} \Delta H_f^\circ(\text{B}_2\text{O}_3)$

(3) $2\Delta H_f^\circ(\text{B}_2\text{O}_3)$

(4) $\frac{1}{2} \Delta H_f^\circ(\text{B}_2\text{O}_3)$

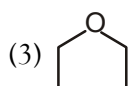
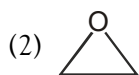
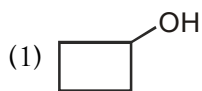
45. The amount of KMnO_4 required to prepare 100ml of 0.2N solution in an acidic medium is

- (1) 3.16 g (2) 1.58 g
(3) 0.632 g (4) 31.6 g

46. Which of the following factor shifted the reaction $\text{PCl}_3 + \text{Cl}_2 \rightleftharpoons \text{PCl}_5$ at left side.

- (1) Adding PCl_5
(2) Increase pressure
(3) Constant temp.
(4) Catalyst

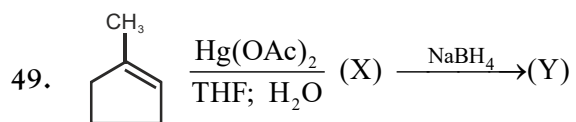
47. $\text{HO}-(\text{CH}_2)_4-\text{Br} \xrightarrow[\text{Dryether}]{\text{Na}} (\text{X})$



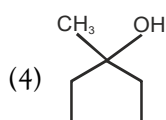
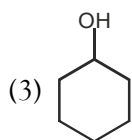
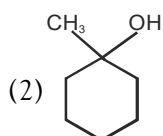
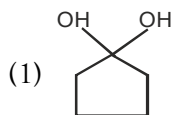
(4) $\text{CH}_3\text{CH}_2\text{Br}$

48. 6gm of 2-butanol is dissolved to form 250ml of solution & the observed rotation is 30° ; when length of the tube is 300mm. The specific rotation is

- (1) 100°
(2) 120°
(3) 139°
(4) 60°



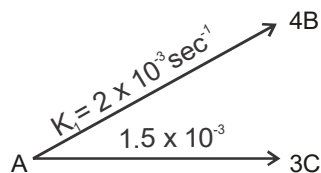
Y is



50. The process of converting hydrated Alumina into anhydrous Alumina is

- (1) Roasting
- (2) Smelting
- (3) Dressing
- (4) Calcination

51. For the following parallel order reaction



The value of overall half life of A in minutes

given that $\frac{(B)_t}{(C)_t} = \frac{16}{9}$

- (1) 3.3
- (2) 6.3
- (3) 3.6
- (4) 4.2

52. A current of 0.1 Amp was passed for 2 hrs through a solution of Aq. CuCl and 0.3745g of Cu was deposited at the cathode. Calculate the current efficiency of Copper deposition (Cu=63.5)

- (1) 79% (2) 39.5%
 (3) 63.25% (4) 63.5%

53. Mixture of volatile component A & B has total vapor pressure (Torr) $P = 254 - 199x_A$ where X_A is mole fraction of A in mixture.

Hence P_A^0 & P_B^0 in Torr are

- (1) 254, 119
 (2) 119, 254
 (3) 55, 254
 (4) 119, 373

54. The wave function (φ) of 2s orbital is given by

$$\varphi_{2s} = \frac{1}{\sqrt{32\pi}} \left[\frac{1}{a_0} \right]^{\frac{3}{2}} \left[2 - \frac{r}{a_0} \right] e^{-\frac{r}{2a_0}}$$

At $r = r_0$ radial node is formed. Thus r_0 is terms of a_0 is

- (1) $2a_0$ (2) $3a_0$ (3) a_0 (4) $\frac{a_0}{2}$

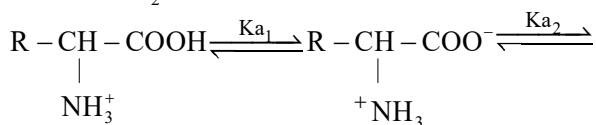
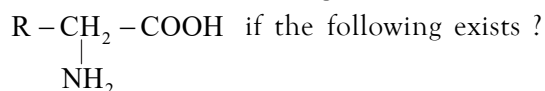
55. The hydrolysis of PCl_5 produces :

- (1) $H_3PO_3 + HClO$ (2) $H_3PO_3 + HCl$
 (3) $H_3PO_4 + HCl$ (4) $PH_3 + HClO$

56. During the change of O_2 to O_2^- the electron is added in which of the following orbital

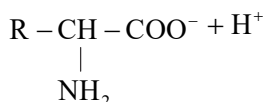
- (1) π^* orbital (2) π orbital
 (3) σ^* orbital (4) σ -orbital

