RAVI MATHS TUITION CENTRE , WHATSAPP - 8056206308

Time : 180 Mins   NEET MOCK TEST 5 1   Marks : 722

1. A particle A with a mass m_A is moving with a velocity v and hits a particle B of mass m_B at rest. If motion is one dimensional and take the collision is elastic, then the change in the de Broglie wavelength of the particle A is

   a) $\dfrac{h}{2m_A v}\left[\dfrac{(m_A + m_B)}{(m_A - m_B)} - 1\right]$ b) $\dfrac{h}{m_A v}\left[\dfrac{(m_A - m_B)}{(m_A + m_B)} - 1\right]$ c) $\dfrac{h}{m_A v}\left[\dfrac{(m_A + m_B)}{(m_A - m_B)} - 1\right]$

   d) $\dfrac{2h}{m_A v}\left[\dfrac{(m_A + m_B)}{(m_A - m_B)} + 1\right]$

2. A balloon of mass M is descending at a constant acceleration a. When a mass m is released from the balloon it starts rising with the same acceleration a. Assuming that its volume does not change, what is the value of m?

   a) $\left[\dfrac{a}{a+g}\right] M$ b) $\left[\dfrac{2a}{a+g}\right] M$ c) $\left[\dfrac{a+g}{a}\right] M$ d) $\left[\dfrac{a+g}{2a}\right] M$

3. A solid cylinder of mass 3 kg is rolling on a horizontal surface with velocity 4 ms^{-1}. It collides with a horizontal spring of force constant 200 Nm^{-l}. The maximum compression produced in the spring will be _____

   a) 0.5m   b) 0.6m   c) 0.7m   d) 0.2m

4. Three vectors $\vec{A}, \vec{B}$ and $\vec{C}$ add upto zero. Find which is false:

   a) $\left(\vec{A} \times \vec{B}\right) \times \vec{C}$ is not zero unless $\vec{B}, \vec{C}$ are parallel

   b) $\left(\vec{A} \times \vec{B}\right) \times \vec{C}$ is not zero unless $\vec{B}, \vec{C}$ are parallel

   c) If $\vec{A}, \vec{B}, \vec{C}$ define a plane, $\left(\vec{A} \times \vec{B}\right) \times \vec{C}$ is in that plane

   d) $\left(\vec{A} \times \vec{B}\right) . \vec{C} = |\vec{A}||\vec{B}||\vec{C}| \Rightarrow C^2 = A^2 + B^2$

5. If V_{g}, V_x and V_m are the speeds of gamma rays, X-rays and microwaves respectively in vacuum then:
   a) $V_g < V_x < V_m$ b) $V_g > V_x > V_m$ c) $V_g > V_x$ d) $V_g = V_x = V_m$

6. In stationary waves, nodes are the points where there is :

   a) minimum displacement and minimum pressure change

   b) minimum displacement and maximum pressure change

   c) maximum displacement and maximum pressure change

   d) maximum displacement and minimum pressure change

7. The focal length of objective lens is increased then magnifying power of
   a) Microscope will increase but that of telescope decreases   b) Microscope and telescope both will increase
   c) Microscope and telescope both will decrease
   d) Microscope will decrease but that of telescope will increase

8. Which of the following statements is true for hydrogen atom?
   a) Angular moment $\infty \frac{1}{n}$ b) Linear moment $\infty \frac{1}{n}$ c) Radius $\infty \frac{1}{n}$ d) Energy $\infty \frac{1}{n}$

9. A particle is rotating with constant angular acceleration on a circular track. If its angular velocity changes from 20 π rad/s to 40π rad/s in 10 s, what are the number of revolutions that the particle has completed during this time?
   a) 100   b) 150   c) 250   d) 1000

10. A stone is dropped from a height h. It hits the ground with a certain momentum P. If the same stone is dropped from a height 100% more than the previous height, the momentum when it hits the ground will change by _____

    a) 68%   b) 41%   c) 200%   d) 400%

11. Preeti reached the metro station and found that the escalator was not working. She walked up the stationary escalator in time t_1. On other days, if she remains stationary on the moving escalator, then the escalator takes her up in time t_2. The time taken by her to walk up on the moving escalator will be:

a) $\frac{t_1+t_2}{2}$ b) $\frac{t_1 t_2}{t_1-t_2}$ c) $\frac{t_1 t_2}{t_1+t_2}$ d) t_1-t_2

12. At what temperature is the root mean square speed of an atom in an argon gas cylinder equal to the rms speed of a helium gas atom at -20°C? (Atomic mass of Ar = 39 u and He = 400 u)
    a) 2.52 x 10^3 K   b) 2.52 x 10^2 K   c) 4.03 x 10^3 K   d) 4.03 x 10^2 K

13. The mass of a planet is six times that of the earth. The radius of the planet is twice that of the earth. If the escape velocity from the earth is v, then the escape velocity from the planet is:
    a) $\sqrt{3}$v   b) $\sqrt{2}$v   c) v   d) $\sqrt{5}$v   e) $\sqrt{12}$v

14. A small mass attached to a string rotates on frictionless table top as shown. If the tension in the string is increased by pulling the string causing the radius of the circular motion to decrease by a factor of 2 , the kinetic energy of the mass will be___
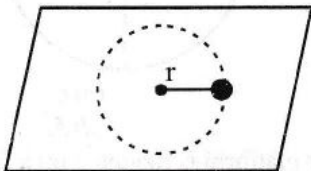
    a) remain constant   b) increase by a factor of 2   c) increase by a factor of 4   d) decrease by a factor of 2

15. The specific heat of ice at 0^0C melting into water at 0^0C is
    a) zero   b) infinity   c) more than zero   d) less than zero

16. Which of the following is not a vector quantiry?
    a) Speed   b) Velocity   c) Torque   d) Displacement

17. A plane EM wave travelling along z-direction is described by $\vec{E} = E_0 sin(kz - \omega t)\hat{i}$ and $B = B_0 sin(kz - \omega t)\vec{j}$.
    a) The average energy density of the wave is given by $u_{av} = \frac{1}{4}\epsilon_0 E_0^2 + \frac{1}{4}\frac{B_0^2}{\mu_0}$
    b) The time averaged intensity of the wave is given by $I_{av} = \frac{1}{2}c\epsilon_0 E_0^2$.   c) Both (a) and (b)   d) None of these

18. Calculate the means free path of nitrogen molecule at 27°C when pressure is 1.0 atm. Given, diameter of nitrogen molecule = 1.5 Å, k_B = 1.38 x 10^{-23} J K^{-1}. If the average speed of nitrogen molecule is 675 ms^{-1}. The time taken by the molecule between two successive collisions is
    a) 0.6ns   b) O.4ns   c) 0.8ns   d) O.3ns

19. Assertion: Force on a body A by body B is equal and opposite to the force on the body B by A.
    Reason: Forces in nature always occur between pairs of bodies.
    a) If both assertion and reason are true and reason is the correct explanation of assertion.
    b) If both assertion and reason are true but reason is not the correct explanation of assertion.
    c) If assertion is true but reason is false.   d) If both assertion and reason are false.

