NEET SAMPLE PAPER – 1 (ANSWER KEY & SOLUTIONS)
PART A (PHYSICS)

1. b	2. a	3. c	4. d	5. c	6. d	7. d	8. d	9. a	10. a
11. b	12. d	13. d	14. c	15. d	16. a	17. b	18. a	19. c	20. d
21. a	22. b	23. b	24. a	25. b	26. a	27. c	28. a	29. a	30. c
31. d	32. c	33. a	34. b	35. c	36. a	37. a	38. c	39. a	40. b
41. a	42. b	43.b	44. a	45. c					

1. (b)
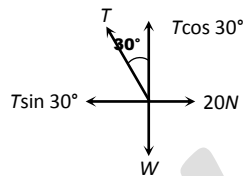
From the figure $T \sin 30^o = 20$ ...(i)

$T \cos 30^o = W$ ...(ii)

By solving equation (i) and (ii) we get

$W = 20\sqrt{3}N$ and $T = 40N$

2. (a) By substituting the dimensions in $T = 2\pi\sqrt{\dfrac{R^3}{GM}}$

we get $\sqrt{\dfrac{L^3}{M^{-1}L^3T^{-2} \times M}} = T$

3. (c) Acceleration $a = \dfrac{dv}{dt} = 3 \times 0.2t$

Which is time dependent *i.e.* non-uniform acceleration.

4. (d) $\dfrac{mv^2}{r} = 20 \Rightarrow \dfrac{1}{2}mv^2 = 20 \times \dfrac{r}{2} = 1J$

5. (c) Reading of the spring balance is equal to the tension in the string.

6. (d) Net downward force = Weight – Friction

$$\therefore ma = 30 \times 10 - 2 \Rightarrow a = \frac{30 \times 10 - 2}{30} = 9.93 \, m/s^2$$

7. (d) $S = \frac{2t^3}{3} \quad \therefore dS = 2t^2 dt$

$$a = \frac{d^2 S}{dt^2} = \frac{d^2}{dt^2}\left[2\frac{t^3}{3}\right] = 4t \, m/s^2$$

Now work done by the force $W = \int_0^2 F.dS = \int_0^2 ma.dS$

$$\int_0^2 3 \times 4t \times 2t^2 dt = \int_0^2 24t^3 dt = 6\left[t^4\right]_0^2 = 96 \, J$$

8. (d) Speed gain by body falling through a distance h is equal to $v = \sqrt{2gh} = \sqrt{2gr}$

$$\Rightarrow v = \sqrt{2gr}$$

9. Sol. (a) The moment of inertia of the circular disc about its diameter is

$$I = \frac{1}{4} Mr^2 = \frac{1}{4} (0.200 \text{ kg})(0.04 \text{ m})^2$$

$$= 8.0 \times 10^{-5} \text{ kg} - \text{m}^2.$$

and the angular momentum about the axis of rotation is

$$L = I\omega = (8.0 \times 10^{-5} \text{ kg} - \text{m}^2) \, (20 \text{ rad/s})$$

10. (a) Time period of satellite which is very near to planet

$$T = 2\pi\sqrt{\frac{R^3}{GM}} = 2\pi\sqrt{\frac{R^3}{G\frac{4}{3}\pi R^3 \rho}} \quad \therefore T \propto \sqrt{\frac{1}{\rho}}$$

i.e. time period of nearest satellite does not depends upon the radius of planet, it only depends upon the density of the planet.

In the problem, density is same so time period will be same.

11. (b) Poisson's ratio $= \dfrac{\text{Lateral strain}}{\text{Longitudinal strain}}$

$$\therefore \text{ Lateral strain} = 0.2 \times 0.05\%$$

So reduced by 0.01%.

