



TECHNO INDIA GROUP PUBLIC SCHOOL

Dt. 10-04-2025

NEET Mock Test - 5 (2025)

Time Allowed: **3 hours**

Maximum Marks: **720**

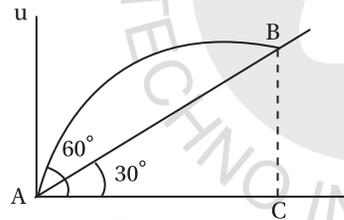
General Instructions:

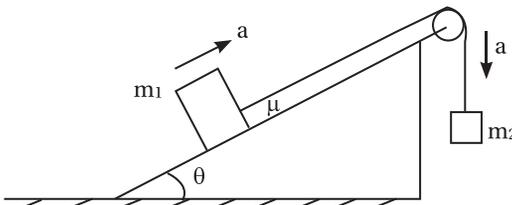
1. This test will be 3 hours Test, Maximum Marks 720.
2. This test consists of 180 questions of Physics, Chemistry and Biology. All questions are **COMPULSORY** to attempt.
3. Each question is of 4 marks.
4. There are three parts in the question paper, consisting Part-I Physics (Q. No. 1 to 45), Part-II Chemistry (Q. no. 46 to 90), Part-III Biology (Q. no. 91 to 180).
5. There will be only one correct choice in the given four choices for each question. For each question 4 marks will be awarded for correct choice, 1 mark will be deducted for incorrect choice and zero mark will be awarded for unattempted question.
6. Any textual, printed or written material, mobile phones, calculator, etc. is not allowed for the students appearing for the test.
7. All calculations / written work should be done in the rough sheet provided.



PHYSICS

1. $\left[\frac{1}{2}\epsilon_0 E^2\right] =$
 - ① ML^2T^{-2}
 - ② $ML^{-1}T^{-2}$
 - ③ ML^2T^{-1}
 - ④ MLT^{-1}
2. A particle moves along a straight line OX as $x = 40 + 12t - t^3$
How long would the particle travel before coming to rest ?
 - ① 16m
 - ② 24m
 - ③ 40m
 - ④ 56m
3. The resultant of \vec{A} and \vec{B} is perpendicular to \vec{A} . What is the angle between \vec{A} and \vec{B} ?
 - ① $\cos^{-1}\left(\frac{A}{B}\right)$
 - ② $\cos^{-1}\left(-\frac{A}{B}\right)$
 - ③ $\sin^{-1}\left(\frac{A}{B}\right)$
 - ④ $\sin^{-1}\left(-\frac{A}{B}\right)$
4. If R is the maximum horizontal range of a particle, then the greatest height attained by it is
 - ① R
 - ② 2R
 - ③ $R/2$
 - ④ $R/4$
5. The velocity of projection of a body is increased by 2%. Keeping other factors as constant, what will be the percentage change in the maximum height attained ?
 - ① 1%
 - ② 2%
 - ③ 4%
 - ④ 8%
6. Time taken by the projectile to reach from A to B is t. Then the distance AB is equal to

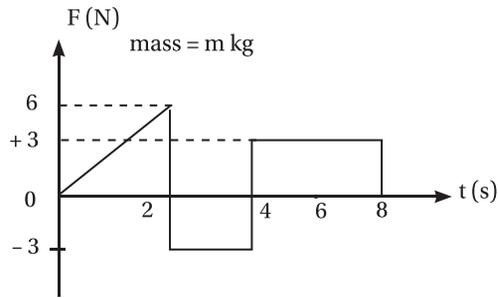


- ① $\frac{ut}{\sqrt{3}}$
 - ② $\frac{\sqrt{3} ut}{2}$
 - ③ $\sqrt{3} ut$
 - ④ $2\mu t$
7. 

Then, acceleration $a =$

 - ① $\frac{m_2 g - m_1 g \sin \theta - \mu m_1 g \cos \theta}{m_1 + m_2}$
 - ② $g \sin \theta$
 - ③ $\mu g \cos \theta$
 - ④ $\frac{[m_2 + m_1 \sin \theta - \mu m_1 \cos \theta] g}{m_1 + m_2}$
 8. A monkey climbs up and another monkey climbs down a rope hanging from a tree with same uniform acceleration separately. If the respective masses of monkeys are in the ratio 2 : 3, the common acceleration must be
 - ① $g/5$
 - ② $6g$
 - ③ $g/2$
 - ④ g

9. The change in the momentum of the particle from 0 - 8s is

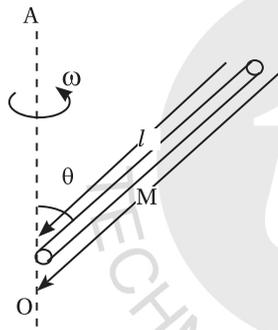


- ① 24 Ns ② 20 Ns ③ 12 Ns ④ 6 Ns

10. A mass m moving horizontally (along the x -axis) with velocity v collides and sticks to a mass of $3m$ moving vertically upward (along the y -axis) with velocity $2v$. The final velocity of the combination is

- ① $\frac{3}{2}v\hat{i} + \frac{1}{4}v\hat{j}$ ② $\frac{1}{4}v\hat{i} + \frac{3}{2}v\hat{j}$ ③ $\frac{1}{3}v\hat{i} + \frac{2}{3}v\hat{j}$ ④ $\frac{2}{3}v\hat{i} + \frac{v}{3}\hat{j}$

11. The moment of inertia of the rod is proportional to



- ① $\cos^2\theta$ ② $\cos\theta$ ③ $\sin^2\theta$ ④ $\tan\theta$

12. A thin hollow sphere of mass m is completely filled with a liquid of mass m . When the sphere rolls with a velocity v , kinetic energy of the system is equal to (consider friction is absent between liquid and thin hollow sphere).

