
PART - I

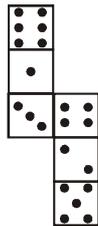
IQ (MENTAL ABILITY)

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. 64 smaller but identical cubes are put together to form a large cube. A knife is passed through one side AB of top face ABCD to the diagonally opposite edge of the bottom face. The knife is then again passed through the side CD of top face to the diagonally opposite edge of the bottom face. How many of the smaller cubes are not cut by the knife at all?

- (1) 35 (2) 36
(3) 37 (4) None of these

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



- (1) Five
(2) Four
(3) Two
(4) Six

3. An accurate clock shows 8 o'clock in the morning. Through how many degree will be the hour hand rotates when the clock shows 2 o'clock in the afternoon?

- (1) 160° (2) 175°
(3) 180° (4) None of these

4. In the following questions, select the set of conclusion(s) that logically follows from the given statements.

Statements:

- A. All stars are moons.
B. All moons are trees.

Conclusions:

- I. All moons are stars. II. All stars are trees.
III. All trees are moons. IV. Some trees are stars.

- (1) Only conclusion I, III and IV follow
(2) Only conclusion I and III follow
(3) All conclusions follow
(4) Only II and IV follow

5. David gets on the elevator at the 11th floor of a building and rides up at the rate of 57 floors per minute. At the same time, Albert gets on an elevator at the 51st floor of the same building and rides down at the rate of 63 floors per minutes. If they continue travelling at these rates than at which floor will their paths cross?

- (1) 19 (2) 28
(3) 30 (4) 37

6. In the following question, select the set of conclusion(s) that logically follows from the given statements.

Statements:

- A. All boxes are balls.
B. No ball is a fan.

Conclusions:

- I. No box is a fan.
II. Some boxes are fans.
III. All balls are boxes.
IV. Some fans are boxes.

- (1) Only I follows
(2) Only III follows
(3) Only II and III follow
(4) None of these

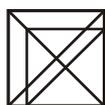
7. How many years have 29 days in February, from 2001 to 2100?

- (1) 21 (2) 22
(3) 23 (4) 24

8. In a certain code if REASON is coded as 5 and BELIEVED as 7, then what is the code for GOVERNMENT?

- (1) 6 (2) 8
(3) 9 (4) 10

9. How many triangles are there in the given figure?



- (1) 16 (2) 18
(3) 19 (4) 21

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10. Pointing to a woman in the picture Ravi said, "Her mother has only one grandchild whose mother is my wife." How is the woman in the picture related to Ravi?
- (1) Cousin (2) Sister
(3) Mother (4) None of these
11. March 1st is Wednesday, which month of the same year starts with the same day?
- (1) Oct. (2) Nov.
(3) Dec. (4) None of these
12. Find out the missing term of the series: 2, 3, 8, 27, 112, ?
- (1) 226 (2) 339
(3) 452 (4) 565
13. A watch which gains uniformly is 2 min low at noon on Monday and is 4 min 48 sec fast at 2 PM on the following Monday. What was it correct?
- (1) 1 PM on Wednesday (2) 2 PM on Wednesday
(3) 2 AM on Wednesday (4) None of these
14. Anil introduces Rohit as the son of the only brother of his father's wife. How is Rohit related to Anil?
- (1) Cousin (2) Son
(3) Son-in-law (4) Brother
15. Ram moved a distance of 75 metres towards the North. He then turned to the left and walked for about 25 metres, turned left again and walked 80 metres. Finally He turned to the right at an angle of 45°. In which direction was he moving finally?
- (1) North-East
(2) North-West
(3) South-East
(4) South-West
16. In a certain code 15789 is written as XTZAL and 2346 is written as NPSU. How is 23549 written in that code?
- (1) NPTUL (2) PNTSL
(3) NPTSL (4) NBTSL

PART-II

SECTION-A : PHYSICS

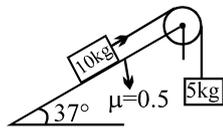
This section contains 20 multiple choice questions. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