12. (d) Work done to form a soap bubble

$W = 8\pi R^2 T$ (As $V \propto R^3 \therefore R \propto V^{1/3}$)

$\therefore W \propto V^{2/3}$

$\dfrac{W_2}{W_1} = \left(\dfrac{V_2}{V_1}\right)^{2/3} = (2)^{2/3} \Rightarrow W_2 = (4)^{1/3} W$

13. (d) Reading of the spring balance

= Apparent weight of the block

= Actual weight – upthrust

$= 10 - V_{in}\sigma g$

$= 10 - 500 \times 10^{-6} \times 10^3 \times 10 = 10 - 5 = 5N.$

14. (c) 80(1)+1(1)(T-0)=2(1)(100-T)
It gives, T=40

15. (d) In mixture, gases will acquire thermal equilibrium (*i.e.*, same temperature) so their kinetic energies will also be same.

16. Ans: (a)In adiabatic process

$T_1 V_1^{\gamma-1} = T_2 V_2^{\gamma-1}$

$(V_2 / V_1) = (T_1 / T_2)^{(1/\gamma-1)}$

$= \left(\dfrac{T_1}{T_2}\right)^2 \; for\, \gamma = 1.5$

$V_{rms} = \left(\dfrac{3RT}{M}\right)^{1/2}$
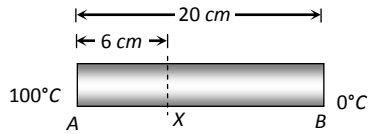
$V_{rms} \propto T^{1/2}$

$r = \dfrac{V_{(1)rms}}{V_{(2)rms}} = \left(\dfrac{T_1}{T_2}\right)^{1/2}$

$= \left[\left(\dfrac{V_2}{V_1}\right)^{1/2}\right]^{1/2} = \left(\dfrac{V_2}{V_2}\right)^{1/4}$

$\left(\dfrac{V_2}{V_1}\right) = \left[\dfrac{V_{(1)rms}}{V_{(2)rms}}\right]^4 = (r)^4$

$V_r = (r)^4$

17. (b) In steady state, temperature gradient = constant

$\Rightarrow \dfrac{(\theta_A - \theta_x)}{6} = \dfrac{(\theta_A - \theta_B)}{20} \Rightarrow (200 - \theta_x) = \dfrac{6}{20} \times (200 - 0)$

$\Rightarrow \theta_x = 140°C$
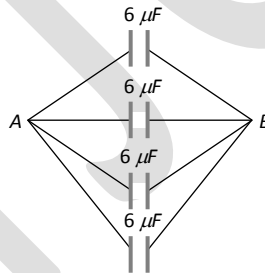
18. (a) Here, $g_{eff} = g \cos \alpha$

19. (c) Given $y = 5 \sin \dfrac{\pi x}{3} \cos 40\, \pi t$

Comparing with standing wave equation, we get $\Rightarrow \lambda = 6\, cm$.

∴ The separation between adjacent nodes $= \dfrac{\lambda}{2} = 3\, cm$.

20. (d) zero

21. (a) Given circuit can be drawn as

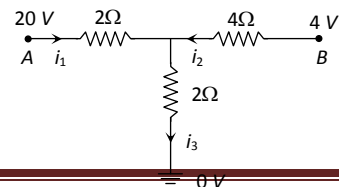Equivalent capacitance = 4 × 6 = 24 μF

22. (b) $E_{medium} = \dfrac{E_{air}}{K} = \dfrac{E}{3}$

23. *Solution* : (b) By using $r = \left(\dfrac{E}{V} - 1\right) R \Rightarrow 0.2 = \left(\dfrac{2}{V} - 1\right) \times 4 \Rightarrow V = 1.9\, volt$

24. *Solution* : (a)   Let V be the potential of the junction as shown in figure. Applying junction law, we have

or $\dfrac{20 - V}{2} + \dfrac{4 - V}{4} = \dfrac{V - 0}{2}$ or $40 - 2V + 4 - V = 2V$

or $5V = 44 \Rightarrow V \approx 9V$

$$\therefore \qquad i_3 = \frac{V}{2} \approx 4.5A$$

25. (b)

From conservation of mechanical energy $\frac{1}{2}Kr^2 = \frac{1}{4\pi\varepsilon_0}\left[\frac{q^2}{r} - \frac{q^2}{r+r}\right]$ or $\frac{1}{2}Kr^2 = \frac{q^2}{8\pi\varepsilon_0 r}$ $\quad \therefore \sqrt{K} = \frac{q}{2r}\sqrt{\frac{1}{\pi\varepsilon_0 r}}$

