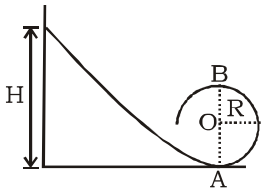
BALUNI CLASSES

(CHOICE OF THE GENIUS)

(For NEET-UG Entranc Exams 2020)

Mock Test - 1 **[FULL SYLLABUS]** **Date : 09.04.2020**

1. The figure shows a ball from height H comes a slope and moves along a circular track of radius R without falling vertically downwards. Neglecting the friction, the minimum height from which the ball should be released is :



(a) $\frac{3}{2}R$ (b) $\frac{1}{2}R$ (c) $\frac{5}{2}R$ (d) $\frac{7}{2}R$

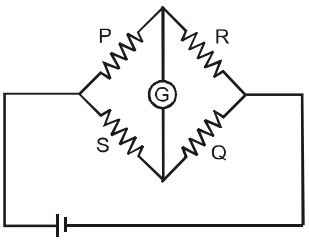
2. A system is provided with 200 cal of heat and the work done by the system on the surrounding is 40J. Then its internal energy :
(a) Increases by 600 J (b) Decreases by 800 J
(c) Increases by 800 J (d) Decreases by 50 J

3. Rotational K.E. of a body is 10 J. If its angular momentum vector coincides with the axis of rotation and its moment of inertia about this axis is 8 gm-cm^2, the angular momentum of the body will be :
(a) 3×10^{-3} kg-m/s (b) 4×10^{-4} kg-m/s
(c) 4×10^{-3} kg-m/s (d) 5×10^{-3} kg-m/s

4. Electric field of an isolated metallic sphere at any interior point is :
(a) zero (b) One
(c) Proportional to field (d) None of these

5. A small drop of water falls from rest through large height h in air its final velocity is :
(a) Proportional to $\sqrt{h}$
(b) Proportional to h
(c) Inversely proportional to h
(d) Almost independent of h

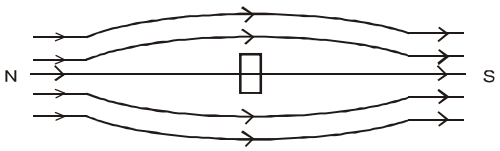
6. In the circuit given, the correct relation of a balanced Wheatstone bridge is :



(a) P/Q = R/S (b) P/Q = S/R
(c) P/s = R/Q (d) P/R = Q/S

7. A spherical soap bubble of air in a glass slab will act as a :
(a) Converging lens
(b) Diverging lens
(c) zero power lens
(d) non-refracting medium

8. The given figure represents a material which is



(a) Paramagnetic (b) Diamagnetic
(c) Ferromagnetic (d) None of these

9. A system is in thermodynamic equilibrium when it is in :
(a) Thermal equilibrium
(b) Mechanical equilibrium
(c) Chemical equilibrium
(d) Thermal, mechanical and chemical equilibria

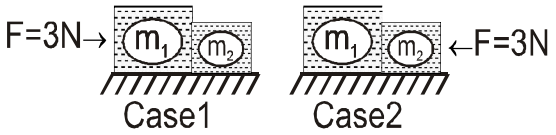
10. A spring with spring constant K when stretched through 1 cm the potential energy is U. If it is stretched by 4 cm, the potential energy will be :
(a) 4 U (b) 8 U
(c) 16 U (d) 2 U

11. A wave is described by y = 0.01 cos $\left(200\pi t - \frac{2\pi x}{3.3} + \frac{\pi}{4}\right)$ At any instant, the phase difference between points x_1 = 2.0 m and x_2 = 3.65 m is :
(a) 0 (b) $\pi/2$
(c) π (d) $\pi/4$

12. A spring with spring constant K is extended from X = 0 to X = X_1. The work done will be :
(a) KX_1^2 (b) $\frac{1}{2}KX_1^2$
(c) $2KX_1^2$ (d) $2KX_1$

13. In given figure two blocks m_1 (= 2.0kg) and m_2

(= 1.0 kg) are in contact over a frictionless table. The force of contact between them in case 1 and case 2 will respectively be :



(a) 3N, 3N (b) 2N, 2N
(c) 2N, 1N (d) 1N, 2N

14. The resistor of resistance 'R' is connected to 25 V supply and heat produced in it is 25 J/sec. The value of R is :
(a) 225 Ω (b) 1 Ω (c) 25 Ω (d) 50 Ω

15. Two bulbs of resistance 40 Ω and 200Ω are in series in a circuit being fed from the mains. If one of these bulbs is removed, the light in the room will :
(a) decrease
(b) Increase
(c) Not change
(d) Increase with 200 Ω bulb but decrease with 40 Ω bulb in the circuit

16. ECE of Cu and Ag are 7×10^{-6} and 1.2×10^{-6}. A certain current deposits 14 gm of Cu. Amount of Ag deposited is :
(a) 1.2 gm (b) 1.6 gm (c) 2.4 gm (d) 1.8 gm

17. The e.m.f. of a thermocouple, one junction of which is kept at 0^0C, is given by $e = at + bt^2$ The neutral temperature will be :
(a) a/b (b) –a/b
(c) a/2b (d) –a/2b