- ① $\frac{1}{2}mv^2$ ② mv^2 ③ $\frac{4}{3}mv^2$ ④ $\frac{4}{5}mv^2$

13. The ratio of escape velocity at Earth (V_e) to the ratio of escape velocity of a planet (V_p) whose radius and mean density are twice as that of earth is

- ① 1 : 2 ② $1 : 2\sqrt{2}$ ③ 1 : 4 ④ $1 : \sqrt{2}$

14. If V_0 = speed of satellite in a circular orbit, then escape speed of satellite from the orbit is equal to

- ① $\sqrt{2}v_0$ ② $2v_0$ ③ $v_0/2$ ④ $v_0/\sqrt{2}$

15. A cable that can support a load W is cut into two equal parts. the maximum load that can be supported by either part is

- ① $\frac{W}{2}$ ② $\frac{W}{4}$ ③ W ④ $2W$

16. A body floats with $\frac{1}{3}$ rd of its volume outside water and $\frac{3}{4}$ th of its volume outside another liquid, when immersed, separately. The density of another liquid is

- ① $\frac{9}{4}$ g/c.c ② $\frac{4}{9}$ g/c.c ③ $\frac{8}{3}$ g/c.c ④ $\frac{3}{8}$ g/c.c

17. A ball of mass m and radius r is released in viscous liquid. the value of its terminal velocity is proportional to

- ① $\frac{1}{r}$ only ② m/r ③ $\sqrt{m/r}$ ④ m only.

18. When the temperature of a rod increases from t to $t + \Delta t$, its moment of inertia increases from I to $I + \Delta I$.

If α be the coefficient of linear expansion of rod, then $\frac{\Delta I}{I} =$

- ① $2\alpha\Delta t$ ② $\alpha\Delta t$ ③ $\frac{\alpha\Delta t}{2}$ ④ $\alpha/\Delta t$

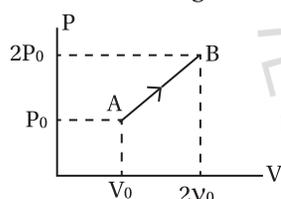
19. The C_p/C_v for a diatomic gas is

- ① $5/3$ ② $7/9$ ③ $9/7$ ④ $7/5$

20. If the temperature of the sun was to increase from T to $2T$ and its radius from R to $2R$, then the ratio of the radiant energy received on the earth to what it was previously will be

- ① 4 ② 16 ③ 32 ④ 64

21. With reference to P - V diagram of 2 mole He gas, the heat given to the gas during the process A \rightarrow B



- ① $4 P_0 V_0$ ② $6 P_0 V_0$ ③ $4.5 P_0 V_0$ ④ $2 P_0 V_0$

22. The equation of SHM $x = 5 \cos\left(\omega t + \frac{\lambda}{4}\right)$ m. its displacement at $t = 1$ s is

The maximum value of potential energy is

- ① $\frac{\sqrt{2}}{5}$ m ② $\frac{1}{\sqrt{3}}$ m ③ $\frac{1}{\sqrt{2}}$ m ④ $\frac{5}{\sqrt{2}}$ m

23. The speed of sound in hydrogen at NTP is 1270 m/s. Then the speed in a mixture of hydrogen and oxygen in the ratio 4 : 1 by volume will be

- ① 317 m/s ② 635 m/s ③ 830 m/s ④ 950 m/s

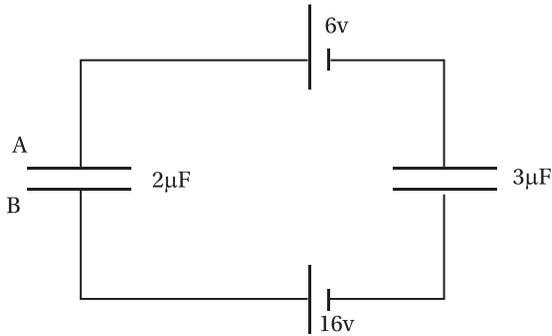
24. For a particle executing simple harmonic motion, the kinetic energy k is given by. $k = k_0 \cdot \cos^2 \omega t$.