26. (a)Magnetic field at the centre of *n* turn coil carrying current *i*

$$B = \frac{\mu_0}{4\pi} \cdot \frac{2\pi n i}{r} \qquad ......(i)$$

For single turn *n* =1 $\qquad B = \frac{\mu_0}{4\pi} \cdot \frac{2\pi i}{r} \qquad .....(ii)$

If the same wire is turn again to form a coil of three turns *i.e.n* = 4 and radius of each turn $r' = \frac{r}{4}$

So new magnetic field at centre$\Rightarrow B' = 16 \times \frac{\mu_0}{4\pi} \cdot \frac{2\pi i}{r} \qquad ......(iii)$

27. *Solution* : (c) $\qquad$ Time period of proton $T_p = \frac{25}{5} = 5\mu$ sec

By using $T = \frac{2\pi m}{qB} \Rightarrow \frac{T_\alpha}{T_p} = \frac{m_\alpha}{m_p} \times \frac{q_p}{q_\alpha} = \frac{4m_p}{m_p} \times \frac{q_p}{2q_p} \Rightarrow T_\alpha = 2T_p = 10\mu$ sec .

28. (a) $e = -\frac{d\varphi}{dt} = \frac{-2B_0 A_0}{t}$

29. (a)$\because L \propto N^2 r$; $\qquad \frac{L_1}{L_2} = \left(\frac{N_1}{N_2}\right)^2 \times \frac{r_1}{r_2}$

$\Rightarrow \frac{L}{L_2} = \left(\frac{1}{2}\right)^2 \times \left(\frac{r}{r/2}\right) = \frac{1}{2}$; $L_2 = 2L$

30. (c) Heat produced by ac = 2× Heat produced by dc

$$\therefore i_{rms}^2 Rt = 2 \times i^2 Rt \Rightarrow l_{rms}^2 = 2 \times 2^2$$

$$\Rightarrow i_{rms} = 2\sqrt{2} = 2.82 A$$

31. (d) $f = \frac{1}{2\pi\sqrt{LC}} \Rightarrow f \propto \frac{1}{\sqrt{C}}$

32. (c) Here, $V_L = V_C$

33. (a) $\cos\phi = \dfrac{1}{2} \Rightarrow \phi = 60^o$ $\tan 60^o = \dfrac{\omega L}{R} \Rightarrow L = 2\dfrac{\sqrt{3}}{\pi} H$

34. (b) $\lambda_{\text{photon}} = \dfrac{hc}{E}$ and $\lambda_{\text{proton}} = \dfrac{h}{\sqrt{2mE}}$

$\Rightarrow \dfrac{\lambda_{\text{photon}}}{\lambda_{\text{electron}}} = c\sqrt{\dfrac{2m}{E}} \Rightarrow \dfrac{\lambda_{\text{photon}}}{\lambda_{\text{electron}}} \propto \dfrac{1}{\sqrt{E}}$
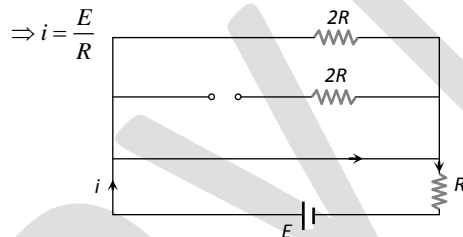
35. (c) According to Einstein's photoelectric equation

$\dfrac{hc}{\lambda} = \phi + \dfrac{1}{2}mv^2 \Rightarrow v = \left[\dfrac{2(hc - \lambda\phi)}{m\lambda}\right]^{1/2}$