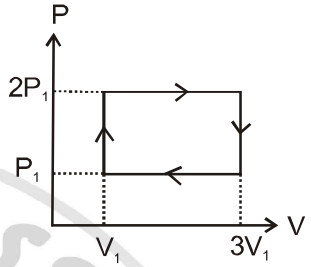
18. In a progressive wave, the distance between 2 consecutive crests is :
(a) λ/2 (b) λ
(c) (3/2) λ (d) 2λ

19. A heater of 220 V heats a volume of water in 5 minute. A similar heater at 110V will heat the same volume of water through same temperature difference in :
(a) 5 minute (b) 8 minute
(c) 10 minute (d) 20 minute

20. Which has not the same unit as others ?
(a) Watt sec (b) kWh
(c) eV (d) J sec

21. A ring type flywheel of mass 100 kg and diameter 2m is rotating at the rate of 300/π rpm. Consider the following statements about it :
1. The moment of inertia of the flywheel is 100 kgm^2
2. The kinetic energy of rotation is 10 kJ
3. The flywheel if subjected to a retarding torque of 200 Nm, will come to rest in 10s.
4. Its angular momentum is 10^3 kg m^2/s
which of these statements is/are correct ?
(a) 1 and 3 (b) 1 only
(c) 2 and 4 (d) 1 and 4

22. Work done in the given cyclic process is :

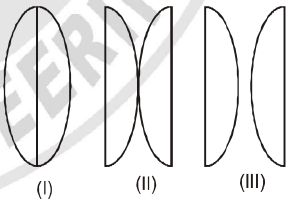


(a) P_1V_1 (b) $3P_1V_1$
(c) $2P_1V_1$ (d) zero

23. A small object is placed at a distance of 15 cm from two thin convex lenses each of focal length 25 cm placed in contact. What will be distance between the object and the image ?
(a) 75 cm (b) 60 cm
(c) 90 cm (d) 100 cm

24. Two tubes A and B are in series. Radius of A is R and that of B is 2R. If water flows through A with velocity v then velocity of water through B is :
(a) v/2 (b) v (c) v/4 (d) V/8

25. Two identical plano-convex lenses can be combined in three ways as shown in the figure :



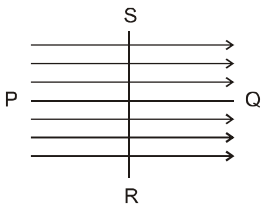
The ratio of the focal lengths of these combinations will be :
(a) 2 : 2 : 1 (b) 1 : 1 : 1
(c) 1 : 2 : 2 (d) 2 : 1 : 1

26. When light travels from glass to air, the incident angle is θ_1 and the refracted angle is θ_2. The true relation is :
(a) $\theta_1 = \theta_2$ (b) $\theta_1 < \theta_2$
(c) $\theta_1 > \theta_2$ (d) Not predictable

27. Two wires of same material and radii r and 2r are welded end to end, the combined wire is used as a sonometer wire and stretched by tension T. The welding point is exactly midway the bridges of the sonometer. If during stationary vibrations, welding point is to

remain a node, the ratio of loops in two parts of the wire is :
(a) 2 : 3 (b) 2 : 1 (c) 1 : 2 (d) 3 : 2

28. The points resembling equal potentials are :



(a) P and Q (b) S and Q
(c) S and R (d) P and R

29. The armature current in D.C. motor is maximum when the motor has :
(a) Picked up the full speed
(b) Just started
(c) Intermediate speed
(d) Just been switched off

30. A man of 60 kg is standing in lift which is moving down with an acceleration of 4.9 m/s^2. What will be his weight ?
(a) 90 kg (b) 60 kg
(c) 30 kg (d) zero kg

31. A spherical drop of mercury having a potential of 2.5 volt is obtained as a result of merging 125 droplets. The potential of constituent droplets would be :
(a) 0 volt (b) 0.1 volt
(c) 1.1 volt (d) 11.0 volt

32. A solid ball of metal has a concentric spherical cavity within it. If the ball is heated, the volume of the cavity will :
(a) Decreases (b) Increases
(c) Unaffected (d) None of these

33. An X-ray machine is operated at 40 kV. The shorter wavelength limit of continuous x-rays will be :
(a) 0.40 Å (b) 0.31 Å
(c) 0.66 Å (d) 1.0 Å

34. A current carrying coil is placed parallel to N-S direction. Let horizontal component of earth's magnetic field be H_0 and magnetic field inside the loop is H. If a magnet is suspended inside the loop, if makes angle θ with H. Then θ =

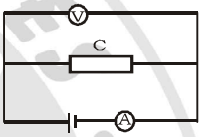
(a) $\tan^{-1}\left(\frac{H_0}{H}\right)$ (b) $\tan^{-1}\left(\frac{H}{H_0}\right)$

(c) $\text{cosec}^{-1}\left(\frac{H}{H_0}\right)$ (d) $\cot^{-1}\left(\frac{H_0}{H}\right)$

35. A source emits a sound of frequency 400 Hz, but the listener hears it to be of 390 Hz, then :
(a) Listner is moving towards the source
(b) Source is moving towards the listner
(c) The listner is moving away from the source
(d) There is no relative velocity between the source and the listner