- ① k_0 ② zero ③ $k_0/2$ ④ not obtainable

25. In vibrations of strings (sonometer)

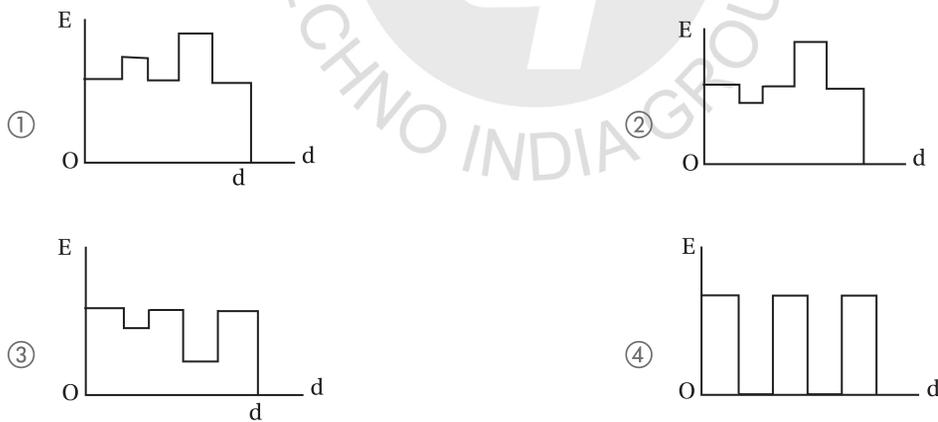
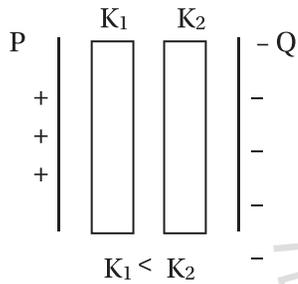
- ① if the tension is made 16 times, then fundamental frequency gets quadrupled.
 ② If the tension in the string increases by 44% fundamental frequency increased by 20%
 ③ If the length of string increases by 25%, then the fundamental frequency is decreased by 20%
 ④ all the above are correct

26. All the above are correct $V_B - V_A =$



- ① 13.2 v ② - 132 v ③ - 6v ④ 6v

27. Select the correct figure



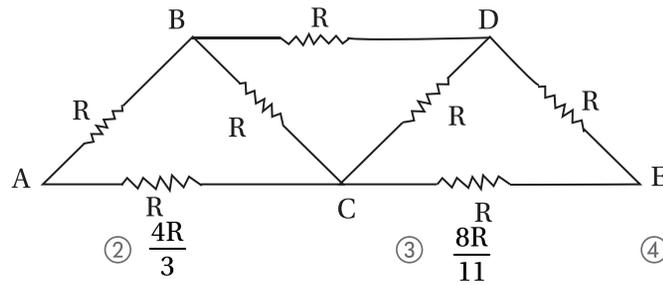
28. A charged particle (charge + q) is moving in a circle of radius R with uniform speed v. The associated magnetic moment is given by

- ① $\frac{qvR}{2}$ ② qvR^2 ③ $\frac{qvR^2}{2}$ ④ qvR

29. The potential of the electric field produced by a point charge at any point (x, y, z) is given by $V = 3x^2 + 5$ where x, y, z are in metre and v is in volt. The intensity of electric field at (-2, 1, 0) is

- ① + 17 v/m ② - 17 v/m ③ + 12 v/m ④ - 10 v/m

30. The equivalent resistance across A and E is

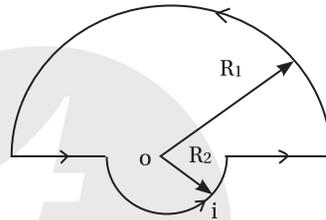


- ① $\frac{4R}{11}$ ② $\frac{4R}{3}$ ③ $\frac{8R}{11}$ ④ $\frac{3R}{4}$

31. In a wheatstone's bridge, three resistance P, Q, R are connected in the three arms and the fourth arm is formed by two resistances S_1 and S_2 connected in parallel. The condition for the bridge to be balanced will be

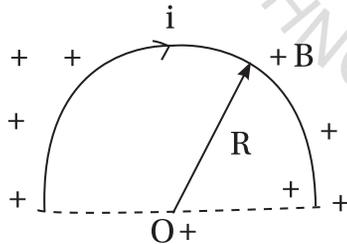
- ① $\frac{P}{Q} = \frac{R(S_1 + S_2)}{S_1 S_2}$ ② $\frac{P}{Q} = \frac{R(S_1 + S_2)}{2 S_1 S_2}$ ③ $\frac{P}{Q} = \frac{R}{S_1 + S_2}$ ④ $\frac{P}{Q} = \frac{2R}{S_1 + S_2}$

32. With reference to figure :
The magnetic field at O,



- ① $\frac{\mu_0 i}{4} R_1$ ② $\frac{\mu_0 i}{4} R_2$ ③ $\frac{\mu_0 i}{4} \frac{(R_1 + R_2)}{R_1 R_2}$ ④ $\frac{\mu_0 i R_2}{2(R_1 + R_2)}$

33. The magnitude of magnetic force acting on semicircular current carrying loop placed in uniform magnetic field, B (intensity) is



- ① $B i R$ ② $2 B i R$ ③ $\frac{B i R}{2}$ ④ $\frac{B i R}{4}$

34. A non-conducting thin disc of radius R and mass m having charge uniformly over one side with surface density σ rotates about its axis with an angular velocity ω . The magnetic induction at the centre of the disc is

- ① $\frac{\mu_0 \sigma \omega R}{2}$ ② $\mu_0 \sigma \omega R$ ③ $\mu_0 \sigma \omega^2 R$ ④ $\mu_0 \sigma \omega R^2$