36. *Solution (a)* : For a hydrogen atom,

Radius $r \propto n^2 \Rightarrow \dfrac{r_1^2}{r_2^2} = \dfrac{n_1^4}{n_2^4} \Rightarrow \dfrac{\pi r_1^2}{\pi r_2^2} = \dfrac{n_1^4}{n_2^4} \Rightarrow \dfrac{A_1}{A_2} = \dfrac{n_1^4}{n_2^4} = \dfrac{2^4}{1^4} = 16 \Rightarrow \dfrac{A_1}{A_2} = \dfrac{16}{1}$
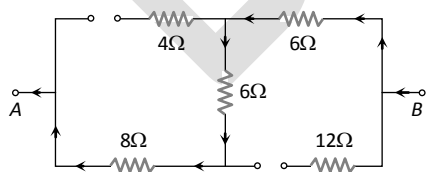
37. (a) Diodes D_1 and D_3 are forward biased and D_2 is reverse biased so the circuit can be redrawn as follows.

$\Rightarrow i = \dfrac{E}{R}$

38. (c) According to the given figure A is at lower potential *w.r.t.B*. Hence both diodes are in reverse biasing, so equivalent, circuit can be redrawn as follows.

$\Rightarrow$ Equivalent resistance between A and B

$R = 8 + 6 + 6 = 20\Omega$.

39. Ans (a)   Using $\dfrac{1}{f_{carrier}} \ll RC$

We get time constant, $RC = 1000 \times 10^{-12} = 10^{-9}s$

Now $v = \dfrac{1}{T} = \dfrac{1}{10^{-9}} = 10^9 Hz$

Thus the value of carrier frequency should be much less than $10^9 \, Hz$, say 100 *kHz*.

40. *Solution* (b) Magnification produced by compound microscope $m = m_o \times m_e$

and $m_e = \left(1 + \dfrac{D}{f_e}\right) = 1 + \dfrac{25}{5} = 6 \Rightarrow 30 = -m_o \times 6 \Rightarrow m_o = -5$.

41. *Solution*:(a) By using shift $\Delta x = \dfrac{\beta}{\lambda}(\mu - 1)t$

$\Rightarrow \Delta x = \dfrac{\beta}{5000 \times 10^{-10}}(1.5 - 1) \times 2 \times 10^{-6} = 2\beta$

42. *Solution*:(b)   By using $A = \sqrt{a_1^2 + a_2^2 + 2a_1 a_2 \cos \phi}$

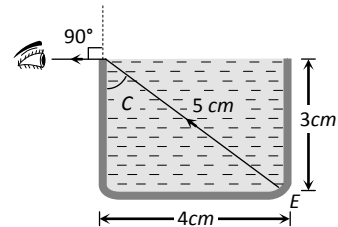$\Rightarrow A = \sqrt{(4)^2 + (3)^2 + 2 \times 4 \times 3 \cos \dfrac{\pi}{3}} = \sqrt{37} \approx 6$.

43. *Solution*:(b)By using $I = 4I_0 \cos^2\left(\dfrac{\phi}{2}\right) = 4I_0 \cos^2\left(\dfrac{\pi\Delta}{\lambda}\right)$ $\left\{\because \phi = \dfrac{2\pi}{\lambda}\Delta\right\}$

$\Rightarrow \dfrac{I_1}{I_2} = \dfrac{\cos^2\left(\dfrac{\pi\Delta_1}{\lambda}\right)}{\cos^2\left(\dfrac{\pi\Delta_2}{\lambda}\right)} = \dfrac{\cos^2\left(\dfrac{\pi \cdot \dfrac{\lambda}{4}}{\lambda}\right)}{\cos^2(0)} = \dfrac{1}{2}$

44. (a) Light ray is going from liquid (Denser) to air (Rarer) and angle of refraction is 90°, so angle of incidence must be equal to critical angle from figure

$\sin C = \dfrac{4}{5}$

Also $\mu = \dfrac{1}{\sin C} = \dfrac{5}{4} = 1.25$

45. Ans) (c) According to question,
Half life of X, $T_{1/2} = \tau_{av}$, mean life of Y

$\Rightarrow \dfrac{0.693}{\lambda_X} = \dfrac{1}{\lambda_Y} \Rightarrow \lambda_X = (0.693) \cdot \lambda_Y$

$\therefore \ \lambda_X < \lambda_Y$.