21. Wind is blowing in the north direction at speed of 2 m/s which causes the rain to fall at some angle with the vertical. With what velocity on a horizontal road should a cyclist drive so that the rain appears vertical to him :

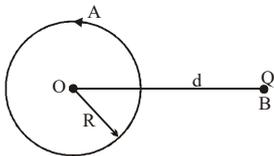
- (1) 2 m/s south (2) 2 m/s north
 (3) 4 m/s west (4) 4 m/s south

22. The blocks are in equilibrium. The friction force acting on 10 kg block is :

- (1) 10 N down the plane
 (2) 40 N up the plane
 (3) 10 N up the plane
 (4) None



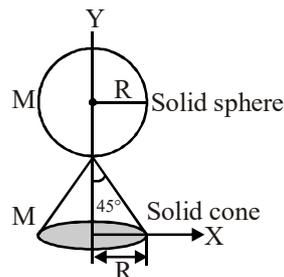
23. A particle 'A' is rotating in a circle of radius R with centre O. Another particle B in the same plane is resting at point Q which is at a distance d from O. The path of B as seen from A is :



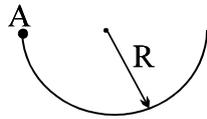
- (1) (2)
 (3) (4)

24. Coordinate of centre of mass of the given system is :

- (1) (0, R)
 (2) $0, \frac{11R}{8}$
 (3) $0, \frac{9R}{8}$
 (4) $\left(0, \frac{R}{4}\right)$



25. Moment of inertia of a semicircular ring of radius R and mass M about an axis passing through A and perpendicular to the plane of the paper is



- (1) $\frac{2}{3} MR^2$ (2) MR^2
 (3) $\frac{5}{\pi} MR^2$ (4) $2MR^2$
26. A vertical tank, open at the top, is filled with a liquid and rests on a smooth horizontal surface. A small hole is opened at the centre of one side of the tank. The area of cross-section of the tank is N times the area of the hole, where N is a large number. Neglect mass of the tank itself. The initial acceleration of the tank is
- (1) $\frac{g}{2N}$ (2) $\frac{g}{\sqrt{2N}}$
 (3) $\frac{g}{N}$ (4) $\frac{g}{2\sqrt{N}}$
27. For an ideal diatomic gas in thermal equilibrium, the ratio of the molar heat capacity at constant volume at very high temperatures to that at room temperatures is equal to
 (1) $7/5$ (2) $5/3$ (3) 2 (4) $7/3$
28. A block of mass m , when attached to a uniform ideal spring with force constant k and free length l executes SHM. The spring is then cut into two pieces, one with free length $f l$ and other with free length $(1 - f) l$. The block is also divided in the same fraction. The smaller part of the block attached to longer part of the spring executes SHM with frequency ω_1 . The bigger part of the block attached to smaller part of the spring executes SHM with frequency ω_2 . The ratio ω_1/ω_2 is
- (1) 1 (2) $\frac{f}{1-f}$
 (3) $\frac{1+f}{f}$ (4) $\frac{f}{1+f}$
29. How many times more intense is 90 dB sound than 40 dB sound?
 (1) 5 (2) 50
 (3) 500 (4) 10^5

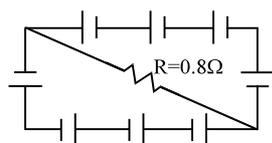
30. A satellite of the earth is revolving in circular orbit with a uniform speed V . If the gravitational force suddenly disappears, the satellite will
- (1) continue to move with the same velocity in the same orbit.
 - (2) move tangentially to the original orbit with velocity V .
 - (3) fall down with increasing velocity.
 - (4) come to a stop somewhere in its original orbit.