20. The relation between rms velocity , v_{rms} and the most probable velocity , v_{rmp}, of a gas is:
    a) $v_{rms} = v_{mp}$ b) $v_{rms} = \sqrt{\frac{3}{2}}$ v_{mp} c) $v_{rms} = \sqrt{\frac{2}{3}}v_{mp}$ d) $v_{rms} = \frac{2}{3}v_{mp}$

21. A rectangular loop of sides 6 cm and 2 ern with a small cut is moving out of a region of uniform magnetic field of magnitude 0.4 T directed normal to the loop. The voltage developed across the cut if velocity of loop is 2 cm s^{-1} in a direction normal to the longer side is
    a) 3.8 x 10^{-4} V   b) 4.8 x 10^{-4} V   c) 2.2 x 10^{-2} V   d) 3.2 x 10^{-2} V

22. If the pressure amplitude in a sound Wave is tripled, then the intensity of sound is increased by a factor of:
    a) 6   b) 3   c) 9   d) $\sqrt{3}$

23. Percentage errors in the measurement of mass and speed are 2% and 3% respectively. The error in the estimation of kinetic energy obtained by measuring mass and speed will be
    a) 8%   b) 2%   c) 12%   d) 10%

24. The cyclotron frequency υc is given by
    a) $\frac{qB}{2\pi m}$ b) $\frac{MB}{2\pi q}$ c) $\frac{2\pi m}{qB}$ d) $\frac{2\pi B}{qm}$

25. A tunnel is dug along a diameter of the earth of mass M_e and radius R_e . The force on a particle of mass m placed in the tunnel at a distance r from the centre is:
    a) $\frac{GM_e m}{R_e^3}r$ b) $\frac{GM_e m}{R_e^3 r}$ c) $\frac{GM_e m R_e^3}{r}$ d) $\frac{GM_e m}{R_e^2}r$

26. Two simple harmonic motions are represented by the equations:
$Y_1 = 10 \sin\left(3\pi t + \frac{\pi}{4}\right)$ and $Y_2 = 5(\sin 3\pi t + \sqrt{3} \cos 3\pi t)$. Their amplitudes are in the ratio of:
a) 2:1   b) 3:1   c) 1:3   d) 1:4

27. The diagonals of a parallelogram are represented by vectors $\vec{P} = 5\hat{i} - 4\hat{j} + 3\hat{k}$ and $\vec{q} = 3\hat{i} + 2\hat{i} - \hat{k}$
Then the area of the parallelogram is:
a) $\sqrt{171}$ unit   b) $\sqrt{72}$ unit   c) 171 unit   d) 72 unit

28. Two unequal masses are tied together with a compressed spring. When the cord is burnt with a match releasing the spring the two masses fly apart with equal
a) kinetic energy   b) speed   c) momentum   d) acceleration

29. Gauss is a unit of which of the following quantities?
a) H   b) B   c) ϕ d) I

30. Radio waves diffract around buildings, although light waves do not. The reason is that radio waves
a) travel with speed larger than c   b) have much larger wave length than light
c) are not electromagnetic waves   d) none of these

31. An object of mass m is allowed to fall from rest along a rough inclined plane. The speed of the object on reaching the bottom of the plane is proportional to:
a) m^0 b) m   c) m^2 d) m^{-1}

32. The threshold fiequency for a photosensitive metal is 3.3×10^{14} Hz. If light of frequency 8.2×10^{14} Hz is incident on this metal, the cut-off voltage for the photoelectric emission is nearly _____
a) 2V   b) 3V   c) 5V   d) 1V

33. A body is released from a great height and falls freely towards the earth. Another body is released from the same height exactly one second later. The separation between the two bodies, two seconds after the release of me second body is :
a) 4.9 m   b) 9.8 m   c) 19.6 m   d) 24.5 m

34. At what temperature is the rms velocity of hydrogen molecule equal to that of an oxygen molecule at 47°C?
a) 10 K   b) 20 K   c) 30 K   d) 40 K

35. In a Wheatstone's bridge all the four arms have equal resistance R. If the resistance of the galvano meter arm is also R, the equivalent resistance of the combination as seen by the battery is _____.
a) 2R   b) $\frac{R}{4}$ c) $\frac{R}{2}$ d) R

36. The total energy of an electron in the first excited state of hydrogen atom is about -3.4 eV. Its kinetic energy in this state is _____ .
a) 3.4 eV   b) 6.8 eV   c) -3.4 eV   d) -6.8 eV

37. **Assertion:** A projectile that traverses a parabolic path show deviation from its idealised trajectory in the presence of air resistance.
Reason: Air resistance affect the motion of the projectile.
a) If both assertion and reason are true and reason is the correct explanation of assertion.
b) If both assertion and reason are true but reason is not the correct explanation of assertion.
c) If assertion is true but reason is false.   d) If both assertion and reason are false.

38. A simple pendulum of length l is moved aside till the string makes an angle 9), with the vertical. If the acceleration due to gravity is g, the kinetic energy of the bob when the string is inclined at 92 to the vertical is
a) $mgl \cos(\theta_1 - \theta_2)$ b) $mgl(\cos\theta_2 - \cos\theta_1)$ c) $mgl(\cos\theta_1 - \cos\theta_2)$ d) $mgl \sin(\theta_1 - \theta_2)$

39. The equation of a sound wave is y = 0.0015 sin (62.4x+ 316t).Find the wavelength of this wave:
a) 0.2 unit   b) 0.1 unit   c) 0.3 unit   d) cannot be calculated

40. Which of the following phenomenon is not explained by Huygen's construction of wavefront?
a) Refraction   b) Reflection   c) Diffraction   d) Origin of spectra

41. Of the following thermometers, the one which can be used for measuring a rapidly changing temperature is a
a) Thermocouple thermometer   b) Gas thermometer   c) Maximum resistance thermometer
d) Vapour pressure thermometer

42. When a constant force is applied to a body moving with constant acceleration, power does not remain constant. For power to be constant, the force has to vary with speed as follows:
a) $F \propto \dfrac{1}{v}$ b) $F \propto \dfrac{1}{\sqrt{v}}$ c) $F \propto v$ d) $F \propto v^2$

43. 1 mole of H_2 gas is contained in a box of volume V = 1.00 m^3 at T = 300 K. The gas is heated to a temperature of T = 3000 K and the gas gets converted to a gas of hydrogen atoms. The final pressure would be (considering all gases to be ideal)
a) same as the pressure initially   b) 2 times the pressure initially   c) 10 times the pressure initially
d) 20 times the pressure initially

44. The horizontal range and the maximum height of a projectile are equal. The angle of projection of the projectiles is_____
a) $\theta = \tan^{-1}\left(\frac{1}{4}\right)$ b) $\theta = \tan^{-1}(4)$ c) $\theta = \tan^{-1}(2)$ d) $\theta = 45°$

45. Four bodies A, B, C and D are projected with equal speeds having angles of projection 15°, 30°, 45° and 60° with the horizontal respectively. The body having the shortest range is
a) A   b) B   c) C   d) D

46. A satellite of mass m is orbiting the earth (of radius R) at a height h from its surface. The total energy of the satellite in terms of got the value of acceleration due to gravity at the earth's surface, is
a) $mg_oR^2/2(R+h)$ b) $-mg_oR^2/2(R+h)$ c) $2mg_oR^2/(R+h)$ d) $-2mg_oR^2/(R+h)$

47. Modulus of rigidity of ideal liquids is
a) infmity   b) Zero   c) unity   d) some finite small non-zero constant value

48. According to Kepler's law, the period of revolution of a planet (T)and its mean distance from the sun (R) are related by the equation:
a) T^2R = constant   b) T^2R^{-3} = constant   c) TR^3 = constant   d) T^3R^3 = constant