Now, the rate of decay is given by

$-\left(\dfrac{dN}{dt}\right) = \lambda_X N_0$

$$-\left(\frac{dN}{dt}\right)_y = \lambda_y N_0$$

Y will decay faster than X.

PART – B (CHEMISTRY)

46. a	47. d	48. c	49. b	50. d	51. d	52. a	53. b	54. c	55. d
56. b	57. d	58. b	59. d	60. b	61. b	62. c	63. c	64. c	65. b
66. c	67. b	68. c	69. a	70. c	71. b	72. a	73. a	74. c	75. b
76. a	77. b	78. b	79. d	80. a	81. b	82. d	83. c	84. a	85. a
86. b	87. c	88. c	89. c	90. a					

46. (a) average velocity = $\sqrt{\frac{8RT}{\Pi M}} \frac{av.Velocity \ at \ temp \ T_2}{av.Velocity \ at \ team \ T_1} = \sqrt{T_2/T_1} = \sqrt{2/1} = 1.4$

47. (d) As It is an ideal gas

48. (c) $E_1 = hc/\lambda_1$ and $E_2 = hc/\lambda_2$,

$E_2 / E_1 = \lambda_1/\lambda_2$, $50/25 = \lambda_1 /\lambda_2$, $2 = \lambda_1 / \lambda_2$, $\lambda_1 = 2 \lambda_2$

49. (b) factual

50. (d) Let oxidation number of P be Z

1. in $H_4P_2O_5$, $(4x1) + (2 \ xZ) + (5 \ x \ -2) = 0$, $x = +3$

2. In $H_4P_2O_6$, $(4 \times 1) + (2 \times Z) + (6 \times -2) = 0$, $x = +4$

3. In $H_4P_2O_7$, $(4 \times 1) + (2 \ xZ) + (7 \ x-2) = 0$, $x = +5$

51. (d) Since filling of 3d orbitals starts with Scandium with atomic number 21, total number of Elements possessing 3d electrons are (100-20) =80

52. (a) The dipole moment of two dipoles inclined at angle θ is given by equation
$\mu = \sqrt{X^2 + Y^2 + 2xy \ cos\theta}$
cos 90⁰=0. As the angle increases , the value of cosθ becomes more and more negative and hence μ decreases. Thus dipole moment is maximum when θ=90⁰.

53. (b) $PbCl_2 \longrightarrow Pb^{2+} + 2Cl^{1-}$ In (b) ionic product $=[Pb^{2+}] [Cl^{1-}]^2 = [0.05/2][(0.05 \times 2)/2]^2 = 1.25 \times 10^{-5}$ Which is less than K_{sp}

54. (c) commercially 100 volumes of H_2O_2 or 30% H_2O_2 solution is called as perhydrol

55. (d) $NaNO_3 \xrightarrow{\Delta} NaNO_2 + \frac{1}{2}O_2$
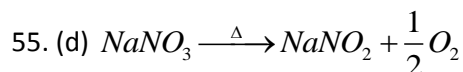
56. (b) Al metal electrolytically coated with Al_2O_3 is called anodized Al. It is obtained by immersing Al in 15-20%

   H_2SO_4 and connecting it to +ve terminal so that it becomes coated with alumina

57. (d) Antidose for CO poison is carbogen which is a mixture of 95% O_2 and 5% CO_2

58. (b) conceptual

59. (d) Ester is the functional group

60. (b) Due to –I effect , Cldestabilises the carbocation. More number of 'Cl' atoms lesser is the stability of the
carbocation. Thus option (b) is correct.