31. A capacitor stores $60\mu\text{C}$ charge when connected across a battery. When the gap between the plates is filled with a dielectric, a charge of $120\mu\text{C}$ flows through the battery. The dielectric constant of the material inserted is :

- (1) 1 (2) 2 (3) 3 (4) none

32. A circuit is comprised of eight identical batteries and a resistor $R = 0.8\Omega$. Each battery has an emf of 1.0 V and internal resistance of 0.2Ω . The voltage difference across any battery is

- (1) 0.5V
 (2) 1.0V
 (3) 0 V
 (4) 2 V



33. A uniform magnetic field $\vec{B} = B_0 \hat{j}$ exists in a space. A particle of mass m and charge q is projected towards negative x -axis with speed v from a point $(d, 0, 0)$. The maximum value v for which the particle does not hit y - z plane is

- (1) $\frac{2Bq}{dm}$ (2) $\frac{Bqd}{m}$ (3) $\frac{Bq}{2dm}$ (4) $\frac{Bqd}{2m}$

34. A vertical bar magnet is dropped from position on the axis of a fixed metallic coil as shown in fig - I. In fig - II the magnet is fixed and horizontal coil is dropped. The acceleration of the magnet and coil are a_1 and a_2 respectively then

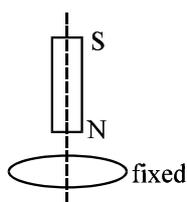


fig - I

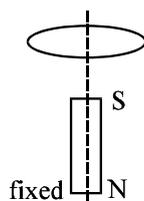


fig-II

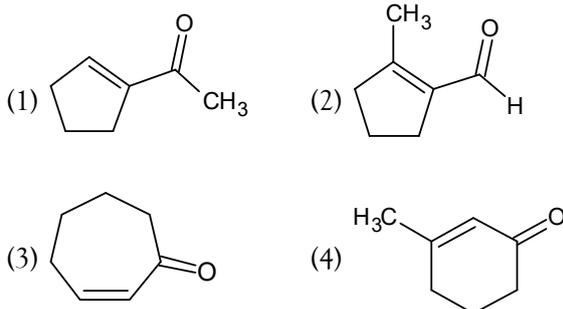
- (1) $a_1 > g, a_2 > g$ (2) $a_1 > g, a_2 < g$
 (3) $a_1 < g, a_2 < g$ (4) $a_1 < g, a_2 > g$

35. The origin of x and y coordinates is the pole of a concave mirror of focal length 20 cm. The x-axis is the optical axis with $x > 0$ being the real side of mirror. A point object at the point (25 cm, 1 cm) is moving with a velocity 10 cm/s in positive x-direction. The velocity of the image in cm/s is approximately
- (1) $-80\mathbf{i} + 8\mathbf{j}$
 - (2) $160\mathbf{i} + 8\mathbf{j}$
 - (3) $-160\mathbf{i} + 8\mathbf{j}$
 - (4) $160\mathbf{i} - 4\mathbf{j}$
36. When light is refracted into a denser medium,
- (1) its wavelength and frequency both increases
 - (2) its wavelength increase but frequency remains unchanged
 - (3) its wavelength decrease but frequency remains unchanged
 - (4) its wavelength and frequency both decrease.
37. The stopping potential for the photo electrons emitted from a metal surface of work function 1.7 eV is 10.4 V. Identify the energy levels corresponding to the transitions in hydrogen atom which will result in emission of wavelength equal to that of incident radiation for the above photoelectric effect
- (1) $n = 3$ to 1
 - (2) $n = 3$ to 2
 - (3) $n = 2$ to 1
 - (4) $n = 4$ to 1
38. The binding energies of nuclei X and Y are E_1 and E_2 respectively. Two atoms of X fuse to give one atom of Y and an energy Q is released. Then:
- (1) $Q = 2E_1 - E_2$
 - (2) $Q = E_2 - 2E_1$
 - (3) $Q = 2E_1 + E_2$
 - (4) $Q = 2E_2 + E_1$
39. The density of a cube is measured by measuring its mass and the length of its sides. If the maximum errors in the measurement of mass and length are 3% and 2%, respectively, then find the maximum error in the measurement of the density of cube.
- (1) 3%
 - (2) 2%
 - (3) 5%
 - (4) None of these
40. A screw gauge has 1.0 mm pitch and 200 divisions on the circular scale. What is the least count of the instrument?
- (1) 5×10^{-3} mm
 - (2) 4×10^{-3} mm
 - (3) 6×10^{-3} mm
 - (4) 2×10^{-2} mm

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 of the following compound would be the major product from aldol condensation of 6-oxoheptanal?