36. 3 capacitors 2, 3 and 6 μF are joined with each other. What is the minimum effective capacitance ?
(a) (1/2) μF (b) 1 μF
(c) 2 μF (d) 3 μF

37. In the figure, the reading of ammeter A is not zero, while that of voltmeter V is zero. The substance C is :



(a) A semiconductor (b) An insulator
(c) A superconductor (d) A semi-metal

38. In an inductor of inductance L= 100 mH. A current of I = 10 A is flowing. The energy stored in the inductor is :
(a) 5 J (b) 10 J
(c) 100 J (d) 1000 J

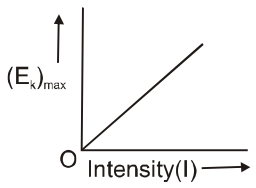
39. Three vectors $\vec{A}, \vec{B}$ and $\vec{C}$ satisfy the relation $\vec{A}.\vec{B} = 0$ and $\vec{A}.\vec{C} = 0$. Vector $\vec{A}$ is parallel to :
(a) $\vec{B}$ (b) $\vec{C}$
(c) $\vec{B}.\vec{C}$ (d) $\vec{B} \times \vec{C}$

40. For effective nuclear forces, the distance should be :
(a) 10^{-10} m (b) 10^{-13} m
(c) 10^{-15} m (d) 10^{-20} m

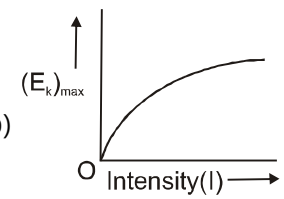
41. In a transformer, the no. of turns in primary and secondary are 500 and 2000 respectively. If current in primary is 48 A, the current in the secondary is :
(a) 12 A (b) 24 A
(c) 48 A (d) 144 A

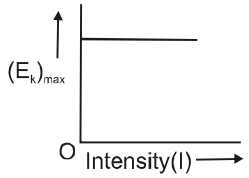
42. Which one of the following graphs represents correctly the variation of $(E_k)_{max}$. With intensity I of the incident radiations having a constant frequency ?

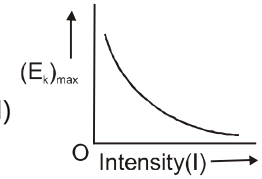
(a)



(b)



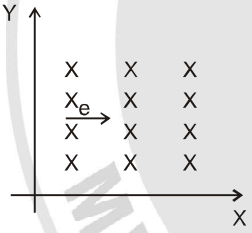
(c) 

(d) 

43. In an open organ pipe,.....wave is present .
(a) Transverse standing wave
(b) Longitudinal standing wave
(c) Longitudinal moving wave
(d) Transverse moving wave

44. The decay constant of a radioactive sample is l. The half life and the mean life of the sample will be respectively
(a) $\frac{1}{\lambda}$ and $\frac{\log_e 2}{\lambda}$ (b) $\frac{\log_e 2}{\lambda}$ and $\frac{1}{\lambda}$
(c) $\lambda(\log_e 2)$ and $1/\lambda$ (d) $\frac{\lambda}{\log_e 2}$ and $\frac{1}{\lambda}$

45. In the given figure, the electron enters into the magnetic field. It deflects in .....direction.



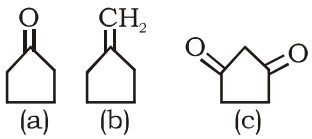
(a) +ve X direction (b) –ve X direction
(c) +ve Y direction (d) –ve Y direction

46. Equilibrium constant for the dissociation of $Ag(NH_3)_2^+$ into Ag^+ and NH_3 is 6×10^{-6}. Calculate E^0 for the following half reaction
$Ag(NH_3)_2^+ + C^- \rightarrow Ag + 2NH_3$
($E^0_{Ag^+/Ag} = 0.799V$, log 6 = 0.7781)
(a) 0.372 (b) 0.799
(c) 0.7781 (d) 0.6

47. Mg burns in air to give :
(a) MgO (b) Mg_3N_2
(c) $MgCO_3$ (d) Both (A) and (B)

48. Slag obtained during extraction of copper from pyrites is composed mainly of :
(a) Cu_2S (b) $FeSiO_3$
(c) $CuSiO_3$ (d) SiO_2

49. Arrange in decreasing acidity order :



(a) c > b > a (b) c > a > b
(c) a > b > c (d) a > c > b

50. Bond energy of N ≡ N, H—H, N—H are a, b, c respectively. The ΔH for reaction
$2NH_3 \rightarrow N_2 + 3H_2$ is
(a) 6c - 3b - a (b) 6c + 3b + a
(c) c + 6b - a (d) 6c + b - 3a

51. In the titration of $K_2Cr_2O_7$ and ferrous sulphate following data are given :
V_1 ml of 1.0 M $K_2Cr_2O_7$ requires V_2 ml of 1.0 M $FeSO_4$. The true relation is :
(a) $6V_1N_1 = V_2N_2$ (b) $V_1N_1 = 6V_2N2$
(c) $V_1N_1 = V_2N_2$ (d) None of these