57. Which statement is wrong about



Conjugate acid
of Zwitter Ion

Zwitter Ion



Conjugate base
of Zwitter Ion

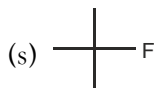
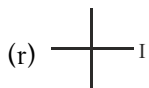
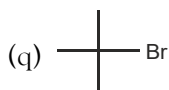
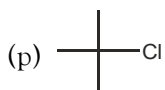
(1) $\text{H}^+ = \sqrt{K_{a_1}K_{a_2}}$

(2) $\text{pH} = \frac{\text{p}K_{a_1} + \text{p}K_{a_2}}{2}$

(3) pH of aqueous solution depends on
concentration of $\text{R}-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$

(4) The concentration of $[\text{H}^+]$ for Zwitter Ion
can be calculated for any amphotene salt
such as HCO_3^-

58. The order of ease of rate of SN^1



(1) $p > q > r > s$

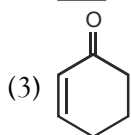
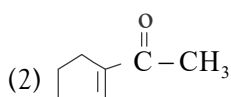
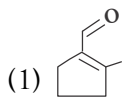
(2) $r > q > p > s$

(3) $q > r > p > s$

(4) $s > p > q > r$

59. $\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{H} \xrightarrow[\Delta]{\text{KOH}} (\text{X})$

The major product is



(4) None

60. Structure of mixed oxide is CCP. Cubic unit cell
of mixed oxide is composed of oxide Ion. One
fourth of the Tetrahedral void are occupied by
divalent metal (A) and the octahedral voids are
occupied by a monovalent metal (B). The
formula of oxide is

(1) ABO_2 (2) A_2BO_2 (3) $\text{A}_2\text{B}_3\text{O}_4$ (4) AB_2O_2

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. Find the vertex of following parabola

$$(y-2)^2 = 8(x-3)$$

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

62. Two fair and ordinary dice are rolled simultaneously 4 times. The probability that both dice will show same outcome exactly twice, is equal to

- (1) $\frac{25}{216}$ (2) $\frac{25}{36}$
(3) $\frac{25}{108}$ (4) $\frac{25}{72}$

63. No. of ways in which we can arrange 4 people on 10 seats such that every person has exactly one neighbour

- (1) 496 (2) 500 (3) 504 (4) 490

64. In acute angle triangle if the range of $\sin A + \sin B + \sin C$ is (a, b], then which of the following represent the least possible value of a

- (1) 2 (2) $2\sqrt{2}$
(3) $\sqrt{2}$ (4) $\sqrt{3}$

65. If $A + B = \frac{\pi}{4}$

Then find the value of $(1 + \tan A)(1 + \tan B)$

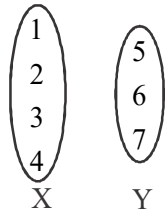
- (1) $2\sqrt{2}$ (2) 3 (3) 1 (4) 2

66. Find that the range of following expression

$$y = e^{2x} + e^x + 1$$

- (1) $(2, \infty)$ (2) $(1, \infty)$
(3) $\left(\frac{3}{4}, \infty\right)$ (4) $\left(\frac{1}{2}, \infty\right)$

67. Find that the no. of onto function for the following set



where $f : X \rightarrow Y$

- (1) 40 (2) 41 (3) 36 (4) 38
68. If the angle (θ) between asymptotes of the given hyperbola $\frac{x^2}{16} - \frac{y^2}{9} = 1$, then
- (1) $\tan \theta = \frac{24}{7}$ (2) $\tan \theta = \frac{3}{4}$
- (3) $\tan \theta = \frac{2}{3}$ (4) $\tan \theta = \frac{1}{3}$
69. The no. of points having integral co-ordinates which lies inside the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$ are
- (1) 31 (2) 30 (3) 29 (4) 24
70. Find out the area bounded by the curve $y = xe^{-x}$, $xy = 0$ & $x = c$, where c is the point of inflation of the curve $y = xe^{-x}$
- (1) $1 - \frac{2}{e^2}$ (2) $1 - \frac{3}{e^2}$ (3) $1 - \frac{4}{e^2}$ (4) $1 - \frac{5}{e^2}$

71. $I = \frac{dx}{\sin \frac{x}{2} \sqrt{\cos^3 \frac{x}{2}}}$
- (1) $\frac{4}{\sqrt{\cos \frac{x}{2}}} + 2 \tan^{-1} \sqrt{\cos \frac{x}{2}} - \ell n \frac{1 + \sqrt{\cos \frac{x}{2}}}{1 - \sqrt{\cos \frac{x}{2}}} + c$
- (2) $\frac{2}{\sqrt{\cos \frac{x}{2}}} + \tan^{-1} \sqrt{\cos \frac{x}{2}} + \ell n \frac{1 + \sqrt{\cos \frac{x}{2}}}{1 - \sqrt{\cos \frac{x}{2}}} + c$
- (3) $\frac{1}{\sqrt{\cos \frac{x}{2}}} + \tan^{-1} \sqrt{\cos \frac{x}{2}} + \ell n \frac{1 + \sqrt{\cos \frac{x}{2}}}{1 - \sqrt{\cos \frac{x}{2}}} + c$
- (4) None of these