42. Radiation corresponding to the transition $n = 4$ to $n = 2$ in hydrogen atoms falls on a certain metal (work function = 2.0 eV). The maximum kinetic energy of the photoelectrons will be :-

- (1) 0.55 eV (2) 2.55 eV
 (3) 4.45 eV (4) None

43. Which of the following contains dangling bond?

- (1) Rhombic sulphur (2) Benzene
 (3) Silicone (4) White phosphorus

44. At certain temperature pure PCl_5 (g) is found to be 25 % dissociated a total pressure of 50 atm. At what total pressure it is 50 % dissociated at same temperature.

- (1) 10 atm (2) 20 atm
 (3) 15 atm (4) 30 atm

45. A buffer solution was prepared by dissolving 0.02 mole acetic acid & 0.01 mole sodium acetate in enough water to make 1.0 L of solution

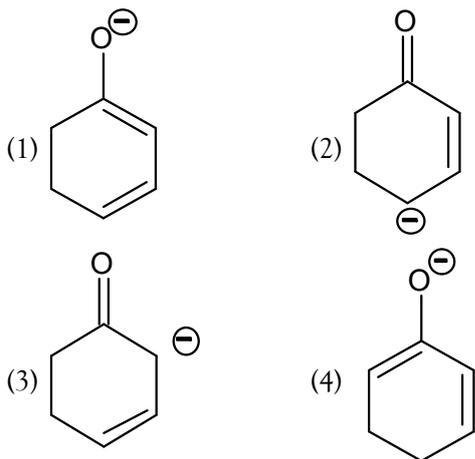
$(K_{a(\text{CH}_3\text{COOH})} = 2 \times 10^{-5})$. If 5×10^{-4} mole NaOH were added to 100 ml of the buffer. The resultant pH of the solution would be [given $\log 5 = 0.70$]

- (1) 5 (2) 4.7
 (3) 5.3 (4) None

51. Which of the following olefins would you expect to react **most rapidly** with concentrated sulphuric acid ?

- (1) $\text{H}_2\text{C} = \text{CH}_2$
- (2) $\text{Cl}_2\text{C} = \text{CCl}_2$
- (3) $(\text{CH}_3)_2\text{C} = \text{CH}_2$
- (4) $\text{CF}_3\text{CH} = \text{CH}_2$

52. Which of the following structures **is not** a resonance contributor to the hybrid defined by the other three?



53. For the reaction $2\text{P} + \text{Q} \rightarrow \text{R}$, 12 mol of P and 8 mol of Q are taken and allow to react completely then

- (1) 3 mol of R is produced
- (2) 6 mol of R is produced
- (3) 50% of Q is left behind
- (4) 25% of Q has reacted

54. Diamond structure can be considered as ZnS (Zinc blend) structure in which each Zn^{2+} in alternate tetrahedral void and S^{2-} in cubic close pack arrangement are replaced by carbon atoms. If C-C covalent bond length in diamond is 1.5\AA , what is the edge length of diamond unit cell ($z = 8$).

- (1) 3.46\AA
- (2) 6.92\AA
- (3) 1.73\AA
- (4) 3\AA

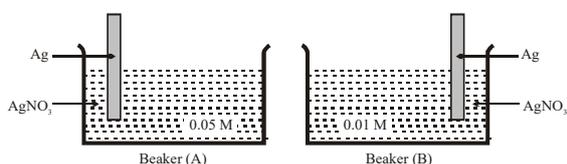
55. A cylinder fitted with a movable piston contains liquid water in equilibrium with water vapour at 25°C . Which of the following operation results in a decrease in the equilibrium vapour pressure at 25°C ?

- (1) Moving the piston downward a short distance
- (2) Removing a small amount of vapour
- (3) Removing a small amount of liquid water
- (4) Dissolving some salt in the water.