49. The electric field part of an electromagnetic wave in a medium is represented by $E_x=0$, $E_y=2.5$ $\frac{N}{C}cos\left[\left(2\pi \times 10^6 \frac{rad}{m}\right)r - \left(\pi \times 10^{-2}\frac{rad}{s}\right)x\right]$, $E_z=0$.The wave is
a) moving along x direction with frequency 10^6 Hz and wavelength 100 m
b) moving alone x direction with frequency 10^6 Hz and wavelength 200 m
c) moving along -x direction with frequency 10^6 Hz and wavelength 200 m
d) moving along y direction with frequency $2\pi \times 10^6$Hz and wavelength 200 m

50. A thermos flask made of stainless steel contains several tiny lead shots. If the flask .is quickly shaken up and down several times, the-temperature of lead shots:
a) increases by adiabatic process   b) increases by isothermal process   c) decreases by adiabatic process
d) remains same   e) first decreases and then increases

51. Nuclear attraction is often the deciding control factor for the association of neutral molecules to a given metal ion. Which one of the following represents the correct order of stability of the ions?
$[Be(H_2O)_4]^{2+}$, $[Mg(H_2O)_4]^{2+}$, $[Ca(H_2O)_4]^{2+}$ and $[Sr(H_2O)_4]^{2+}$
a) $[Be(H_2O)_4]^{2+} > [Sr(H_2O)_4]^{2+} > [Mg(H_2O)_4]^{2+} > [Ca(H_2O)_4]^{2+}$
b) $[Ca(H_2O)_4]^{2+} > [Mg(H_2O)_4]^{2+} > [Be(H_2O)_4]^{2+} > [Sr(H_2O)_4]^{2+}$
c) $[Sr(H_2O)_4]^{2+} > [Ca(H_2O)_4]^{2+} > [Mg(H_2O)_4]^{2+} > [Be(H_2O)_4]^{2+}$
d) $[Be(H_2O)_4]^{2+} > [Mg(H_2O)_4]^{2+} > [Ca(H_2O)_4]^{2+} > [Sr(H_2O)_4]^{2+}$

52. Identify Z in the sequence of reactions:
$CH_3 CH_2 CH = CH_2$
$\xrightarrow{HBr/H_2O_2} Y \xrightarrow{C_2H_5ONa} Z$
a) $(CH_3) - (CH_2)_3 - O - CH_2CH_3$ b) $(CH_3)_2 CH_2 - O - CH_2CH_3$
c) $CH_3(CH_2)_4 - O - CH_3$ d) $CH_3 CH_2 - CH(CH_3) - O - CH_2CH_3$

53. At 25°C and 730 mm pressure, 380 mL of dry oxygen was collected. If the temperature is constant, what volume will the oxygen occupy at 760 mm pressure?
a) 365 mL   b) 2 mL   c) 10 mL   d) 20 mL

54. In van der Waals equation for a non-ideal gas, the term that accounts for intermolecular force is :
a) (V - b)   b) $\left(P + \frac{a}{V^2}\right)$ c) RT   d) PV

55. A crystal lattice with alternate +ve and -ve ions has radius ratio 0.524, its coordination number is
a) 4   b) 6   c) 8   d) 12

56. According to the law of triads:
a) the properties of the middle element were in between those of the other two members
b) three elements arranged according to increasing weights have similar properties
c) the elements can be grouped in the groups of six elements
d) every third element resembles the first element in periodic table.

57. From the following observations predict the type of orbital :

Observation I: x y plane acts as a nodal plane

Observation 2: The angular function of the orbital intersect the three axis at origin only.

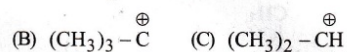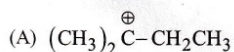Observation 3: $R^2(r)$ v / sr curve is obtained for the orbital is

a) $5p_z$ b) $6d_{xy}$ c) $6 dx^2-y^2$ d) $6 d_{yz}$

58. In the reaction A is _____.
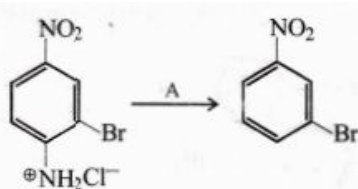
A is _____.

a) Cu_2Cl_2 b) H_3PO_2 and H_2O c) $H+/H_2O$ d) $HgSO_4/H_2SO_4$

59. The wavelength of radiation required to remove the electron of hydrogen atom (Ionisation energy 21.7×10^{-12} erg) from n = 2 orbit to n =∞ is

a) 3.664×10^{-4} cm   b) 3.66×10^{-5} cm   c) 3.66×10^{-6} cm   d) 3.66×10^{-7} cm

60. The main reason for larger number of oxidation states exhibited by the actinides than the corresponding lanthanides, is :

a) lesser energy difference between 5f and 6d-orbitals than between 4f and 5d-orbitals

b) larger atomic size of actinides than the lanthanides

c) more energy difference between 5f and 6d-orbitals than between 4f and 5d-orbitals

d) greater reactive nature of the actinides than the lanthanides

61. If the ionisation energy of hydrogen atom is 13.6 eV, the energy required to excite it from ground state to the next higher state is approximately:

a) 3.4 eV   b) 10.2 eV   c) 17.2 eV   d) 13.6 eV

62. A metal crystallises into two cubic phases, face centred cubic (fcc) and body centred cubic (bcc), whose unit cell lengths are 3.5 Å and 3.0 Å, respectively. The ratio of densities of fee and bee is:

a) 1.259: 1   b) 1: 1.259   c) 3: 2   d) 1.142: 1

63. In the silver plating of copper, $K[Ag(CN)_2]$ is used instead of $AgNO_3$. The reason is:

a) A thin layer of Ag is formed on Cu   b) more voltage is required

c) Ag^+ ions are completely removed from solution

d) Less availability of Ag^+ ions, as Cu cannot displace Ag from $[Ag(CN)_2]^-$ ion

64. The process used for the removal of hardness of water is

a) Baeyer   b) Calgon   c) Hoope   d) Serpeck

65. A certain compound on burning in air forms three oxides. One of the oxides turned lime water milky, the other turned anhydrous $CuSO_4$ blue and third formed a solution of pH=9. Compound is formed of:

a) S, H and Na   b) S, N and H   c) S, N and C   d) S, C and H

66. Arrange the following metals in increasing order of their reducing power.

[Given:

$$E^0_{K^+/K} = -2.93V, \ E^0_{Ag^+/Ag} = +0.80V, \ E^0_{Al^{3+}/Al} = -1.66V, \ E^0_{Au^{3+}/Au} = +1.40V, \ E^0_{Li^+/Li} = -3.05V]$$

a) Li < K < Al < Ag < Au   b) Au < Ag < Al < K < Li   c) K < Al < Au < Ag < Li   d) Al < Ag < Au < Li < K

67. A compound is treated with $NaNH_2$ to give sodium salt. Identify the compound.

a) C_2H_2 b) C_6H_6 c) C_2H_6 d) C_2H_4

68. Arrange the following in increasing order of stability

(A) $(CH_3)_2 \overset{\oplus}{C}- CH_2CH_3$

(B) $(CH_3)_3 - \overset{\oplus}{C}$ (C) $(CH_3)_2 - \overset{\oplus}{CH}$

(D) $CH_3 - \overset{\oplus}{CH_2}$ (E) $\overset{\oplus}{CH_3}$

a) E<D<C<B <A   b) E<D<C<A<B   c) D<E<C<A<B   d) A<E<D<C<B

69. Assertion: Rate of reaction increases with increase in temperature.

Reason: Number of effective collisions increases with increase in temperature.