35. Consider a bar magnet having pole strength 4 A-m, magnetic length 8 cm and area of cross section 1 cm^2 . The magnetisation I =

- ① 10^4 A/m ② $2 \times 10^4 \text{ A/m}$ ③ $4 \times 10^4 \text{ A/m}$ ④ $6 \times 10^4 \text{ A/m}$

44. In a photoemissive cell, with exciting wavelength λ , the fastest electron has speed of v . If the exciting wavelength is changed to $(\frac{3\lambda}{4})$, the speed of the fastest emitted electron will be

- ① $v(\frac{3}{4})^{1/2}$ ② $v(\frac{4}{3})^{1/2}$ ③ $< v(\frac{3}{4})^{1/2}$ ④ $> v(\frac{4}{3})^{1/2}$

■ **Assertion Reason based Questions:**

Directions: Read the following questions and choose any one of the following four responses.

- A: Assertion and Reason both are correct and Reason is the correct explanation of Assertion.
 B: Assertion and Reason both are correct and Reason is not the correct explanation of Assertion.
 C: Assertion is correct but Reason is wrong.
 D: Assertion is wrong but Reason is correct.

45. For process $W \longrightarrow 2y$, Given : binding energy before decay = 900 Mev and binding energy after decay = 1020 Mev

Assertion: The process $W \longrightarrow 2y$ leads to the release of the energy.

Reason: The larger the binding energy of the product nuclei formed, the larger would be the energy released.

- ① A ② B ③ C ④ D

CHEMISTRY

46. The total number of monohalogenated products formed by halogenation of 2, 4, 4-trimethyl hexane is

- ① 5 ② 7 ③ 6 ④ 8

47. The rate constant k for a first order reaction, $A \rightarrow p$ is expressed as $\log k = 30 - \frac{3000}{T}$, where concentration is in mol (L)^{-1} , temperature is in kelvin and time is in minutes. The initial concentration of reactant is 0.05 M. What will be the half life at 27°C ?

- ① $t_{1/2} = 69.3 \times 10^{-19}$ min ② $t_{1/2} = 6.93 \times 10^{-21}$ min
 ③ $t_{1/2} = 20$ min ④ $t_{1/2} = 2 \times 10^{-21}$ min

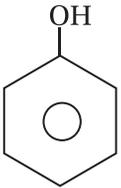
48. Equal masses of hydrogen, nitrogen and oxygen are taken in a container in identical conditions. The ratio of gaseous volumes are

- ① 2 : 28 : 32 ② 1 : 1 : 1 ③ $16 : \frac{8}{7} : 1$ ④ 1 : 14 : 16

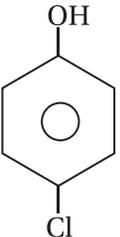
49. **Assertion :** Both $\pi(2p_x)$ and $\pi^*(2p_x)$ molecular orbitals have one nodal plane each.

Reason : All molecular orbitals formed by side ways overlapping of $2p$ -orbitals have one nodal plane.

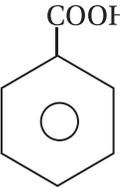
- ① Both assertion and reason are true reason is the correct explanation of assertion
 ② Both assertion and reason are true but reason is not the correct explanation of the assertion
 ③ Assertion is true but reason is false
 ④ Both assertion and reason are false

50. In an atom, an electron is moving with a speed of 600 m/s with an accuracy of 0.005%, certainty with which the position of electron can be located is ($h = 6.6 \times 10^{-34} \text{ kg m}^2 \text{ s}^{-1}$, mass of electron = $9.1 \times 10^{-31} \text{ kg}$)
- ① $1.52 \times 10^{-4} \text{ m}$ ② $5.10 \times 10^{-3} \text{ m}$ ③ $1.92 \times 10^{-3} \text{ m}$ ④ $3.84 \times 10^{-3} \text{ m}$
51. Which of the following carbanions is expected to be most stable?
- ① $\text{p-NO}_2\text{C}_6\text{H}_4\overset{\ominus}{\text{C}}\text{H}_2$ ② $\text{o-NO}_2\text{C}_6\text{H}_4\overset{\ominus}{\text{C}}\text{H}_2$ ③ $\text{o-CHOC}_6\text{H}_4\overset{\ominus}{\text{C}}\text{H}_2$ ④ $\text{p-CHOC}_6\text{H}_4\overset{\ominus}{\text{C}}\text{H}_2$
52. A 0.020 m solution of each of the following compounds is prepared, which solution would you expect to freeze at -0.149°C ? [$k_f(\text{water}) = 1.86 \text{ k kg (mol)}^{-1}$]
- ① $[\text{Co(en)}_2\text{Cl}_2]\text{Cl}$ ② Na[CoEDTA] ③ $[\text{Cr(py)}_5\text{Cl}]\text{Cl}_2$ ④ $[\text{Cr(NH}_3)_6]\text{Cl}_3$
53. Which of the following statements is correct regarding the compounds of group 14 elements?
- ① Maximum co-ordination number of carbon in commonly occurring compounds is 4, whereas that of silicon is 6.
- ② The stability order of dihalides is : $\text{SiX}_2 < \text{GeX}_2 < \text{SnX}_2 < \text{PbX}_2$
- ③ The order of boiling point of hydrides is : $\text{CH}_4 < \text{SiH}_4 < \text{GeH}_4 < \text{SnH}_4$
- ④ MeSiCl_3 on hydrolysis and subsequent condensation will produce $(\text{Me})\text{Si}(\text{OH})_3$
54. Which of the following is the correct configuration of the complex $(\text{RhCl}_6)^{3-}$?
- ① High spin $t_{2g}^4 e_g^2$ ② Low spin $t_{2g}^6 e_g^0$ ③ Low spin $t_{2g}^3 e_g^3$ ④ High spin $t_{2g}^5 e_g^1$
55. Assume that the decomposition of HNO_3 can be represented by the following equation :
- $$4\text{HNO}_3(\text{g}) \rightleftharpoons 4\text{NO}_2(\text{g}) + 2\text{H}_2\text{O}(\text{g}) + \text{O}_2(\text{g})$$
- and the reaction approaches equilibrium at 400 K temperature and 30 atm pressure. At equilibrium partial pressure of HNO_3 is 2 atm. Calculate k_c in $(\text{mol/L})^3$ at 400 K
- ① 4 ② 8 ③ 16 ④ 32
56. Which of the following exists in gaseous form in nature?
- ① BrF_3 ② BF_3 ③ IF_3 ④ ICl
57. What will be the geometry and magnetic moment of the complex $[\text{NiCl}_4]^{2-}$?
- ① Tetrahedral and 3.87 BM ② Tetrahedral and 2.83 BM
- ③ Square planar and 2.83 BM ④ Square planar and 4.89 BM
58. The correct order of acidic strength of the following is
- 