56. Two beakers A and B contains AgNO_3 solutions of concentrations 0.05 M and 0.01 M respectively as shown in figures. Pure silver electrodes are now lowered in each beaker. Now NH_3 is added in each beaker till conc. of NH_3 in beaker A and B become 0.1 M and 0.2 M respectively. If two beakers are now connected in Galvanic cell arrangement, find the EMF (in Volts) of the resulting cell at 298 K.

Use : $\log_{10} 2 = 0.3$, $\frac{RT}{F} (2.303) = 0.06$ at 298 K

Given : $E^\circ_{\text{Ag}^+/\text{Ag}} = 0.8$ Volt, $K_f [\text{Ag}(\text{NH}_3)_2^+] = 10^8$



- (1) 9.6×10^{-2} (2) 7.8×10^{-2}
 (3) 5.8×10^{-3} (4) None of these
57. A radioactive sample had an initial activity of 56 dpm (disintegration per min). After 69.3 min it was found to have an activity of 28 dpm. Find the number of atoms in a sample having an activity of 10 dpm.
 (1) 693 (2) 1000 (3) 100 (4) 10,000
58. The process which involves the treatment of the ore with a suitable reagent as to make it soluble while impurities remain insoluble is called
 (1) Froth floatation process
 (2) Leaching
 (3) Self reduction
 (4) Mond's process
59. Which of the following does not give two acids on dissolving in water?
 (1) P_4O_8 (2) POCl_3 (3) NO_2 (4) C_3O_2
60. Which of the following is a paramagnetic complex with +2 oxidation state of central metal and shows geometrical isomerism?
 (1) $[\text{Ni}(\text{en})_3]\text{Cl}_2$
 (2) $[\text{Cr}(\text{en})_2(\text{NO}_2)_2]\text{Cl}$
 (3) $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
 (4) $[\text{Co}(\text{NH}_3)_4(\text{H}_2\text{O})_2]\text{Cl}_2$

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. $\forall \theta \in \mathbb{R}, \cos \theta + \cos\left(\frac{2\pi}{3} + \theta\right) + \cos\left(\frac{4\pi}{3} + \theta\right) =$

- (1) 0 (2) $3 \cos 3\theta$
(3) $1 - \cos 3\theta$ (4) None of these

62. Let P be the point lies on the line $y + x = 0$ & A(-1, -3) & B(4, 5) be the two points in the plane then maximum value of $|PA + PB|$ is

- (1) $\sqrt{89}$ (2) $2\sqrt{22}$
(3) $\sqrt{17}$ (4) None

63. The radius of the circle whose centre is the point $(2\sqrt{2}, 1)$ & which bisect the circumference of circle $x^2 + y^2 = 16$ is

- (1) $\sqrt{20}$ (2) $\sqrt{22}$ (3) $\sqrt{24}$ (4) $\sqrt{25}$

64. If the equations $x^2 + ax + b = 0$ (where $a, b \in \mathbb{R}$) & $x^2 + 2x + 23 = 0$ have a common root then $\sqrt{a+b} =$

- (1) 2 (2) $\sqrt{26}$
(3) $\sqrt{22}$ (4) None

65. If $\omega = \frac{-1 + \sqrt{3}i}{2}$, (where $i = \sqrt{-1}$) then the value

of $(1 + \omega - \omega^2)^2 + (1 - \omega + \omega^2)^2 =$

- (1) 4 (2) -4 (3) 0 (4) -3

66. Let "n" be the number of possible triangles such that $BC = 2$, $AB = 3$ & $\angle BAC = 23^\circ$, then n =
 (1) 0
 (2) 1
 (3) 2
 (4) Data is not sufficient to find "n"

67. In the expansion of $\left(\sqrt{x} + \frac{1}{2x}\right)^{12}$ the term independent of x has value

- (1) $12C_8 \left(\frac{1}{2}\right)^8$ (2) $12C_8 \left(\frac{1}{2}\right)^4$
 (3) $12C_4 \left(\frac{1}{2}\right)^8$ (4) None of these

68. If by arranging all letters of the word HISTORY all possible words are formed then the number of such words, which starts with H but do not end with Y, is-