a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false   d) If both assertion and reason are false

70. The tendency of BF_3, BCl_3 and BBr_3 to behave as Lewis acid decreases in the sequence is:

a) $BF_3 > BCl_3 > BBr_3$ b) $BCl_3 > BF_3 > BBr_3$ c) $BBr_3 > BCl_3 > BF_3$ d) $BBr_3 > BF_3 > BCl_3$

71. Correct order of 1st ionization potential among following elements Be, B, C, N, O is :

a) $B < Be < C < O < N$ b) $B < Be < C < N < O$ c) $Be < B < C < N < O$ d) $Be < B < C < O < N$

72. In the following sequence of reactions

$CH_3 - Br \xrightarrow{KCN} A \xrightarrow{H_3O^+} B \xrightarrow{LiAlH_4} C$ the end product (C) is:

a) acetone   b) methane   c) acetaldehyde   d) ethyl alcohol

73. Mark the incorrect statement in the following :

a) The bond order in the species O_2, O_2^+ and O_2^- decreases as $O_2^+ > O_2 > O_2^-$

b) The bond energy in a diatomic molecule always increases when an electron is lost

c) Electrons in antibonding MO contribute to repulsion between two atoms

d) With increase in bond order, bond length decrease and bond strength increases

74. What is the density of CO_2 at 27°C and 2.5 atm pressure?

a) $5.2 gL^{-1}$ b) $6.2 gL^{-1}$ c) $7.3 gL^{-1}$ d) $4.46 gL^{-1}$

75. Electronic configuration of four elements is given below. Which of the following does not belong to the same group?

a) $[Kr]4d^{10} 5s^2$ b) $[Ar] 3d^{10} 4S^2$ c) $[Xe]4f^{14} 5d^{10} 6s^2$ d) $[Xe] 5p^6 6s^2$

76. For the reaction $N_2(g) + O_2(g) \rightleftharpoons 2NO(g)$, the equilibrium constant is K_1. The equilibrium constant is K_2 for the reaction

$2NO(g) + O_2(g) \rightleftharpoons 2NO_2(g)$
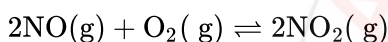
What is K for the reaction

$NO_2(g) \rightleftharpoons \frac{1}{2} N_2(g) + O_2(g)^+$
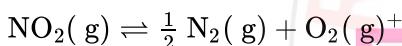
a) $1/(2K_1 K_2)$ b) $1/(4K_1 K_2)$ c) $[1/K_1 K_2]^{1/2}$ d) $1/(K_1 K_2)$

77. Match the column I with column II and mark the appropriate choice.

Column -I		Column - II	
(A)	Peptide linkage	(i)	Inversion
(B)	Nucleic acid	(ii)	Polysaccharide
(C)	Hydrolysis of cane sugar	(iii)	Proteins
(D)	Starch	(iv)	Nucleotides

a) (A) → (ii), (B) → (i), (C) → (iii), (D) → (iv)   b) (A) → (iv), (B) → (i), (C) → (ii), (D) → (iii)

c) (A) → (iii), (B) → (iv), (C) → (i), (D) → (ii)   d) (A) → (i), (B) → (iii), (C) → (iv), (D) → (ii)

78. Oxidation number of Fe in Fe_3O_4 are:

a) +2 and +3   b) +1 and +2   c) +1 and +3   d) None

79. The correct energy level diagram for $[NiCl_4]^{2-}$ is:

a)

b)

c)

d)
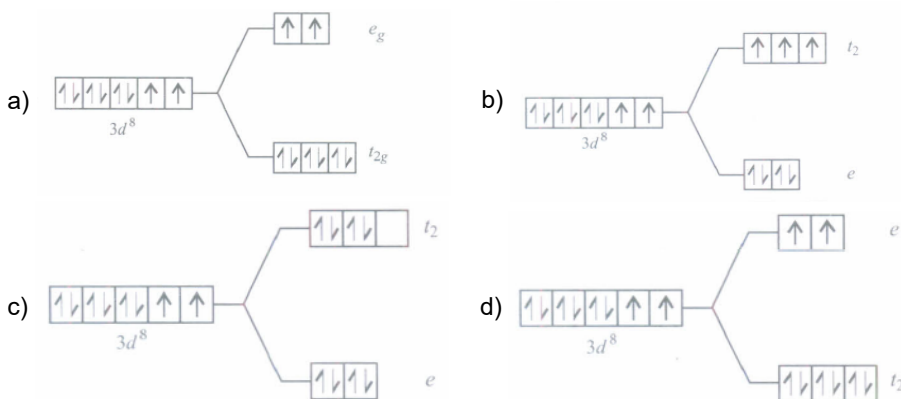
80. Which of the two ions from the list given below, have the geometry that is explained by the same hybridisation of orbitals.

NO_2^-, NO_3^-, NH_2^-, NH_4^+, SCN^-?
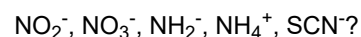
a) NH_4^+ and NO_3^- b) SCN^- and NH_2^- c) NO_2^- and NH_2^- d) NO_2^- and NO_3^-

81. The rate of a first order reaction is 0.04 mol l^{-1} s^{-1} at 10 seconds and 0.03 mol l^{-1}s^{-l} at 20 seconds after initiation of the reaction. The half-life period of the reaction is:
    a) 24.1 s   b) 34.1 s   c) 44.1 s   d) 54.1 s

82. If the radius of an octahedral void is r and radius of atoms in close packing is R, the relation between r and R is:
    a) r = 0.414R   b) R = 0.414r   c) r = 2R   d) $r = \sqrt{2R}$

83. Hydrogen resembles halogens in many respects for which several factors are responsible. Of the following factors which one is the most important in this respect?
    a) Its tendency to lose an electron to form a cation.
    b) Its tendency to gain a single electron in its valence shell to attain stable electronic configuration.
    c) Its low negative electron gain enthalpy value   d) Its small size

84. F_2 is gas I_2 is solid because.
    a) Larger london forces are present in I_2 when compared to F_2
    b) Lesser number of london forces are present in I_2 when compared to F_2
    c) F_2 and I_2 has same extent of london forces   d) I_2 has low bond dissociation energy

85. If 60% of a first order reaction was completed in 60% minutes, 50% of the same reaction would be completed in approximately
    $(\log 4 = 0.60, \log 5 = 0.69)$
    a) 45 minutes   b) 60 minutes   c) 40 minutes   d) 50 minutes

86. The drugs which are given to the patients suffering from anxiety and mental tension are known as
    a) tranquilizers   b) analgesics   c) antimicrobials   d) antibiotics.