61. (b) factual

62. (c) $E_a > \Delta H$

63. (c) Mole fraction of solute = 1/56.55 = 0.0177 as n_{water}= 1000/18=55.55

64. (c) $E_{cell}= E_{cathode}-E_{anode}$= 0.15 –(-0.74) = +0.89 V

65. (b) Amount of 0.1 M AB solution added is =10-5=5 mL
   0.1M AB left behind in the solution is =0.4 mL
   0.1M AB used up for coagulation =5-0.4=4.6mL
   4.6 mL of 0.1 M AB containsAB=(4.6X0.1)/1000= 0.46 milimoles
   As total volume of sol after mixing with electrolyte is 10mL, amount of AB required for
   Coagulation of 1 L of the sol=46 mill moles, hence flocculation value =46

66. (c) Nitro group shows –R effect and withdraws electron density from the benzene ring and hence deactivatesthe ring towards electrophilic aromatic substitution
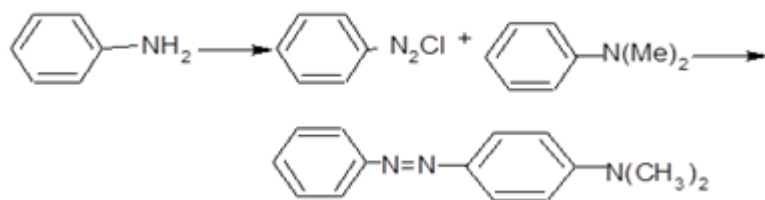
67. (b) Conceptual

68. (c) Conceptual

69. (a) With F_2reaction is explosive and bring about cleavage of C---C bond while with I_2 the reaction Is very slowto be of any practical value

70. (c) reactions involved are 1)$Zn \rightarrow Zn^{2+}$ 2) $R-X +e^- \rightarrow R^\cdot + X^-$, 3) $R^\cdot + e^- \rightarrow R:^-$ 4) $R:^- +C_2H_5OH \rightarrow RH + C_2H_5O^-$

71. (b)Be^{+2} is very small, hence its hydration enthalpy is greater than its lattice Enthalpy
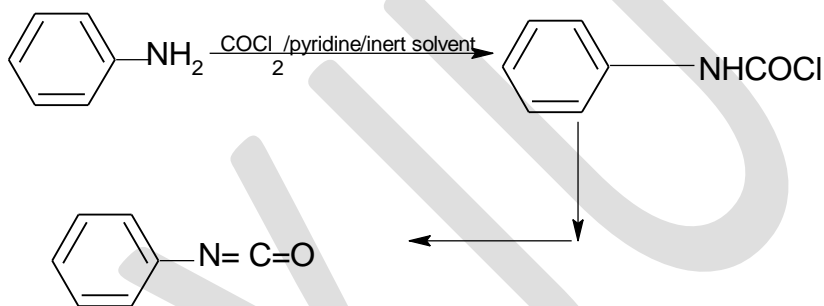
72.

73.(a) In oxoacids the Cl central atom is sp^{3}hybridised. The half filled d-orbital of Cl overlaps with p-orbital of O
to form dπ-pπ bond

74. (c) KBr reacts with KBrO$_3$ to produce Br$_2$ which reacts with phenol to give 2,4,6-tribromophenol

75. (b) % of N = $\dfrac{28 \times V \times 100}{22400 \times W}$ = $\dfrac{28 \times 448 \times 100}{22400 \times 0.84}$= 66.66% =66.7%
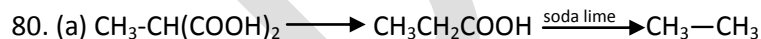
76.(a) factual

77. (b)

78.(b) sp^{3}d^{3}hybridisation give pentagonal bipyramidal geometry with one trans position occupied by lone pair
of electron and shape of the molecule is distorted octahedral

79. (d) –OCH$_3$ group has highest +R effect

80. (a) CH$_3$-CH(COOH)$_2$ $\longrightarrow$ CH$_3$CH$_2$COOH $\xrightarrow{\text{soda lime}}$ CH$_3$—CH$_3$

81. (b) factual

82. (d) 1-Butyne contains acidic hydrogen and hence it reacts with ammoniacal Cu$_2$Cl$_2$to form red ppt of copper-1-butynide while 2-butyne does not as it do not have acidic hydrogen
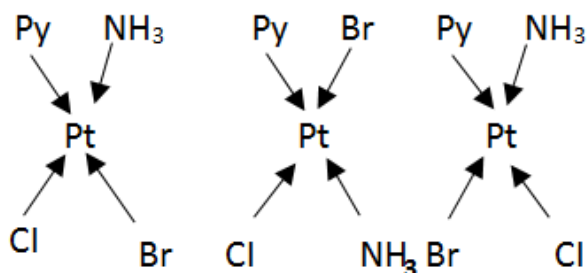
83. (c) factual