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

69. The length of latus rectum of the parabola $y = ax^2 + 2bx + 3c$ where $(a > 0)$ is

- (1) $\frac{|b|}{a}$ (2) a (3) $\frac{2|b|}{a}$ (4) $\frac{1}{a}$

70. Let P(x, y) satisfy the equation (where x, y $\in \mathbb{R}$)

$$\sqrt{x^2 + y^2 - 2x - 4y + 5} + \sqrt{(x+1)^2 + (y+2)^2} = \sqrt{80}$$

then locus of P is a conic with eccentricity "e" then $8e^2 =$

- (1) 1 (2) 2
 (3) 4 (4) None

71. Eccentricity of the conic $2015(x^2 - y^2) = 2016$ is

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

72. The range of the function

$$f(x) = \ln((\cos x)^{\cos x} + 1) \forall x \in \left(0, \frac{\pi}{2}\right) \text{ is}$$

(1) $\left[\ln\left(1 + \left(\frac{1}{e}\right)^{\frac{1}{e}}\right), \ln 2 \right)$

(2) $\left[\ln\left(1 + \frac{1}{e}\right), \ln 2 \right)$

(3) $(0, \ln 2)$

(4) None of these

73. $A = \tan^{-1}\left(\frac{yz}{xr}\right) + \tan^{-1}\left(\frac{zx}{yr}\right) + \tan^{-1}\left(\frac{xy}{zr}\right)$

(where $r^2 = x^2 + y^2 + z^2$) is equal to

(1) $\frac{3\pi}{4}$ (2) π

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

74. $\lim_{x \rightarrow 1} \sec^{-1} x = a$ & $\lim_{x \rightarrow -1} \sec^{-1} x = b$,

then $\lim_{x \rightarrow 0} (\sec^{-1}(\sec x) + \operatorname{cosec}^{-1}(\sec x)) =$

(1) a (2) $\frac{b}{2}$

(3) b (4) None of these

75. Let at point $(1, 2)$ on $y = f(x)$ tangent makes an angle of 30° with positive x axis if $a =$ product of subtangent & subnormal at point $(1, 2)$ & $b =$ ratio of subtangent to subnormal at $(1, 2)$ on $y = f(x)$ then $a + b =$

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

76. If the exhaustive set of all possible values of c such that

$$f(x) = e^{2x} - (c+1)e^x + 2x + \cos 2 + \sin 1$$

is monotonically increasing for $\forall x \in \mathbb{R}$ is $(-\infty, \lambda]$ then the value of λ is

(1) 1 (2) -3 (3) 3 (4) None

77. $\int \frac{x^9 + x^8 + 2x^7 + x^6 + 2x^5 + x^4 + x^3 + x^2 + x + 1}{(1+x+x^2)(3x^8+4x^6+6x^4+24x-23)} dx =$

(where c denotes constant of integration)

(1) $\frac{1}{24} \ln \left[\frac{1+x+x^2}{3x^8+4x^6+6x^4+24x-23} \right] + c$

(2) $x^7 + x^5 + x^3 - 23 + c$

(3) $\ln|x| - \ln|3x^8+4x^6+6x^4+24x-23| + c$

(4) None of these

78. The value of $k (> 0)$ so that the area of the bounded region enclosed between the parabolas

$y = x - kx^2$ and $y = \frac{x^2}{k}$ is maximum

(1) $\frac{1}{2}$

(2) 2

(3) 1

(4) None

79. Two intersecting lines lying in a plane P_1 have equations

$\frac{x-1}{2} = \frac{y-3}{1} = \frac{z-4}{-3}$ and $\frac{x-1}{-1} = \frac{y-3}{2} = \frac{z-4}{4}$. If

the equation of plane P_2 is $2x - y + z = 21$ and distance between the planes P_1 & P_2 is d then the value of d^2 is

(1) 36

(2) 54

(3) 72

(4) None

80. A box contains 100 balls. All numbers of white or non white balls in the box are equi probable. A white ball is dropped into the box & the box is shaken. Now a ball is drawn from the box the probability, that the drawn ball is white, is-