(I)



(II)



(III)



(IV)
- ① $\text{III} > \text{IV} > \text{II} > \text{I}$ ② $\text{IV} > \text{III} > \text{I} > \text{II}$ ③ $\text{III} > \text{II} > \text{I} > \text{IV}$ ④ $\text{II} > \text{III} > \text{IV} > \text{I}$

59. If enthalpies of formation for $C_2H_4(g)$, CO_2 and $H_2O(l)$ at $25^\circ C$ and 1 atm pressure are 52, -394 and -286 kJ/mol respectively, then enthalpy of combustion of $C_2H_4(g)$ will be

- ① +141.2 kJ/mole ② +1412 kJ/mole ③ -141.2 kJ/mole ④ -141.2 kJ/mole

60. Presence of phenolic group can be confirmed by

- ① DNP test ② Fehling's test ③ Neutral $FeCl_3$ test ④ Hinsberg's test

61. What will be the E_{cell} for the given cell?



Given : $E_{Zn^{2+}/Zn}^0 = -0.76 V$ and $E_{Cu^{2+}/Cu}^0 = 0.34 V$. Also predict whether the reaction is spontaneous or non-spontaneous.

- ① +1.07 V and spontaneous ② -1.13 V and non-spontaneous
③ -1.07 V and non-spontaneous ④ +1.13 V and spontaneous

62. In DNA, the complimentary bases are

- ① adenine and guanine, thymine and cytosine ② uracil and adenine, cytosine and guanine
③ adenine, thymine, guanine and cytosine ④ adenine and thymine, guanine and uracil

63. Match the geometry (given in column I) with the complex (given in column II)

	Column I		Column II
A	Tetrahedral	P	$[Cu(NH_3)_4]^{2+}$
B	Octahedral	Q	$[Ag(NH_3)_2]^+$
C	Square planar	R	$Fe(CO)_5$
D	Trigonal bipyramidal	S	$[Cr(H_2O)_6]^{3+}$
E	Linear	T	$NiCl_4^{2-}$

- ① A—P, B—R, C—Q, D—S, E—T ② A—T, B—P, C—S, D—R, E—Q
③ A—T, B—S, C—P, D—R, E—Q ④ A—R, B—P, C—Q, D—T, E—S

64. The Henry's law constant for O_2 dissolved in water is 4.34×10^4 atm at certain temperature. If the partial pressure of O_2 in a gas mixture that is in equilibrium with water is 0.434 atm, what is the mole fraction of O_2 in the solution?

- ① 1×10^{-5} ② 1×10^{-4} ③ 2×10^{-5} ④ 1×10^{-6}

65. The time taken for the completion of $\frac{3}{4}$ th of a first order reaction is

- ① $\frac{2.303}{k} \log_{10} \left(\frac{3}{4} \right)$ ② $\frac{2.303}{k} \log_{10} 4$ ③ $\frac{2.303}{k} \log_{10} \left(\frac{1}{4} \right)$ ④ $\frac{2.303}{0.75} \log_{10} k$

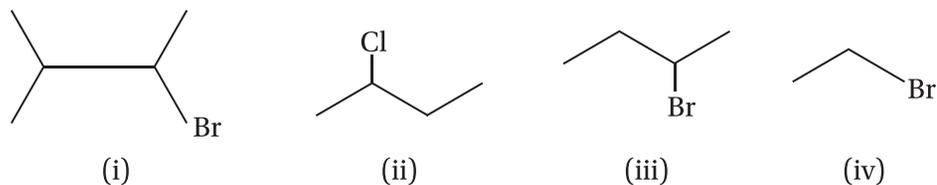
66. How many geometrical isomers are possible with complexes of the type $[M(ab)_3]$?