84. (a) Order of reaction can be fractional also

85. (a) moles of nitric acid =(250 X 2)/1000=0.5, Conc HNO$_3$required=0.5 X 63 X (100/70)=45 g

86. (b) Conceptual

87. (c)

88. (c) factual

89. (c) factual

90.(a)For BCC lattice body diagonal is equal to $\sqrt{3}\,a$ The distance between the two oppositely charged ions =(

a $\sqrt{3}$)/2= (387 X 1.7)/2=335 pm

PART – C (BIOLOGY)
KEY & SOLUTION

91. d	92. b	93. c	94. a	95. d	96. a	97. d	98. c	99. d	100. d
101. d	102. b	103. d	104. a	105. c	106. c	107. c	108. a	109. c	110. c
111. c	112. d	113. b	114. b	115. c	116.b	117. b	118. b	119. d	120. c
121. c	122. a	123. d	124. b	125. b	126. c	127. c	128. a	129. b	130. b
131. b	132. b	133. d	134. a	135. a	136. d	137. b	138. c	139. d	140. b
141. a	142. b	143. b	144. b	145. d	146. c	147. c	148. b	149. d	150. a
151. d	152. b	153. b	154. b	155. d	156. c	157. d	158. b	159. b	160. a
161. b	162. a	163. d	164. d	165. a	166. d	167. a	168. a	169. b	170. b
171. a	172. d	173. c	174. d	175. b	176.c	177. d	178. c	179. d	180. d

91. Cycas has the largest gametes in the plant kingdom.

92.Any of a group of organisms, including the algae, fungi, and lichens, that show no differentiation into stem,
root, or leaf .

93. **Monocystis** is an endoparasite in the seminal vesicle and coelom of earthworms

94. They are the scientists who contributed in the respective areas.

95. This is also called as head inflorescence.

96. It is a stationary medium in the cockroach which helps in the diffusion of gases

97. This is the jointed leg of the cockroach which is a characteristic feature of the phylum Arthopoda.

98. A glycosidicbond or glycosidiclinkage is a type of covalent bond that joins a carbohydrate (sugar) molecule
to another group, which may or may not be another carbohydrate.

99. This is a membraneless organelle.

100.This is the pairing of homologous chromosomes.

101. This is anaerobic respiration or alcoholic fermentation.

102. It is characterized by dermatitis, diarrhoea, and mental disturbance, and is often linked to over-dependence on maize as a staple food.

103.They exhibit Kranz anatomy, the arrangement of palisade mesophyll cells in a circle around the vascular bundle of C_4 plants..

104. This helps is digestion of proteins and lipids.

105. This is the basis of the potassium ion pump theory involving active transport.

106. The amount of air which enters the lungs during normal inhalation at rest. The average tidalvolume is 500ml. The same amount leaves the lungs during exhalation.

107. This is because Hexose is a 6 Carbon compound.

108.**RQ of carbohydrate** is 1.0 and for fat 0.7.

109. T cells mature/develop in the thymus and the thymus shrinks with age through a process
called Involution

110. Fertilization by the passage of the pollen-tube through the micropyle: the most common method with flowering plants.

111.This is the contractile unit of the muscle fiber.

112. This is due to the presence of HCl.

113. The G_1 phase, or Gap 1 phase, is the first of four phases of the cell cycle that takes place in eukaryotic cell
division. In this part of interphase, the cell synthesizes mRNA and proteins in preparation for subsequent steps leading to mitosis.

114.This is the biphosopholipid layer with the scattered proteins.

115. **Stamens** are united throughout their whole length by filaments and anthers e.g. Cucurbitaceae.

116. Naming of organisms by two scientific names such as Genus and species.

117. These have a primitive nucleus called as nucleoid.

118. Filariasis (or philariasis) is a parasitic disease caused by an infection with roundworms of the Filarioidea type. These are spread by blood-feeding black flies and mosquitoes.