87. How many moles of electrons are involved in the reduction of one mole of MnO_4^- ion in alkaline medium to MnO_3^-?
    a) 2   b) 1   c) 3   d) 4

88. Which of the following does not apply to metallic bond?
    a) Overlapping valence orbitals   b) Mobile valency electrons   c) Delocalized electrons
    d) Highly directed bonds

89. When MnO_2 is fused with KOH and O_2, what is the product formed and its colour?
    $MnO_2 + KOH + O_2 \rightarrow$ ___?___ $+ H_2O$
    a) MnO - colourless   b) $KMnO_4$ - purple   c) K_2MnO_4 - dark green   d) MnO_3 - black

90. 250 mL of sodium carbonate solution contains 2.65 g of Na_2CO_3. If 10 mL of this solution is diluted to 500 ml., the concentration of the diluted acid will be:
    a) 0.01 M   b) 0.001 M   c) 0.05 M   d) 0.002 M

91. What amount of $CaCl_2$ (i = 2.47) is dissolved in 2 litres of water so that its osmotic pressure is 0.5 atm at 27°C?
    a) 3.42 g   b) 9.24 g   c) 2.834 g   d) 1.820 g

92. Chlorine gas is prepared by reaction of H_2SO_4 with MnO_2 and NaCl. What volume of Cl_2 will be produced at STP if 50 g of NaCl is taken in the reaction?
    a) 1.915 L   b) 22.4 L   c) 11.2 L   d) 9.57 L

93. Match the column I with column II and mark the appropriate choice.

Column-I	Column-II
A) Fe in solid state	(i) Electrolytic conductor
B) NaCl in molten state	(ii) p-type semiconductor
C) CO_2 in solid state	(iii) Electronic conductor
D) Si doped with aluminium	(iv) Non-polar insulator

a) (A) → (iv), (B) → (ii), (C) → (i), (D) → (iii)   b) (A) → (ii), (B) → (iii), (C) → (i), (D) → (iv)
c) (A) → (iii), (B) → (i), (C) → (iv), (D) → (ii)   d) (A) → (i), (B) → (iv), (C) → (iii), (D) → (ii)

94. If, ΔE is the heat of reaction for $C_2H_5OH_{(l)} + 3O_{2(g)} \rightarrow 2CO_{2(g)} + 3H_2O_{(l)}$ at constant volume, the ΔH (heat of reaction at constant pressure), then the correct relation is :
    a) $\Delta H = \Delta E + RT$ b) $\Delta H = \Delta E - RT$ c) $\Delta H = \Delta E - 2RT$ d) $\Delta H = \Delta E + 2RT$

95. Salvarsan is arsenic containing drug which was first used for the treatment of_____
    a) syphilis   b) typhoid   c) meningitis   d) dysentry

96. The structure given below is known as
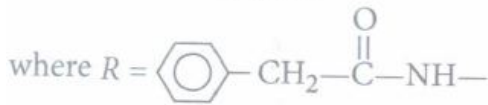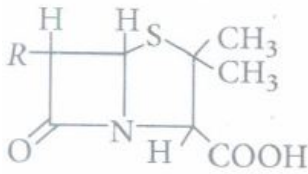
a) Penicillin F   b) Penicillin G   c) Penicillin K   d) Ampicillin

97. Which of the following processes is not responsible for adding particulates to the atmosphere?
a) Photosynthesis   b) Combustion of fuels   c) Industrial processes   d) Agricultural processes

98. How many structures are possible for C_5H_8 with one triple bond?
a) 4   b) 3   c) 2   d) 1

99. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice as :

Assertion: Use of aspartame is limited to cold foods and soft drinks.

Reason : Aspartame is roughly 100 times as sweet as cane sugar.

a) If both assertion and reason are true and reason is the correct explanation of assertion.

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false.   d) If both assertion and reason are false.

100. If enthalpy of an overall reaction X →Y along one route is $\triangle_rH$ and $\triangle_rH_1$, $\triangle_rH_2$, $\triangle_rH_3$... representing enthalpies of reactions leading to same product Y then $\triangle_rH$ is

a) $\triangle_rH=\triangle_rH_1+\triangle_rH_2+\triangle_rH_3...$ b) $\triangle_rH=\triangle_rH_1 \times \triangle_rH_2 \times \triangle_rH_3...$ c) $\triangle_rH=\triangle_rH_1+\triangle_rH_2-\triangle_rH_3...$

d) $\triangle_rH= \frac{\triangle_rH_1 \times \triangle_rH_2 \times \triangle_rH_3}{2}$

101. Consider the above given figure and select the option that can be best concluded from it.
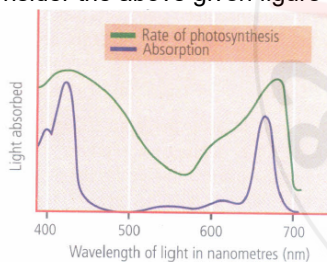
a)
The action spectrum shows a graphic representation of amount of light of different wavelengths absorbed by a pigment.
b) Absorption spectrum depicts the relative rates of photosynthesis at different wavelengths of light.
c) Action spectrum corresponds closely to absorption spectra of chi a.   d) None of these

102. In Anaphase - I each chromosome composed of
a) One chromatid   b) Two chromatid   c) Four chromatid   d) Many chromatid

103. Viruses have:-
a) DNA enclosed in a protein coat   b) Prokaryotic nucleus   c) Single chromosome   d) Both DNA and RNA

104. An aggregate fruit is the one which develops from:
a) Multicarpellary, apocarpous gynoecium   b) Complete inflorescence   c) Multicarpellary, superior ovary
d) Multicarpellary, syncarpous gynoecium

105. At rest when muscle is relaxed, the thin filaments interdigitate with the thick filaments only
a) outside A-band   b) outside H-band   c) inside A-band   d) inside M-line

106. More than 25% of drugs are derived from plants. What kind of benefit does this describe?
a) Ethical value   b) Aesthetic value   c) Direct economic value   d) Indirect economic value

107. Compared to those of humans, the erythrocytes in frog are _____ .
a) Without nucleus but with haemoglobin   b) Nucleated and with haemoglobin
c) Very much smaller and fewer   d) Nucleated and without haemoglobin.

108. Which of the following is without exception in angiosperms?

a) Presence of vessels   b) Double fertilisation   c) Secondary growth   d) Autotrophic nutrition.

109. The graph given below shows the variations in the populations of producers, primary consumers and secondary consumers as well as the amount of dissolved mineral salts in a pond.
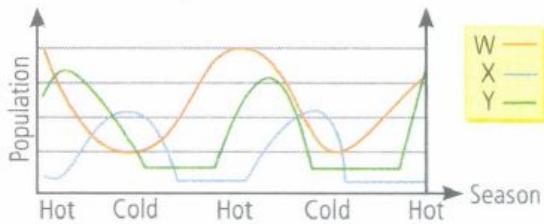
Which one of the following correctly matches each graph?

a)

Producer population	Primary consumer population	Secondary consumer population
X	Y	W

b)

Producer population	Primary consumer population	Secondary consumer population
W	X	Y

c)

Producer population	Primary consumer population	Secondary consumer population
W	Y	X

d)

Producer population	Primary consumer population	Secondary consumer population
X	W	Y

110. Which one of the following is an incorrect pair?
a) Louis Pasteur - Coined the term 'virus'   b) Beijerinck - Contagium vivum fluidum
c) Ivanovsky - Discovered retroviruses   d) Stanley - Crystallised TMV

111. The most abundant antibody produced against allergens is
a) IgE   b) IgA   c) IgG   d) IgM

112. If two persons with 'AB' blood group marry and have sufficiently large number of children, these children could be classified as 'A' blood group: 'AB' blood group 'B' blood group in 1:2:1 ratio. Modern technique of protein electrophoresis reveals presence of both 'A' and 'B' type proteins in 'AB' blood group individuals. This is an example of:
a) Complete dominance   b) Codominance   c) Incomplete dominance   d) Partial dominance

113. Which is distributed more widely in a cell?
a) DNA   b) RNA   c) Chloroplasts   d) Spherosomes

114. Which of the following is incorrect regarding muscle contraction?
a) Actin and myosin make actomyosin   b) Phosphate reserve comes from phosphocreatine
c) Chemical energy is converted into mechanical energy
d) Mechanical energy is converted into chemical energy

115. The component present in both nucleotides and nucleosides is
a) sugar   b) phosphate   c) nitrogenous base   d) both (a) and (c).