72. The tangent of point P of the curve $y = x^2 - x^3$ meets curve again at Q. Find the locus of mid point of line-segment PQ

(1) $y = 1 - 9x + 28x^2 - 28x^3$

(2) $y = 1 - 12x + 27x^2 - 28x^3$

(3) $y = 7 - 10x + 3x^2 - 12x^3$

(4) $y = 7x - 12x^2 + 27x^3$

73. Find the derivative of $(\sin x)^{\sin x}$

(1) $(\sin x)^{\sin x} [\cos x + (\ln \sin x) \cdot \cos x]$

(2) $(\sin x)^{\sin x} [\sin x + (\ln \sin x) \cdot \cos x]$

(3) $(\sin x)^{\sin x} [\cos x + (\ln \sin x) \cdot \sin x]$

(4) $(\sin x)^{\sin x} [-\cos x + (\ln \sin x) \cdot \sin x]$

74. If hypotenuse of a right angle triangle having side length 2 & 3 is sliding on x-axis & y-axis then the locus of vertex opposite to hypotenuse is

(1) St. line

(2) Circle

(3) Ellipse

(4) Hyperbola

75. Equation of the line which passes through the point with $(2, 1, 0)$ and perpendicular to the plane containing the vectors $\hat{i} + \hat{j}$ and $\hat{j} + \hat{k}$ is :

(1) $\vec{r} = (2, 1, 0) + t(1, -1, 1)$

(2) $\vec{r} = (2, 1, 0) + t(-1, 1, 1)$

(3) $\vec{r} = (2, 1, 0) + t(1, 1, -1)$

(4) $\vec{r} = (2, 1, 0) + t(1, 1, 1)$

where t is a parameter

76. The area bounded by the curves $y = -\sqrt{-x}$

and $x = -\sqrt{-y}$ where $x, y \leq 0$

(1) cannot be determined

(2) is $1/3$

(3) is $2/3$

(4) is same as that of the figure bounded by the curves $y = \sqrt{-x}$; $x \leq 0$ and $x = \sqrt{-y}$; $y \leq 0$

77. Find the value of i^i

(1) $e^{-\frac{\pi}{2}}$

(2) $e^{\frac{\pi}{2}}$

(3) e

(4) e^π

78. Find out the last 2 digit of 2^{1000}
(1) 76 (2) 16 (3) 36 (4) 46

79. Find out the sum of following series
 $\tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{8} + \tan^{-1} \frac{1}{18} + \tan^{-1} \frac{1}{32} + \dots$ to ∞

- (1) $\frac{\pi}{2}$ (2) $\frac{\pi}{3}$
(3) $\frac{\pi}{4}$ (4) $\frac{\pi}{6}$

80. Find the value of following limit

$$\lim_{x \rightarrow 0} \left[\frac{x^2}{\text{Sin}x \cdot \tan x} \right]$$

Where [] denotes greatest integer function

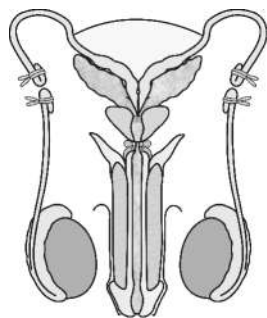
- (1) 0 (2) 1
(3) 2 (4) Does not exist

SECTION-D : BIOLOGY

FOR ADMISSION IN MEDICAL STREAM

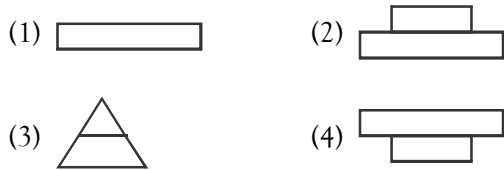
This section contains 20 multiple choice questions. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

81. Following figure represents—



- (1) Tubectomy (2) Vasectomy
(3) Ovarian cancer (4) Tubal ligation
82. The Fungal cell is treated with which of the following enzyme to break down the cell wall of fungal cell
- (1) Lysozyme
(2) Cellulose
(3) Chitinase
(4) Hemi Cellulase

83. A standing crop of phytoplankton is supporting standing crop of zooplankton. Which of the following is correct with reference to bio mass



84. Which of the following does not show co-dominance phenomena

- (1) Coat colour of Rabbit
- (2) Sickle cell Anaemia
- (3) MN Blood group
- (4) AB Blood group