- ① 2 ② 3 ③ 4 ④ 5

67. Assertion : Boron always forms covalent bond.

Reason : The small size of B^{3+} favours formation of covalent bond.

76. Correct order for reaction with alcoholic KOH is



- ① $i > ii > iii > iv$ ② $i > iii > ii > iv$ ③ $iv > ii > iii > i$ ④ $i > iii > ii > iv$

77. The rate of first order reaction is $0.04 \text{ mol (L)}^{-1} \text{ (s)}^{-1}$ at 10 seconds and $0.03 \text{ mol (L)}^{-1} \text{ (s)}^{-1}$ at 20 seconds after initiation of the reaction. The half-life period of the reaction is

- ① 44.1 s ② 54.1 s ③ 24.1 s ④ 34.1 s

78. The electronic configuration of En (atomic number 63), Gd (Atomic number 64) and Tb (Atomic number 65) are

- ① $[\text{Xe}]4f^6 5d^1 6s^2$, $[\text{Xe}]4f^7 5d^1 6s^2$ and $[\text{Xe}]4f^8 5d^1 6s^2$ ② $[\text{Xe}]4f^7 6s^2$, $[\text{Xe}]4f^7 5d^1 6s^2$ and $[\text{Xe}]4f^9 6s^2$
 ③ $[\text{Xe}]4f^7 6s^2$, $[\text{Xe}]4f^8 6s^2$ and $[\text{Xe}]4f^8 5d^1 6s^2$ ④ $[\text{Xe}]4f^6 5d^1 6s^2$, $[\text{Xe}]4f^7 5d^1 6s^2$ and $[\text{Xe}]4f^9 6s^2$

79. To prepare a buffer of pH 8.26 amount of $(\text{NH}_4)_2\text{SO}_4$ to be added to 500 ml of 0.01 M NH_4OH solution [$\text{pK}_a(\text{NH}_4^+) = 9.26$] is

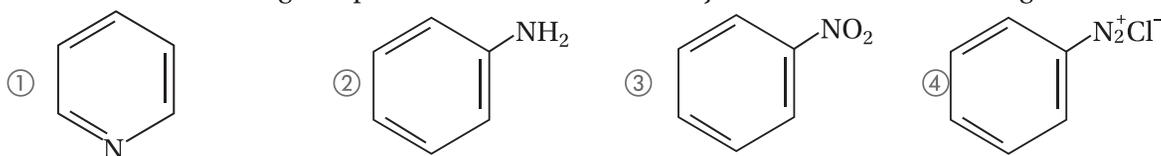
- ① 0.05 mole ② 0.025 mole ③ 0.10 mole ④ 0.005 mole

80. Assertion : Aniline on reaction with NaNO_2/HCl at 0°C followed by coupling with β -naphthol gives an oranges/red coloured precipitate

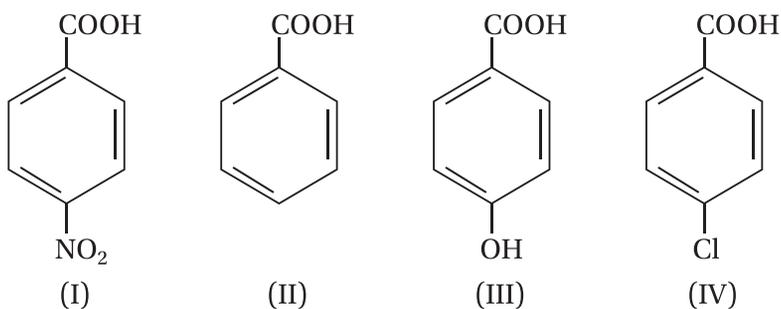
Reason : The colour of the compound formed in the reaction of aniline with NaNO_2/HCl at 0°C followed by coupling with β -naphthol is due to the extended conjugation.

- ① Both assertion and reason are true reason is the correct explanation of assertion
 ② Both assertion and reason are true but reason is not the correct explanation of the assertion
 ③ Assertion is true but reason is false
 ④ Both assertion and reason are false

81. Which of the following compounds will be suitable for Kjeldahl's method for nitrogen estimation?



82. The increasing order of the acidity of the following carboxylic acid is



- ① $I < III < II < IV$ ② $II < IV < III < I$ ③ $IV < II < III < I$ ④ $III < II < IV < I$

C.	a	3.	in a heterozygous organism, both alleles express themselves fully
D.	a	4.	A single gene influences many characters.

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

93. A gene showing codominance has
- ① one allele dominant on the other
 - ② alleles tightly linked on the same chromosome
 - ③ alleles that are recessive to each other
 - ④ both alleles independently expressed in the heterozygote.
94. A male rabbit of genotype AABBDEE is crossed with a female rabbit of genotype aabbdee, to produce F₁ hybrid offsprings. How many genetically different gametes can be produced by the F₁ hybrid ?
- ① 4
 - ② 8
 - ③ 16
 - ④ 32

Assertion-Reason type Questions:

Direction : A statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.

- a. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
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 - d. Assertion (A) is false but reason (R) is true.
95. **Assertion :** gene flow increased genic variations.