(1) $\frac{51}{101}$

(2) $\frac{50}{101}$

(3) $\frac{51}{100}$

(4) $\frac{1}{51}$

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. Pteridophyta shows which type of life cycle
- (1) Haplontic
 - (2) Diplontic
 - (3) Diplohaplontic
 - (4) Both (1) and (3)
82. Which floral family has (9) + 1 arrangement of anthers in the androecium?
- (1) Malvaceae (2) Rutaceae
 - (3) Fabaceae (4) Solanaceae
83. Casparian strips are the characteristics of
- (1) Cortex (2) Endodermis
 - (3) Pericycle (4) Pith
84. In the chloroplast, the stroma lamellae do not possess
- (1) PSI, (NADP⁺) reductase
 - (2) PSII, OES
 - (3) PSII (NADP⁺) reductase
 - (4) PSI cytochrome oxidase
85. In aerobic respiration, total no. of ATP molecules formed from 1 glucose molecule is
- (1) 28 (2) 32 (3) 36 (4) 30
86. Which of the following explains how progeny can possess the combination of traits that none of the parent possessed?
- (1) Law of segregation
 - (2) Chromosome theory
 - (3) Law of independent assortment
 - (4) Polygenic inheritance

-
87. SD region in prokaryotic mRNA is a part of
- (1) TATA box
 - (2) RBS (Ribosome Binding Site)
 - (3) ASD region
 - (4) Promoter
88. Penicillium does not allow the growth of bacterium staphylococcus. This sort of relationship is called
- (1) Commensalism
 - (2) Amensalism
 - (3) Protocooperation
 - (4) Parasitism
89. The Indian Rhinoceros is a natural inhabitant of which one of the Indian states ?
- (1) Uttar Pradesh
 - (2) Himachal Pradesh
 - (3) Assam
 - (4) Uttarakhand
90. The global warming is mainly due to
- (1) Increase in tropospheric O_3
 - (2) Ozone hole
 - (3) Increase in CO_2
 - (4) Increase in CO
91. Bladderworm/cysticercus is the larval stage of
- (1) tapeworm
 - (2) roundworm
 - (3) pinworm
 - (4) liver fluke
92. Gorilla, Chimpanzee, monkeys and human belong to the same
- (1) species
 - (2) genus
 - (3) family
 - (4) order
93. Which is an essential amino acid?
- (1) Serine
 - (2) Aspartic acid
 - (3) Glycine
 - (4) Phenylalanine
94. If Henle's loop were absent from mammalian nephron, which of the following is to be expected?
- (1) The urine will be more concentrated
 - (2) The urine will be more dilute
 - (3) There will be no urine formation
 - (4) There will be hardly any change in the quality and quantity of urine formed

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95. When a neuron is in resting state i.e. not conducting any impulse, the axonal membrane is :
- (1) Comparatively more permeable to Na^+ ions and nearly impermeable to K^+ ions
 - (2) Equally permeable to both Na^+ and K^+ ions
 - (3) Impermeable to both Na^+ and K^+ ions
 - (4) Comparatively more permeable to K^+ ions and nearly impermeable to Na^+ ions
96. Male hormone is produced in the testis by cells of
- (1) sertoli cell (2) epithelial cell
 - (3) spermatocytes (4) Leydig cell
97. There are two opposing views about origin of modern man. According to one view Homo erectus in Asia were the ancestors of modern man. A study of variation of DNA however, suggested African origin of modern man. What kind of observation on DNA variation could suggest this?
- (1) Greater variation in Asia than in Africa
 - (2) Greater variation in Africa than in Asia
 - (3) Similar variation in Africa and Asia
 - (4) Variation only in Asia and no variation in Africa
98. Cyclosporin A is obtained from
- (1) Trichoderma polysporum
 - (2) Penicillium notatum
 - (3) Yeast Monascus
 - (4) Streptococcus
99. Which of the following diseases is due to an allergic reaction?
- (1) Goitre (2) Skin cancer
 - (3) Hay fever (4) Enteric fever
100. Removal of DNA fragment from agarose gel during gel electrophoresis is known as
- (1) Blotting (2) Elution
 - (3) Spooling (4) Fragmentation

SPACE FOR ROUGH WORK /