52. All the following decompose on heating to given O2 except :
(a) HgO (b) MnO_2
(c) $Pb(NO_3)_2$ (d) $NaNO_3$

53. Pure water dissociates to a small extent as Per
$2H_2O \rightleftharpoons H_3O^+_{(aq)} + OH^-_{(aq)}$
The pH of pure water at 298 K is 7 what is pH at 310 K ?
(a) 0 (b) < 7
(c) > 7 (d) 7

54. White vitriol is isomorphous with :
(a) K_2SO_4 (b) Oil of vitriol
(c) Blue vitriol (d) Green vitriol

55. In natural radioactive disintegration U-238 emits one alpha and two beta and then five alpha particles successively. The end product is :
(a) $\frac{210}{82}$ Pb (b) $\frac{212}{82}$ Pb
(c) $\frac{214}{82}$Pb (d) $\frac{200}{82}$ Pb

56. The presence of air bubble in blood stream is dangerous to life because :
(a) Air combines with blood forming a complex
(b) The flow of blood increases manifolds due to concentration of surface active substance at blood air interface
(c) Flow of blood is obstructed due to concentration of surface active substance at blood air interface
(d) None of these

57. The electronic configuration of P in H_3PO_4 is :
(a) $1s^2 2s^2 2p^6 3s^2 3p^3$ (b) $1s^2 2s^2 2p^6 3s^2$
(c) $1s^2 2s^2 2p^6$
(d) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

58. The true statements from the followings are :
1. PH_5 and $BiCl_5$ do not exist

2. pπ-dπ bond is present in SO_2
3. Electron travel at the speed of light
4. SeF_4 and CH_4 have same shape
5. I_3^+ has a bent geometry

(a) 1, 3 (b) 1, 2, 5
(c) 1, 3, 5 (d) 1, 2 4

59. Volume of 95% H_2SO_4 (density = 1.85 g/cm^3) needed to prepare 100 cm^3 of 15% solution of H_2SO_4 (density = 1.10 g/cm^3) will be :
(a) 5 c.c. (b) 7.5 c.c.
(c) 9.4 c.c. (d) 12.4 c.c.

60. The freezing point of 0.1 m solution of glucose is –1.86^{0}C. If an equal volume of 0.3m glucose solution is added, the freezing point of mixture will be :
(a) –7.44^{0}C (b) –5.58^{0}C
(c) –3.72^0 C (d) –2.79^{0}C

61. Number of C = C bonds in anthracene is :
(a) 5 (b) 3
(c) 9 (d) 7

62. What should be the ΔH^0_f of OH^- ion if the standard enthalpy of formation of liquid water is –68.31 k cal and $\Delta H_f^0(H^+) = 0$ [Given standard enthalpy of neutralisation of strong base is –13.7 k cal]
(a) –16.54 k cal (b) –54.61 k cal
(c) 65.41 k cal (d) 61.54 k cal

63. What will be the value of vander waals constant 'a' for 1 mole CO_2, present in 0.5 litre at 323 K of compressibility factor 0.822 and b = 0.043 litre/mole ?
(a) 3.6 atm litr^{-2} (b) 1.8 litre^{-2} atm
(c) 0.9 atm lite^{-2} (d) 7.2 atm litre^{-2}

64. Which on heating with NaOH gives inflammable gas ?
(a) s (b) Zn
(c) NH_4Cl (d) I_2

65. Ozonolysis of  gives :
(a) Butane-1, 4-dione (b) Butane-1, 4 diol
(c) Butanoic acid (d) None of these

66. Identify the indicator that is used to titrate Na_2CO_3 solution with HCl :
(a) Phenoplphthalein (b) Dil. H_2SO_4
(c) Methyl orange (d) None of these

67. Ammonium compound, which on heating does not give NH_3, is :
(a) $(NH_4)_2SO_4$ (b) NH_4NO_2
(c) $(NH_4)_2CO_3$ (d) NH_4Cl

68. For the reaction in aqueous solution $Zn^{2+} + X^- \rightleftharpoons ZnX^+$ the K_{eq} is greatest when X is :
(a) F^- (b) NO_3^-
(c) ClO_4^- (d) I^-

69. Hot conc. H_2SO_4 in presence of Hg is used to prepare phthalic anhydride from :
(a) Benzene (b) Toluene
(c) Napthalene (d) Phenol

70. 1.0 mole of $XY_{(g)}$ and 0.2 mole of $Y_{(g)}$ are mixed in a 1.0 litre vessel. At equilibrium 0.6 mole of $Y_{(g)}$ are present. The K_C for reaction $XY_{(g)} \rightleftharpoons X_{(g)} + Y_{(g)}$ is :
(a) 0.04 mole litre^{-1} (b) 0.06 mole litre^{-1}
(c) 0.36 mole litre^{-1} (d) 0.40 mole litre^{-1}

71. Zeolites are :
(a) Water softener (b) Catalyst
(c)Both (a) and (b) (d) None of these

72. An ester (1) with molecular formula $C_9H_{10}O_2$ was treated with excess of CH_3MgBr and the complex so formed was treated with H_2SO_4 to give an olefin (2) Ozonolysis of (2) gave a ketone with formula C_8H_8O which show positive iodoform text. The structure of (1) is :
(a) $C_6H_5COOC_2H_5$
(b) $C_6H_5COOC_6H_5$
(c) $H_3COCH_2COC_6H_5$
(d) P – H_3CO – C_6H_4 – $COCH_3$