Reason : The random introduction of new alleles into recipient population and their removal from the donor population affects allele frequency.

- ① a
 - ② b
 - ③ c
 - ④ d
96. Genetic drift operates in
- ① small isolated populations
 - ② large isolated population
 - ③ non-reproductive population
 - ④ slow reproductive population
97. Industrial melanism is an example of
- ① Natural selection
 - ② Neo darwinism
 - ③ Mutation
 - ④ Neo lamarkism
98. In a Mendelian population, the sum total of genes of all the individuals constitute.
- ① genotype
 - ① gene pool
 - ① gene flow
 - ① genome

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99. **Assertion :** Predation is an interspecific interaction with a feeding strategy.

Reason : Predator and their prey maintain fairly stable population through time, and rarely one population become abundant or scarce.

- ① a ② b ③ c ④ d

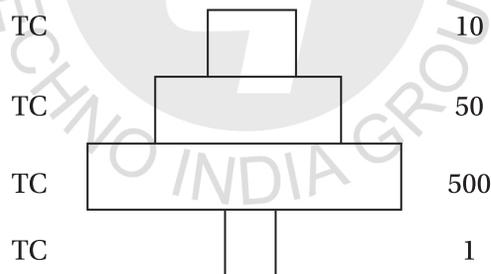
100. About 70% of total global carbon is found in

- ① grasslands ② agro ecosystems ③ oceans ④ forests.

101. Stability of ecosystem depends upon

- ① primary productivity
 ② interchange between producers and consumers
 ③ number of producers
 ④ number of consumers

102. given below is an imaginary pyramid of numbers. What could be one of the possibilities about certain organisms at some of different levels ?



- ① Level PC is insects and level SC is small insectivorous birds
 ② Level PP is phytoplanktons in sea and whale on top level TC
 ③ Level one PP is pipal trees and level SC is sheep
 ④ Level PC is rats and level SC is cats

103. In 1984, the Bhopal gas tragedy occurred because methyl isocyanate

- ① reacted with DDT ② reacted with NH_3 ③ reacted with H_2O ④ reacted with CO_2

104. Common indicator organism of water pollution is

- ① Lemna paucicostata ② Eichhornia crassipes ③ Escherichia coli ④ Entamoeba histolytica

105. The rosette habit of cabbage can be changed by application of

- ① IAA ② GA ③ ABA ④ Ethephon

106. Day neutral plants relates to
- ① loss of activity during daytime ② overactive during daytime
 ③ flowering in all possible photoperiod ④ no flowering in any photoperiod
107. Aerobic respiratory pathway is appropriately termed
- ① catabolic ② anabolic ③ amphibolic ④ parabolic
108. How many PGAL are produced by glycolysis of three molecules of glucose? How many ATP are released by respiration of these PGAL till formation of CO_2 and H_2O ?
- ① 4 PGAL - 80 ATP ② 6 PGAL - 160 ATP ③ 4 PGAL - 40 ATP ④ 6 PGAL - 120 ATP
109. Which one occurs during both cyclic and non cyclic modes of photophosphorylation ?
- ① Involvement of both PS-I and PS-II ② Release of O_2
 ③ Formation of NADPH ④ Formation of ATP
110. CAM helps plants in
- ① secondary growth ② disease resistance ③ reproduction ④ conserving water
111. Enzymes required for phosphorylation are located in _____ of chloroplast.
- ① peristomium ② plastidome ③ stroma ④ quantasome
112. Members of phycmycetes are found in
- I. Aquatic habitats II. On decaying wood
 III. Moist and damp places IV. As obligate parasites on plants
- Choose the correct answer from the following options :-
- ① II, III and IV ② I and IV ③ All of these ④ None of these
113. Gymnosperms are characterised by
- I. presence of naked seeds II. haploid endosperm
 III. herbs and annual plants IV. recently evolved plants
- Codes :**
- ① Only I ② I & III ③ I & II ④ Only III