85. *Cycas* and *Adiantum* resemble each other in having

- (1) Motile male gametes
- (2) Fruits
- (3) Vessels
- (4) Seeds

86. Which of the following is a correct statement :

- (1) Bacteriochlorophyll is mainly found in green photosynthetic bacteria
- (2) Chlorophyll a has an empirical formula of $C_{55}H_{72}O_6N_4Mg$.
- (3) Chlorophyll b is an aldehyde of chlorophyll a
- (4) All of the above

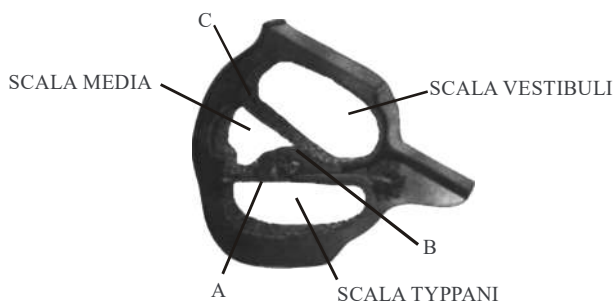
87. House fly belongs to which order ?

- (1) Primata
- (2) Carnivora
- (3) Sapindales
- (4) Diptera

88. In some chordates, the notochord is modified as the vertebral column. Such animals are called vertebrates. Which one of the following statements make sense ?

- (1) All chordates are vertebrates but all vertebrates are not chordates
- (2) All vertebrates are chordates and all chordates are not vertebrates
- (3) All vertebrates are chordates but all chordates are not vertebrates
- (4) Chordates are not vertebrates and vertebrates are not vertebrates

89. Kyoto protocol was endorsed at
 (1) COP-4 (2) COP-3
 (3) COP-5 (4) COP-6
90. In paddy fields which of the following is a important biofertiliser ?
 (1) Azoto bactor (2) Azospirillum
 (3) Anabaena (4) Glomus
91. *Rosa*, *Hibiscus*, *Oxalis* shows which type of evolutionary evidence
 (1) Vestigial organ (2) Atavism
 (3) Analogus (4) Organ
92. In ovulatory phase which of the following set of hormones takes up peak level ?
 (1) LH only
 (2) LH and Progesterone
 (3) LH and FSH
 (4) Progesterone & Estrogen
93. In the figure related to human ear; what do A, B and C stand for respectively



- (1) Reissners, Basilar and Tectorial membrane
 (2) Tectorial; Basilar and Reissners membrane
 (3) Basilar; Tectorial and Reissners membrane
 (4) Basilar; Reissners and Tectorial membrane
94. When leaves bear flower or inflorescence in their axil, they are called
 (1) Cotyledonary leaves (scutellum)
 (2) Bract leaves (Hypsophylls)
 (3) Scale leaves (Cataphylls)
 (4) Floral leaves (Sporophylls)
95. Cancer of muscle tissue is known as
 (1) Lipomas (2) Osteoma
 (3) Myoma (4) Lymphoma

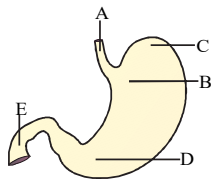
96. You are given a fairly old piece of dicot stem and a dicot root. Which of the following anatomical structures will you use to distinguish between the two ?

- (1) Cortical cells
- (2) Secondary xylem
- (3) Secondary phloem
- (4) Position of protoxylem

97. In which one of the following processes CO_2 is not released

- (1) Lactate fermentation
- (2) Aerobic respiration in plants
- (3) Aerobic respiration in animals
- (4) Alcoholic fermentation

98. Which of the following correctly represent the different anatomical regions of human stomach



- (1) A-Trachea, B-Cardiac, C-Pyloric, D-Fundus, E-Duodenum
- (2) A-Foodpipe, B-Fundus, C-Cardiac, D-Pyloric, E-Duodenum
- (3) A-Oesophagus, B-Cardiac, C-Fundus, D-Pyloric, E-Duodenum
- (4) A-Oesophagus, B-Pyloric, C-Cardiac, D-Duodenum, E-Fundus

99. Informosomes in Eukaryotes are :-

- (1) m.RNA + Protein
- (2) r.RNA + Protein
- (3) r.RNA + Protein + m.RNA
- (4) Ribosome + t.RNA + m.RNA

100. When 2 to 3 drops of Benedict's reagent are added to a urine sample and heated gently, it turns yellow. This colour change indicates that

- (1) Urine contains 2% glucose
- (2) Urine contains 0.5% glucose
- (3) Urine contains 1.5% glucose
- (4) Urine contains 1% Glucose

SPACE FOR ROUGH WORK