73. Fog is an example of colloidal system of :
(a) Liquid dispersed in gas
(b) Gas dispersed in gas
(c) Solid dispersed in gas
(d) Solid dispersed in liquid

74. During the process of synthesis in plants oxygen comes from :
(a) Carbon dioxide
(b) Water
(c) From both (a) and (b)
(d) None of these

75. Magnetic moment of 1.73 B.M. will be shown by :
(a) $[Cu(NH_3)_4]^{2+}$ (b) $[Ni(CN)_4]^{2-}$
(c) $TiCl_4$ (d) $[CoCl_3]^{4-}$

76. Which of the following halogens does not undergo disproportionation reaction on treatment with alkali ?
(a) F_2 (b) Cl_2
(c) Br_2 (d) I_2

77. The ortho-para directing group is :
(a) COOH (b) CN

(c) $COCH_3$ (d) $NHCOCH_3$

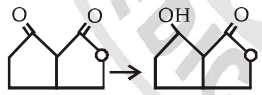
78. The compound which does not respond to ring test is :
(a) $NaNO_3$ (b) KNO_3
(c) $Pb(NO_3)_2$ (d) $LiNO_3$

79. All lanthanide elements show +3 oxidation state in general. Cerium can show the oxidation state of +4 because :
(a) It resembles alkali metals
(b) It has very low value of ionisation energy
(c) Of its tendency to attain noble gas configuration of Xenon
(d) Of its tendency to attain f^0 configuration

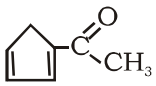
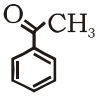
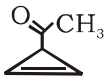
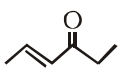
80. 0.1 millimole of $CdSO_4$ are present in 10 ml acid solution of 0.08 N HCl. H_2S is passed to precipitate all Cd^{2+} ions. The pH of solution after filtering off precipitate boiling of H_2S and making solution 100 ml by adding waterwill be :
(a) 1 (b) 2
(c) 3 (d) Data insufficient

81. If 201 persons are sitting in a row AB and if we release N_2O from side A and tear gas (molecular wt. 176) from side B than which person will have tendency to laugh and weep simultaneously ? (N_2O is laughing gas)
(a) 151st from A (b) 67th from A
(c) 134th from A (d) 134th from B

82. The transformation



can be brought about by reducing reactant :
(a) $LiAlH_4$ (b) Zn - Hg, conc. HCl
(c) $NaBH_4$ (d) Both (A) and (C)

83. Which of the following is most acidic ?
(a) 
(b) 
(c) 
(d) 

84. Pick out the incorrect statement :
(a) BO_3^{2-} ion is triangular planar in which Boron is sp^2 hybridise
(b) Boric acid contains planar triangular BO_3^{2-} units which are bonded together through hydrogen bonds in two dimensional sheets
(c) Borazine is isoelectronic with Benzene. In both compounds π electrons are delocalised
(d) Structure of Boron nitride resembles that of diamond

85. At low pressure vander Waals equation for 3 moles of real gas will have its simplified form :
(a) $\frac{PV}{RT + Pb} = 3$ (b) $\frac{PV}{RT - \frac{a}{V}} = 3$
(c) $\frac{PV}{RT + 3Pb} = 1$ (d) $\frac{PV}{RT - \frac{3a}{V}} = 3$

86. In thermodynamics, a process is called reversible when :
(a) surrounding and system interchange
(b) There is no boundary between system and surrounding
(c) The surroundings are always in equilibrium with system
(d) system changes into surrounding spontaneously

87. Ag^+ forms many complexes like $[Ag(NH_3)_2]^+$ $[Ag(CN)_2]^-$ $[Ag(S_2O_3)_2]^{3-}$. Which of the following is true ?
(a) In these complexes, Ag^+ acts as lewis base
(b) Hybridisation of Ag^+ is sp^2
(c) Ag^+ complexes are good reducing agents
(d) all complexes are linear

88. Hybridizations of boron in Borax are :
(a) sp, sp2 (b) sp, sp3
(c) sp2, sp3 (d) sp2, sp2

89. The rate of elementary reaction :
$2NO + O_2 \rightarrow 2NO_2$
when the volume of reaction vessel is doubled :
(a) will be 8 times of its initial rate
(b) Can't be determined with given data
(c) Will be 4 times of its initial value
(d) Reduced to 1/8 of its initial rate

90. The metal which is used to extract metallic gold from $Au(CN)_2$:
(a) Al (b) Na
(c) Zn (d) Cu

91. Which of the following plant (fruit) bears oblique septa and swollen placenta ?
(a) Tagetus erectus
(b) Helianthus annuus
(c) Triticum aestivum
(d) Cestrum nocturnum

92. Rauwolfia serpentina is a medicinal plant which belong to the family :
(a) Compositae (b) Solanaceae
(c) Apocynaceae (d) Liliaceae