116. _____ is a single stranded DNA or RNA, tagged with a radioactive molecule and is used to detect mutated genes.
a) RNAi   b) Probe   c) Plasmid   d) Primer

117. A human male produces sperms with the genotypes AB, Ab, aB and ab, in equal proportions. What is the corresponding genotype of this person:
a) AaBb   b) AaBB   c) AABb   d) AABB

118. Probes are constructed from short segment of
a) ss DNA attached with radioactive marker   b) ds DNA attached with radioactive marker
c) Hn RNA attached with fluorescent marker   d) ds RNA attached with fluorescent marker

119. Life begin in all sexually reproducing organisms as a
a) single-celled zygote   b) double-celled zygote   c) haploid zygote   d) haploid gametes

120. Terminalization is related to
a) Diakinesis   b) Zygotene   c) Leptotene   d) Pachytene

121. Which one of the following is wrong Statement?

a) Anabaena and Nostoc are capable of fixing nitrogen in free living state also.

b) Root nodule forming nitrogen fixers live as aerobes under free-living conditions.

c) Phosphorus is a constituent of cell membranes. certain nucleic acids and cell proteins.

d) Nitrosomonas and Nitrobacter are chemoautotrophs

122. Select the correct statement regarding heterocysts

a) These are present in some filamentous cyanobacteria such as **Nostoc** and **Anabaena.**

b) These cells are specialised to perform N_2-fixation   c) These cells contain enzyme nitrogenase

d) All of these

123. Gymnosperms

a) Are Homosporous

b) Possess a male gametophyte which is highly reduced and is confined to single cell only

c) possess strobill on same or different trees

d) Show the presences of female gametophyte which is reined within microsporangium

124. Which of the following statements is correct?

a) The T-wave in an ECG represents excitation of ventricles

b) The sum of P and T waves in a given time period can determine the heart beat rate of an individual.

c) The end of the P-wave marks the end of the systole

d) In a standard ECG, a person is connected to the machine with three electrical leads.

125. The plant which bears clinging roots is _____.

a) podostemon   b) orchid   c) Trapa   d) Screwpine

126. In which of the following forms is iron absorbed by plants?

a) Free element   b) Ferrous   c) Ferric   d) Both Ferric and Ferrous

127. Blood enters the heart because muscles of the

a) atrium contracts   b) atrium relaxes   c) ventricle relaxes   d) ventricle contracts.

128. The given figure shows lac operon and its functioning. Select the option which correctly labels A, B, X, Y and Z.
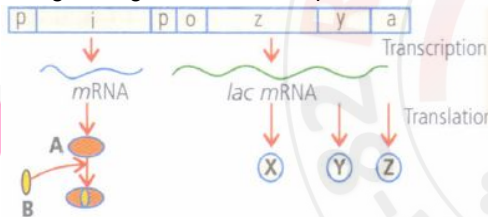
a)

A	B	X	Y	Z
Repressor	Inducer	β-galacto-sidase	Permease	Transacetylase

b)

A	B	X	Y	Z
Repressor	Inducer	Permease	β-galacto-sidase	Transacetylase

c)

A	B	X	Y	Z
Inducer	Repressor	β-galacto-sidase	Permease	Transacetylase

d)

A	B	X	Y	Z
Inducer	Repressor	β-galacto-sidase	Transacetylase	Permease

129. Assertion: Green revolution was comparatively less effective in developing world where farmers were dependent on conventional breeding.

Reason: In developing world, inability to buy expensive agro-chemicals forced farmers to rely on conventional breeding.

a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false   d) If both assertion and reason are false

130. Introduction of foreign genes for improving genotype is called

a) Biotechnology   b) Tissue culture   c) Genetic engineering   d) Both (1) & (3)

131. The structures that help some bacteria to attach to rocks and / or host tissues are:

a) Fimbriae   b) Mesosomes   c) Holdfast   d) Rhizoids

132. Which part of the human ear plays no role in hearing as such but is otherwise very much required?
   a) Eustachian tube   b) Organ of corti   c) Vestibular apparatus   d) Ear ossicles

133. Where do you find podocyte cells in human body?
   a) Brain   b) Liver   c) Kidney   d) Pancreas

134. Essential elements are:
   a) only macronutrients   b) only micronutrients   c) both macro and micronutrients   d) C. H, O and N only.

135. Which ofthe following cell organelles is responsible for extracting energy from carbohydrates to form ATP?
   a) Lysosome   b) Ribosome   c) Chloroplast   d) Mitochondrion

136. Select the incorrect statement regarding DNA replication:
   a) Leading strand is formed in $5' \rightarrow 3'$ direction.   b) Okazaki fragments are formed in $5' \rightarrow 3'$ direction
   c) DNA polymerase catalyses polymerisation in $5' \rightarrow 3'$ direction.
   d) DNA polymerase catalyses polymerisation in $3' \rightarrow 5'$ direction.

137. How many types of gametes can be produced by a diploid organism who is heterozygous for 4 loci?
   a) 4   b) 8   c) 16   d) 32

138. The term "inbreeding depression" is related to:
   a) increased fertility and productivity   b) increased milk production   c) reduced fertility and productivity
   d) reduced milk production.

139. Refer to the given characteristics of some flowers:
   (i) Light and non-sticky pollen grains
   (ii) Exserted stigmas and anthers
   (iii) Large, often feathery stigmas
   (iv) Flowers colourless, odourless and nectarless
   (v) Common in grasses
   Above features are the characteristics of
   a) anemophily   b) hydrophily   c) entomophily   d) zoophily

140. Nucleic acids are made up of
   a) Amino acids   b) Pentose sugars   c) Nucleosides   d) Nucleotides

141. While planning for an artificial hybridisation programme involving dioecious plants, which of the following steps would not be relevant?
   a) Bagging of female flower   b) Dusting of pollen on stigma   c) Emasculation   d) Collection of pollen

142. In temperate regions, cambium is less active during winter season and forms fewer xylary elements that have narrow vessels, this wood is called as
   a) spring wood   b) autumn wood   c) heartwood   d) sapwood.

143. If the head of cockroach is removed, it may live for few days because _____ .
   a)
   The head holds a small proportion of a nervous system while the rest is situated along the ventral part of its body.
   b) The head holds a 1/3rd of a nervous system while the rest is situated along the dorsal part of its body.
   c) The supra-oesophageal ganglia of the cockroach are situated in ventral part of abdomen.
   d) The cockroach does not have nervous system.

144. Select the incorrect pair
   a) 2-carbon compound - Aspartic acid   b) 3-carbon compound - PGA   c) 4-carbon compound - Malic acid
   d) 5-carbon compound - RuBP

145. Breakdown of proton gradient developed during chemiosmosis leads to the release of
   a) oxygen   b) water   c) energy   d) protons

146. Which of the following depicts the correct pathway of transport of sperms?
   a) Rete testis -7 efferent ducts -7 Epididymis -7 Vas deferens
   b) Rete testis -7 Epididymis -7 efferent ducts -7 Vas deferens
   c) Rete testis -7 Vas deferens -7 efferent ducts -7 Epididymis
   d) Efferent ducts -7 Rete testis -7 Vas deferens -7 Epididymis

147. Select the correct option to fill up the blanks.
   (i) _____ is a natural polymer extracted from_____.
   (ii) The DNA fragments purified by gel electrophoresis are used in constructing _____by joining them with _____.