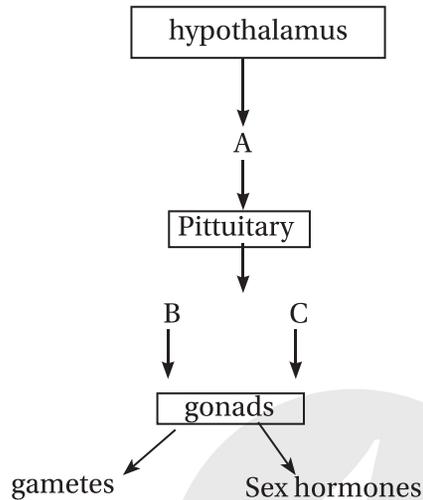
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124. In an annual ring, the light coloured part is known as -
 ① early wood ② late wood ③ heartwood ④ sapwood
125. The annular and spirally thickened conducting elements generally develop in the protoxylem when the root or stem is
 ① maturing ② elongating ③ widening ④ differentiating
126. **Assertion :** Sucrose is a nonreducing sugar
Reason : sucrose does not have a free -CHO group.
 ① a ② b ③ c ④ d
127. _____ are the most abundant proteins in the living world.
 ① Ribozyme of plants and collagen of animals
 ① RuBisCo of plants and collagen of animals
 ② PEPcase of plants and keratin of animals
 ④ Alcohol dehydrogenase of plants and melanin of animals
128. Which of the following sugars cannot be hydrolysed further to yield simple sugars ?
 ① Ribose ② Maltose ③ Sucrose ④ Lactose
129. Iodine is found in algae
 ① *Ulva* ② *Ulothrix* ③ *Chlorella* ④ *Laminaria*
130. An angiosperm male plant with 24 chromosomes in its pollen mother cells is crossed with a female plant bearing 24 chromosomes in its root cells. What would be the ploidy of embryo and endosperm, respectively, formed after this cross ?
 ① 24 and 48 ② 24 and 24 ③ 48 and 72 ④ 24 and 36
131. Emasculation ensures cross pollination in
 ① Staminate flower ② bisexual flower ③ neuter flower ④ pistillate flower
132. Which part of a plant contains sporogenous tissue ?
 ① Pollen ② Microspore ③ Young anther ④ Stamen
133. Which of the following is best suited for codominance ?
 ① Both are recessive ② Both are dominant ③ One is recessive ④ One is dominant
134. The phenomenon of a single gene regulaing several phenotypes is called
 ① multiple allelism ② spistasis
 ③ incomplete dominance ④ pleiotropism
135. When a dihybrid corss is fit into a Punette square with 16 boxes, the maximum number of different phenotypes available are
 ① 8 ② 4 ③ 2 ④ 16

145. An overdose of intravenous insulin may lead to the death of an individual due to an
- ① excessive increase of blood glucose ② excessive decrease of blood glucose
 ③ inhibition of glucagon secretion ④ over production of histamine
146. Identify the hormones labelled A, B and C.



- ① A - GH, B - FSH, C - LH ② A - GnRH, B - FSH, C - LH
 ③ A - GH, B - GnRH, C - PRT ④ A - GnRH, B - GH, C - PRT
147. Which of the following belongs to Hemichordata ?
- ① *Balanoglossus* ② *Lampreys* ③ *Pikaia* ④ *Petromyzon*
148. Among the following which one lays eggs and does not produce young ones directly ?
- ① *Echidua* ② Kangaroo ③ Porcupine ④ Whale

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149. **Assertion :** Bats and whales have 4-chambered heart.

Reason : Bats and whales.

- ① a ② b ③ c ④ d
150. Connecting link between Echinodermata and Chordata is
- ① *Peripatus* ② *Archaeopteryx* ③ *Balansglossus* ④ *Cyclostomes*

164. Silencing of a gene could be achieved through the use of
 ① short interfering RNA ② antisense RNA ③ both ① and ② ④ None of the above
165. Human gene therapy requires
 ① gene isolation ② introduction of DNA into target cells
 ③ inclusion of a promoter sequence ④ All of the above
166. The characteristic features of retrovirus is the presence of
 ① DNA polymerase ② RNA polymerase
 ③ Reverse transcriptase ④ Restriction endonuclease
167. Break bone fever is
 ① typhoid ② viral encephalitis ③ kalaazar ④ dengue
168. Waksman and Woodruff (1941) were responsible for the isolation of
 ① Sterptomycin ② Penicillin ③ Actinomycin ④ Neomycin
169. germinating barley is used for the poreparation of
 ① wine ② beer ③ lactic acid ④ cheese
170. The process of separation of fibres of flex, hemp and jute by bacterial action is called
 ① retting ② separation ③ degradation ④ All of these
171. In humans, the oocyte is maintained in a state of meiotic arrest by secretions of
 ① granulosa cells ② zona pellucida ③ cumulus oophorus ④ theca
172. Capacitation of sperm in mammals involves
 ① sperm size change ② acrosome reaction
 ③ nuclear chromatin change ④ mitochondrial alignment
173. The chemical substance released by activated spermatozoa that acts on the ground substances of the follicle cells is called _____.
 ① progesterone ② relaxin ③ gonadotropin ④ hyaluronidase
174. The full form of ICSI is
 ① Intracytoplasmic sperm Injection ② Intercytoplasmic sperm Injection
 ③ Intracellulosic sperm Injection ④ None of the above
175. In male cockroaches, sperms are stored in which opart of the male reproductive system ?
 ① Seminal vesicles ② Mushroom blands ③ Testes ④ Vas deferens
176. The chordate feature shared by non chordates are :
 ① bilateral symmetry ② a ③ metamerism ④ a
177. Which one of the following is not a characteristic feature of mammals?
 ① Diphyodont tooth ② Ten pairs of cranial nerves
 ③ Seven cervical vertebrae ④ Left aortic arch in the circulatory system

178. The factor which does not affect the rate of alveolar diffusion is

- ① solubility of the gases
- ② reactivity of the gases
- ③ thickness of the membrane
- ④ concentration gradient.

179. Which artery supplies blood to the diaphragm ?

- ① Gonadal artery
- ② Arterio mesenteric artery
- ③ Phrenic artery
- ④ Bronchial artery

180. In man, the thoracic basket is composed of

- ① ribs and thoracic vertebrae
- ② ribs and sternum
- ③ ribs, sternum and lumbar vertebrae
- ④ ribs, sternum and thoracic vertebrae