93. Which of the following plants lacks Rhizobium containing root nodules ?
(a) Phaseolus (b) Pisum sativum
(c) Cicer arietinum (d) Pinus roxburghii

94. Active absorption of water by roots from soil is mainly affected by :
(a) Osmotic concentration of cell sap
(b) Tension of cell sap due to transpiration
(c) Sucking power of the root hairs
(d) Typical tissue organisation

95. the preparation of recombinant DNA (rDNA) requires :
(a) Reductase enzyme
(b) DNA polymerase
(c) Restriction enzymes
(d) RNA polymerase

96. The scientist credited for discovery of purification of O_2 in light by green plants is :
(a) De assure (b) Ingen Hauz
(c) Priestley (d) Mayer

97. Which of the followign is a basic unit for understanding taxonomy as well as evolution ?
(a) Family (b) Genus
(c) Species (d) Order

98. Heterocysts of Nostoc are specialized for :
(a) Photorespiration and photosynthesis
(b) Nitrogen fixation
(c) Sexual reproduction
(d) All of the above

99. The kind of climax community in an area depends mostly on the area's :
(a) Climate
(b) Pool of available colonists
(c) Bedrock
(d) Soil organisms

100. The core of nucleosome is made up of :
(a) H_1, H_2A, H_2B, H_3 (b) H_1, H_2A, H_2B, H_4
(c) H_2, H_2A, H_2B, H_4 (d) H_2A, H_2B, H_3, H_4

101. Plaques in human arteries are formed due to :
(a) protein (b) Prothrombin
(c) Cholesterol (d) Cold water

102. Which of the following eye defect can not be corrected ?
(a) Myopia (b) Hypermetropia
(c) Colour blindness (d) Asitgmatism

103. Alleles occur on a homologous pair of chromosomes at a particular location that is called :
(a) Gene shifting (b) Gene order
(c) Gene locus (d) All of the above

104. Which of the following features of DNA makes it uniquely suited to store and transmit information from generation to generation ?
(a) Complementation of the two strands
(b) double helix
(c) Number of base-pairs per turn
(d) Sugar-phosphate backbone

105. Imaginal disc is found in :
(a) Clitellum of earthworm
(b) Tail of amphibians
(c) Abdomen of fish
(d) Thorax of certain insect larvae

106. Which of the following is not a chemical messenger ?
(a) Pheromone (b) Hormone
(c) Acetylcholine (d) Enterokinase

107. In house fly (Musca domestica) the pseudo tracheae are formed by :
(a) Labellum (b) Haustellum
(c) Rostrum (d) Basiproboscis

108. The initial first menstrual cycle of a young girl is called :
(a) Menopause (b) Protogyny
(c) Menarche (d) None of the above

109. Which of the following systems contribute to the homeostasis ?
(a) Nervous system and endocrine system
(b) Respiratory system and nervous system
(c) Digestive system and excretory system
(d) All of the above

110. Philtrum in humans is a part of :
(a) Chin (b) Pinna
(c) Upper lip (d) Lower lip

111. Which of the following part of human body acts as primary relay station for sensation ?
(a) Thalamus (b) Medulla
(c) Pons (d) Hypothalamus

112. Which of the following is related with the disorder 'River blindness' ?
(a) Elephantiasis
(b) onchocerciasis
(c) Trypanosomiasis (d) None of these

113. Which of the following snakes is viviparous ?
(a) Krait (b) Python
(c) Viper dryophis (d) King cobra

114. Nucleus is not lobed in :
(a) Eosinophils (b) Monocytes
(c) Basophils (d) Neutrophils

115. Which of the following scientists discovered 'jumping genes' ?
(a) Barbara McClintock
(b) Hugo de Vries
(c) T.H. Morgan
(d) C.B. Bridges