(iii) The ligation of alien DNA is carried out at a _____present in one of the two _____in a plasmid vector.

(iv) _____ enzyme remains active during the high temperature induced denaturation of ds DNA.

(v) DNA fragments are resolved according to their _____through_____in agarose gel electrophoresis.

a)

(i) Agarose, sea weeds (ii) recombinant DNA, cloning vector (iii) restriction site, antibiotic resistance genes (iv) Taq polymerase (v) size, sieving effect

b)

(i) Agarose, sea weeds (ii) Restriction site, antibiotic resistance genes (iii) recombinant DNA, cloning vector (iv) Taq polymerase (v) size, sieving effect

c)

(i) Agarose, sea weeds (ii) restriction site, antibiotic resistance genes (iii) recombinant DNA, cloning vector (iv) Taq polymerase (v) size, sieving effect

d)

(i) Size, sieving effect (ii) agarose, sea weeds (iii) recombinant DNA, cloning vector (iv) Taq polymerase (v) restriction site, antibiotic resistance genes

148. A behavioural strategy of adaptation called echolocation is found in
    a) bats   b) butterfly   c) praying mantis   d) arctic tern

149. In which condition the gene ratio remains constant for any species?
    a) Sexual selection   b) Random mating   c) Mutation   d) Gene flow

150. Ozone layer of upper atmosphere is being destroyed by:
    a) Sulphurdioxide   b) Carbondioxide   c) Chlorofluorocarbon   d) Smog

151. Which one of the following plasma proteins is involved in the coagulation of blood?
    a) Albumin   b) Serum amylase   c) Globulin   d) Fibrinogen

152. Contagium vivum fluidum was proposed by
    a) D. J. Ivanowsky   b) M. W. Beijerinck   c) Stanley   d) Robert Hooke.

153. The terga, sterna and pleura of cockroach body are joined by :
    a) Cartilage   b) Cementing glue   c) Muscular Tissue   d) Arthrodial membrane

154. Match column I with column II and select the correct option from the given codes

Column I	Column II
A. Rhinoceros	(i) High endemism
B. In situ conservation	(ii) Off site conservation
C. Ex situ conservation	(iii) On site conservation
D. Hotspots	(iv) Kaziranga

a) A-(iv), B-(iii), C-(ii), D-(i)   b) A-(iv), B-(i), C-(ii), D-(iii)   c) A-(iv), B-(ii), C-(iii), D-(i)

d) A-(iv), B-(i), C-(iii), D-(ii)

155. Whose experiments cracked the DNA and discovered unequivocally that a genetic code is a 'triplet'___
    a) Hershey and Chase   b) Morgan and Sturtevant   c) Beadle and Tantum   d) Nirenberg and Mathaei

156. The steroid responsible for balance of water and electrolytes in our body is
    a) insulin   b) melatonin   c) testosterone   d) aldosterone

157. Amniocentesis is a process to_____
    a) determine any disease in heart   b) determine any hereditary disease in the embryo
    c) know about the disease of brain   d) All of the above

158. A young infant may be feeding entirely on mother's milk which is white in colour but the stools which the infant passes out is quite yellowish. What is this yellow colour due to?
    a) Pancreatic juice poured into the duodenum   b) Intestinal juice   c) Bile pigments passed through bile juice
    d) Undigested milk protein casein

159. Mast cells secrete _____ .
    a) Myoglobin   b) Histamine   c) Haemoglobin   d) Hippurin

160. Find incorrect match.
    a) RNA polymerase - Attach to UTR   b) ρ (rho) factor - Termination   c) Core enzyme - $\alpha_2\beta\beta'\omega$
    d) Promoter site - Sigma factor

161. Bundle sheath chloroplast of C_4 plant are

a) Large & agranal   b) Large & granal   c) small & agranal   d) small & granal

162. Which of the following is a heteropolymer?

a) Cellulose   b) Peptidoglycan   c) Starch   d) Glycogen

163. If there is no greenhouse effect, then the average temperature at surface of earth would have been:

a) 15^0C   b) -18^0C   c) -6^0C   d) 10^0C

164. Which of the following options correctly identifies the plant shown in figure and the group it belongs to?
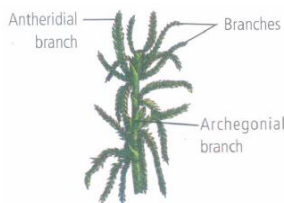
a) Marchantia - Liverwort   b) Sphagnum - Moss   c) Sphagnum - Liverwort   d) Funaria - Moss

165. Given below are the three statements each with one or two blanks. Select the option which correctly fills up the blank in any two statements.

A. Inbreeding helps in accumulation of ____(i)_____and elimination of _____(ii)_____.

B. In MOET a cow is administered hormones, with _____(i)_____ Like activity, to induce follicular maturation and super ovulation.

C. Hisardale is a new breed of sheep developed in Punjab by crossing _____(i)____and ____(ii)_____.

    A - (i) less desirable genes, (ii) superior genes   A - (i) superior genes, (ii) less desirable genes

a) B - (i) FSH   b) C - (i) Bikaneri ewes (ii) Marino rams

   B - (i) LH   B - (i) progesterone

c) C - (i) Sahiwal ewes, (ii) Deoni rams   d) C - (i) Kankrej ewes, (ii) Dangi rams

166. Edible part in pomegranate is

a) Testa   b) Epicarp   c) Endocarp   d) Epidermis

167. The effect of today's radioactive fallout will probably be more harmful to children of future generation than to present day children because

a) infants are more susceptible to radiations   b) susceptibility to radiations increase with age

c) mutated genes are usually recessive   d) all of these

168. Information on anyone taxon is found in

a) Manuals   b) Museums   c) Herbarium   d) Monographs

169. Study the given statements and select the correct option.

(i) Carbohydrates, proteins, nucleic acids and lipids are primary metabolites.

(ii) Alkaloids, flavonoids, rubber, etc., are secondary metabolites.

(iii) Linoleic, linolenic and palmitic acids are the three essential fatty acids

a) Statements (i) and (ii) are correct   b) Statements (i) and (iii) are incorrect

c) Statements (i) and (iii) are correct   d) Statements (i) and (iii) are correct

170. Read the given statements and select the correct option.

Statement 1: During photophosphorylation (of photosynthesis), light energy is utilised for the production of proton gradient during ATP synthesis.

Statement 2: In respiration, energy of oxidationreduction is utilised for the phosphorylation and thus the process is called oxidative phosphorylation.

a) Both statements 1 and 2 are correct   b) Statement 1 is correct but statement 2 is incorrect

c) Statement 1 is incorrect but statement 2 is correct.   d) Both statements 1 and 2 are incorrect

171. Which group of plantae represents gametophytic plant body with dependent sporopyte?

a) Algae and bryophytes   b) Bryophytes and pterdophytes   c) Livereorts and mosses

d) Ferns and Cycads

172. Read the following statements regarding biological museums

(i) Biological museums are generally set up in educational institutes such as schools and colleges.

(ii) Museums have collections of preserved plant and animal specimens for study and reference.

(iii) Specimens are preserved in the containers or jars in preservative solutions.

(iv) Insects are preserved in insect boxes after collecting, killing and pinning.

(v) Larger animals like birds and mammals are usually stuffed and preserved.

(vi) Skeletons of mammals are not allowed to be kept in museums.