116. Which part of DNA makes up genetic code ?
(a) sugars (b) Phosphates
(c) Base sequences (d) All the above
117. Which of the following is a steroid ?
(a) Cholesterol
(b) Thyroid hormone
(c) Fatty acid and esters
(d) Vitamin A and Vitamin C
118. Loss of hairs from the head of young humans is called :
(a) Alochia (b) Alopecia
(c) Sipecia (d) None of these
119. Translation of proteins requires :
(a) t-RNA (b) m-RNA
(c) r-RNA (d) All of the above
120. Which type of endoplasmic reticulum (ER) lacks ribosomes and is involved in the synthesis of steroid hormones ?
(a) Rough ER (b) Smooth ER
(c) Both (A) and (B) (d) None of these
121. Which of the following does not pertain to-Bcells
(a) Specific receptors
(b) synthesizing and liberating antibodies
(c) Have passed through the thymus
(d) Antibody-mediated antibody
122. Mammalian cervical vertebrae can be identified by the presence of :
(a) Odontoid process (b) Transverse process
(c) Large neural canals
(d) Amphiplatyon centrum
123. Anaemia caused by inability of red bone marrow to produce red blood cells is called :
(a) Haemorrhagic anaemia
(b) Aplastic anaemia
(c) Pernicious anaemia
(d) Nutritional anaemia
124. Hellin's law is related with :
(a) Twins (b) Eye defect
(c) Helminth infection (d) Hearing defect
125. the 'precipitin test' is performed to detect :
(a) Lipids (b) Fats
(c) Specific antigen (d) Carbohydrates
126. Which of these acts as photoreceptor in Euglena ?
(a) Stigma (b) Paraflagellar body
(c) paramylum (d) Both (a) and (b)
127. The gametes in sponges develop from :
(a) Myocytes (b) amoebocytes
(c) Choanocytes (d) Archeocytes
128. Paneth cells are found in :
(a) Spleen (b) Pancreas
(c) Crypts of lieberkuhn (d) Brain
129. 'OSCP' is an abbreviated form of :
(a) Oligomycin sensitivity conferring proteins
(b) Oxytocin sensitive conferring protein
(c) Oxygen supply and carbon production
(d) Oxygen sensitive cell permeability
130. Which of the following snakes makes nest ?
(a) Viper (b) Krait
(c) King cobra (d) Coral snake
131. The enzyme pepsin is secreted from :
(a) Ileum (b) Jejunum
(c) Duodenum (d) Stomach
132. An abnormal decrease in total number of WBCs is called :
(a) Leukocytopenia (b) Leukocytopiania
(c) Leukocytosis (d) Leukocytopoiesis
133. Axis vertebra can be identified by :
(a) Centrum (b) Olecranon process
(c) Sigmoid notch (d) Odontoid process
134. Parasites which can live only as parasites and hence die with the death of the host, are called :
(a) Obligatory (b) Facultative
(c) Pathogenic (d) Incidental
135. The endoplasm of Paramecium includes :
(a) Golgi bodies (b) Ribosomes
(c) Mitochondria (d) All of the above
136. Cardiac output is determined by :
(a) Heart rate (b) Stoke volume
(c) Both (a) and (b)
(d) None of these
137. Fat, cholesterol and fat-soluble vitamins in blood are transported by :
(a) Beta globulins (b) Alpha globulins
(c) Both (A) and (B) (d) None of the above
138. When the individual's genotype is XXX, he is affected by :
(a) Metafemale syndrome
(b) Turner's syndrome
(c) Klinefelter's syndrome
(d) Down's syndrome
139. Intestinal gas is the product of :
(a) Vitamin fermentation
(b) Irritated intestinal cells
(c) Undigested food
(d) Untestinal bacteria
140. Which of these is breast-bone ?
(a) Clavicle (b) Scapula
(c) Sternum (d) Patella
141. Natural silk fibre is :
(a) Protein (b) Polyester
(c) Polyacids (d) Polysaccharide
142. In teh eye donation, which part of eye is transplanted from the donor ?

(a) Cornea (b) Lens
(c) Retina (d) The whole eye

143. Blind, thread-like excretory tubes near the proximal end of insect hidgut are called :
(a) Tentacles (b) Antennae
(c) Spiracles (d) Malpighian tubules

144. Which of these is a clamworm ?
(a) Eathworm (b) Nereis
(c) Hook worm (d) Filarial worm

145. Bubo is associated with :
(a) Blood plasma (b) Lymph node
(c) Medulla oblongata (d) Blood serum

146. Which of the following is retroperitoneal ?
(a) Kidneys (b) Spleen
(c) Testes (d) Lungs

147. Paneth cells are found in :
(a) Brain (b) spleen
(c) Crypts of Lieberkuhn
(d) Pancreas

148. Ring chromosomes can produce :
(a) cat-eye syndrome
(b) Cri-du-chat syndrome
(c) Jacob's syndrome
(d) Edward's syndrome

149. Human vertebral column shows :
(a) Thoracic curvature
(b) Lumbar and sacral curvature
(c) Cervical curvature (d) All of the above

150. The dark band of a muscle is :
(a) Isotropic band (b) Anisotropic band
(c) Henson band (d) None of these

151. Match Column A (different shape of leaf) with Column B (Different exmples in which they are found) then select the correct answer from the options given below :

Column A	**Column B**
(a) Acicular	1. Nerium
(b) Oblong	2. Betel vine
(c) Lanceolate	3. Pine
(d) Cordate	4. Banana

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

152. Which plant material is best suited for the studying mitosis in classroom ?
(a) Anthers (b) Root tips
(c) Pieces of bark (d) All of the above

153. Which of the following niches is concerned with the trophic position of an organism ?
(a) Habitat niche (b) Trophic niche
(c) Multifactorial niche (d) Spatial niche

154. Colchicine inhibits :
(a) Chromosome condensation
(b) DNA replication
(c) Organisation and formation of spindle elements
(d) None of these

155. Water readily forms hydrgogen bonds to many other compounds, a property called :
(a) Solvent (b) Hydrophilic
(c) Solution (d) Adhesion

156. Which of the following kinds of plant fixes CO_2 by way of Crassulacean acid metabolism ?
(a) Grass (b) Red alga
(c) Oak tree (d) Cactus

157. Bulliform cells of isobilateral leaf are helpful in :
(a) Absorption of infra-red light
(b) rolling of leaves during drought and stress
(c) Absorption fo moisture from the environment
(d) Exhange of CO_2 and O_2