Which of the above statements is/are not correct?

a) (ii) and (iii)   b) (i) and (vi)   c) (v) only   d) (vi) only

173. Periderm is produced by _____ .
a) Vascular cambium   b) Fascicular cambium   c) Phellogen   d) Intrafascicular cambium

174. Histone proteins are
a) basic, negatively charged   b) basic, positively charged   c) acidic, positively charged
d) acidic, negatively charged.

175. GnRH stimulates _____ to release_____.
a) Hypothalamas, gonadotropins   b) Pituity gland, gonadotropins   c) Pituity gland, growth hormone
d) Hypothalamus, growth hormone

176. Assertion: The placentation in which the placenta forms a ridge along the ventral suture of ovary and ovules are borne on this ridge forming two rows is called parietal placentation.
Reason: The marginal placentation has ovules developed on the inner wall of the ovary or on peripheral part
a) If both assertion and reason are true and reason is the correct explanation of assertion.
b) If both assertion and reason are true but reason is not the correct explanation of assertion
c) If assertion is true but reason is false.   d) If both assertion and reason are false

177. What parameters are used for tiger census in our country's national parks and sanctuaries?
a) Pug marks only   b) Pug marks and faecal pellets   c) Faecal pellets only   d) Actual head counts

178. Respiratory centre is situated in _____
a) cerebellum   b) medulla oblongata   c) hypothalamus   d) cerebrum

179. How many ATP molecules will be generated in a plant system during complete oxidation of 40 molecules of glucose?
a) 180   b) 360   c) 1440   d) 3040

180. Which element essential for stability of chromosome structure?
a) Zn   b) Ca   c) Mo   d) Fe

181. Assertion : The alternate type of phyllotaxy is the arrangement of leaves in which a single leaf arises at each node in alternate manner
Reason: The alternate type of phyllotaxy is seen in China rose and mustard plant
a) If both assertion and reason are true and reason is the correct explanation of assertion.
b) If both assertion and reason are true but reason is not the correct explanation of assertion
c) If assertion is true but reason is false.   d) If both assertion and reason are false

182. Pick out the correct statements
(i) Haemophilia is a sex linked recessive disease.
(ii) Down's syndrome is due to aneuploidy
(iii) Phenylketonuria is an autosomal recessive gene disorder
(iv) Sickle cell anaemia is an X-linked recessive gene disorder
a) (ii) and (iv) correct   b) (i), (iii) and (iv) correct   c) (i), (ii) and (iii) correct   d) (ii) and (iv) correct

183. The given diagram depicts cell plate method of cytokinesis in plant cells. Identify A, B and C.
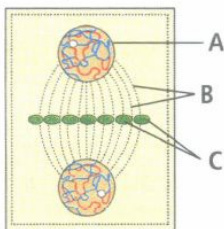
a)

A	B	C
Daughter nucleus	Phargmoplast	Vesicles

b)

A	B	C
Daughter nucleus	Vesicles	Phargmoplast

c)

A	B	C
Parent nucleus	Vesicles	Phargmoplast

d)

A	B	C
Parent nucleus	Phargmoplast	Vesicles

184. About 70% of total global carbon is found in _____.
a) grasslands   b) agro ecosystems   c) oceans   d) forests

185. The respiratory centre in the brain is stimulated by
    a) CO_2 concentration in venous blood   b) O_2 concentration in arterial blood
    c) CO_2 concentration in arterial blood   d) O_2 concentration in venous blood.

186. Which of the following is most important point in the regulation of cell cycle during which it must decide whether the cell will start a new cycle or will become arrested in G_0 phase?
    a) S-phase   b) G_1-phase   c) G_2-phase   d) Interphase

187. Which of the following statements is not true of two genes that show 50% recombination frequency?
    a) The genes are tightly linked   b) The genes show independent assortment
    c) If the genes are present on the same chromosome, they undergo more than one crossovers in every meiosis
    d) The genes may beon different chromosomes

188. For chlorophyll formation a plant needs:
    a) Fe, Ca & light   b) Fe, Mg & Light   c) Ca, K & light   d) Mn & Cu

189. Which one of the following is an exotic carp species?
    a) Labeo rohita   b) Cyprinus carpio   c) Labeo bata   d) Cirrhinus mrigala

190. Biogas is produced by
    a) aerobic breakdown of biomass   b) anaerobic breakdown of biomass
    c) with the help of methanogenic bacteria   d) both (b) and (c).

191. If green plant cells are incubated with O^{18}-labelled CO_2, which of the following molecules will become radioactive when the cells are exposed to light?
    a) ATP   b) Water   c) Sugar   d) O_2

192. Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilisation.
    a) Insulin   b) Glucagon   c) Secretin   d) Gastrin

193. Which type of sexual reproduction is found in Volvox?
    a) Isogamous   b) Anisogamous   c) Oogamous   d) All of these

194. Epithelial tissue with thin flat cells appearing like packed tiles occurs on _____ .
    a) Inner lining of cheek   b) Inner lining of stomach   c) Inner lining of Fallopian tubes
    d) Inner lining of ovary

195. Which of the following is not metabolised in human body and therefore, used in determining glomerular filtration rate?
    a) Insulin   b) Inulin   c) Celluiose xanthate   d) Toxic ketones

196. Match column I with column II and select the correct option from the given codes

Column I	Column II
A. Wallace	(i) Essay on population
B. Malthus	(ii) Biston
C. Hardy-Weinberg law	(iii) $p^2 + q^2 + 2pq = 1$
D. Industrial melanism	(iv) Co-proposer of Natural selection

a)

A	B	C	D
iii	iv	ii	i

b)

A	B	C	D
ii	i	iv	iii

c)

A	B	C	D
iv	i	ii	iii

d)

A	B	C	D
iv	i	iii	ii

197. The cell in the human body invaded by the (human immuno-deficiency virus (HIV) is____
    a) T-helpercell   b) Erythrocyte   c) B-cell   d) Macrophage

198. Select the incorrect matched pair.
    a) Monoclonal antibodies - Hybridomas   b) PCR - Phenylketonuria   c) Bioweapons - Bacillus anthracis
    d) Tracy - First transgenic animal for food production

199. Read the given statements and select the correct option.
    Statement 1: Co-factors play a crucial role in the catalytic activity of the enzyme.
    Statement 2: Catalytic activity is lost when co-factor is removed from the enzyme.
    a) Both statements 1 and 2 are correct   b) Statement 1 is correct but statement 2 is incorrect
    c) Statement 1 is incorrect but statement 2 is correct   d) Both statements 1 and 2 are incorrect

200. The toxic effect of carbon monoxide is due to its greater affinity for haemoglobin as compared to oxygen approximately by

a) 200 times   b) 1000 times   c) 2 times   d) 20 times

நீட் தமிழ் மீடியம்? 40 CBSE + 30 சமசீர்கல்வி FULL TEST PAPERS PDF விலை RS.750 ONLY

NEET ENGLISH MEDIUM 80 CBSE + 30 SAMACHEER KALVI MODEL PAPERS PDF COST RS.1000

-

9500 நீட் தமிழ் மீடியம் சமசீர்கல்வி MCQS PDF COST RS.500

16000 NEET SAMACHEER KALVI ENGLISH MEDIUM MCQS PDF COST RS.500

-

SAMACHEER KALVI ENGLISH MEDIUM 105 CHAPTERWISE PCB MCQS PDF COST RS.1000 ONLY

-

NEET EM PREVIOUSLY ASKED QUESTIONS BIOLOGY 244 MP CHEMISTRY 177 MP CHAPTERWISE MODEL PAPERS WITH ANSWERS EACH SUBJECTS COST RS.1000