158. Which one of the following belongs to phanerogams ?
(a) Pteris (b) Funaria
(c) Sellaginella (d) An angiosperm

159. The oldest fossil cells resembled :
(a) Red algae
(b) Autotrophic bacteria
(c) Amoeba
(d) Heterotrophic bacteria

160. Hemophilus-influenzae causes :
(a) Bronchitis
(b) Influenzl meningitis
(c) Meningitis
(d) Whooping cough

161. any substance or mixture of substances whichprevents, repels, destroys or mitigates any pest is said to be :
(a) Epinasty (b) Seismonasty
(c) Pesticide (d) Growth regulator

162. 'Late blight' of potato is caused by :
(a0 Albugo candida
(b) Fusarium monifliforme
(c0 Phytophthora infestans
(d) alternaria solani

163. Acid rain is due to increase in atmospheric concentration of :
(a) Sodium sulphate and ammonia
(b) Sulphur dioxide and nitrogen oxide
(c) Ozone and chlorine
(d) Salt and ammonium chloride

164. Who is known as father of indian mycology ?
(a) C. V. Subramaniam (b) T. S. Sadasivan

(c) E. J. Butler (d) K. C. Mehta

165. Who among the following wrote the famous book. 'The micrographia' ?
(a) darwin (b) Robert Hook
(c) De Lamarck (d) S. Miller

166. Heterothalism in plant is given by :
(a) Blackslee (b) Ruben and Kamen
(C) Haberlandt (d) Strasburger

167. Fungi spread from plant to plant, and from one place to another, primarily in the form of :
(a) Mycelia (b) Condidiophores
(C) Spores (d) Rhizoids

168. Which is not a characteristics feature in the life history of spirogyra ?
(a) Isogamous conjugation
(b) Fragmentation
(c) Zoospory
(d) None of these

169. Each aleurone grain is made up of a larger crystalline part called :
(a) Gliadin (b) Globoid
(c) Crystalloid (d) Amide

170. The peristome in Funaria consists of at maturity
(a) One series of curved narrow triangular teeth, 16 in number
(b) One series of curved narrow triangular teeth, 32 in number
(c) Two series of curved triangular teeth, 8 teeth in each series
(d) Two series of curved, narrow triangular teeth, 16 teeth in each series

171. Which of the following bases in place of thymine (T) is present in RNA ?
(a) Uracil (U) (b) Guanine (G)
(c) Adenine (A) (d) Cytosine (C)

172. In Dryopteris, the spermatozoids are :
(a) Multiflagellate spirally coiled
(b) Fultiflagellate sickle shaped
(c) Biflagellate sickle shaped
(d) Biflagellate spirally coiled

173. Materials of biological orgin which are commonly used to maintain and improve soil fertility are called :
(a) Nitrogenous fertilizers
(b) Biofertilizers
(c) Crop rotating instrucments
(d) Manures

174. Which one is true for viruses ?
(a) In lytic cycle the virus is non-virulent
(b) In lysogenic cycle, the viral nucleic acid gets incorporated into host DNA and may remain silent for many generation
(c) The viral RNA is coated and it directs the synthesis of enzyme RNA replicase
(d) Lytic cycle is also called prophase or provirus

175. antiviral substance produced by many vertebrates in response to viral infection for resisting the multiplication of viruses is known as :
(a) Virion (b) Interferon
(c) Antivirin (d) Antigen

176. The growth in plants differ from growth in animals in :
(a) Being exogenously controlled
(b) Being localized and indefinite
(c) Being determinate
(d) All of the above are correct

177. A large cup shaped female flower surrounded by clusters of male present in which type of inflorescence ?
(a) Cyathium (b) Hypanthodium
(c) Umbel (d) Racemose

178. Which of the following is the floral formula of Hibiscus rosa sinensis (Gurhal) ?
(a) $\mathrm{Epi}_{5-7}, \oplus \underset{+}{\mathrm{O}}\!\nearrow \mathrm{K}_{(5)}\ \widehat{\mathrm{C}_5\mathrm{A}}(\infty)\ \mathrm{G}(\underline{5})$
(b) $\mathrm{Epi}_{5-7}, \%\underset{+}{\mathrm{O}}\!\nearrow \mathrm{K}_{(2+2+1)}\ \widehat{\mathrm{C}_4\mathrm{A}}_{10}\ \mathrm{G}(\underline{2})$
(c) $\mathrm{Epi}_{5-7}, \oplus \underset{+}{\mathrm{O}}\!\nearrow \mathrm{K}_{(4)}\ \widehat{\mathrm{C}_4\mathrm{A}}_{2}\ \mathrm{G}(\underline{1})$
(d) $\mathrm{Epi}_{5-7}, \oplus \underset{+}{\mathrm{O}}\!\nearrow \mathrm{K}_{(9+1)}\ \mathrm{C}_{(9+1)}\mathrm{A}(\infty)\ \mathrm{G}(\underline{5})$

179. Which one of the following is an example of leaflet tendril having pinnate compound leaf ?
(a) Lathyrus aphaca (b) Pisum sativum
(c) Tropaeolum mojus (d) Gloriosa superba

180. Winged-seeds are found in :
(a) Pinus
(b) Cycas
(c) Both Cycas and Pinus
(d) None of the above