119. It consists of nomenclature (putting the correct name on a taxon), phylogenetics (determining the evolutionary history and relationships of organisms) and systematics (grouping organisms in meaningful units).

120. The quiescent centre is surrounded by actively dividing cells of the promeristem that are the initial cells of
the various tissues of the root.

121. A planula is the free-swimming, flattened, ciliated, bilaterally symmetric larval form of various cnidarian species.

122. This helps in absorbing moisture from the atmosphere.

123. These are also called as skeletal muscles.

124. This helps in the translocation of solutes.

125. This is a product of photosynthesis.

126. These are the suicide bags of the cell

127. Prehensile means adapted for seizing or grasping especially by wrapping around

128. They help in the separation of sister chromatids and chromosomes during cell division.

129. A holoenzyme is an enzyme with its required cofactor; it functions the same as an
enzyme. Holoenzymes can be composed of many smaller parts called subunits.

130. A pituitary gland hormone that causes darkening of the skin by increasing the production of melanin.

131. A hormone secreted by the pineal gland which inhibits melanin formation and is thought to be concerned
with regulating the reproductive cycle.

132.It was first clearly described in Polygonum. Therefore, it is also called as *Polygonumtype*.

133. Formation of sperms from the sperm mother cells by meiosis is called as spermatogenesis.

134. This is the naturally found anticoagulant in the blood vessels.

135. This is a type of cross pollination.

136. Chloride shift (also known as the Hamburger shift or Hamburgerphenomenon, named after Hartog Jakob Hamburger) is a process which occurs in a cardiovascular system and refers to the exchange of

bicarbonate (HCO_3^-) and chloride (Cl^-) across the membrane of red blood cells (RBCs).

137. This shows the capture of the egg released from the ovary by the fimbriae of the fallopian tube and the movement of the fertilized egg.

138. A Barrbody (named after discoverer Murray Barr) is the inactive X chromosome in a female somatic cell, rendered inactive in a process called lyonization, in those species in which sex is determined by the presence of the Y (including humans) or W chromosome rather than the diploidy of the X.

139. This shows the correct direction of the formation of the leading and the lagging strand.

140. The reappearance of a lost character or trait.

141. It is used as a food preservative.

142. They are commonly called as molecular scissors.

143. The Chipkomovement or chipkoandolan was primarily a forest conservation movement in India that began in 1973 and went on to become a rallying point for many future environmental movements all over the world; it created a precedent for non-violent protest started in India.

144. Excessive richness of nutrients in a lake or other body of water, frequently due to run-off from the land, which causes a dense growth of plant life.

145. This is lesser than the primary productivity of the producers.

146. Cerebralmalaria, a form of severe malaria that involves encephalopathy

147. This is a genetically modified organism (GMO)

148. Transcription is the process of making an RNA copy of a gene sequence. This copy, called a messenger RNA (mRNA) molecule, leaves the cell nucleus and enters the cytoplasm, where it directs the synthesis of the protein, which it encodes. Here is a more complete definition of transcription

149. This follows X linked inheritance.

150. He simulated the primitive atmosphere of the earth.

151. Each microspore mother cell undergoes a meiotic division to give rise to 4 microspores.

152. Iron, Molybdenum as well as Phosphorous playimportantrole in nitrogen fixation. Nitrogen fixation needs an enzyme called nitrogenase. The nitrogenase enzyme has two kinds of proteins viz. Iron Protein, and Iron-Molybdenum protein.

153. Ethylene is also called as a fruit ripening gas.

154. These are two stages of the cell division- mitosis

155. A hormone secreted by the kidneys that increases the rate of production of red blood cells in response to
falling levels of oxygen in the tissues.

156. The primary function of the corpuscallosum is to integrate motor, sensory, and cognitive performances between the cerebral cortex on one side of the brain to the same region on the other side.

157. The branch of biology that deals with classification and nomenclature; taxonomy.

158. This is a xerophytic adaptation.

159. This prevents unwanted pregnancies and helps is spacing children while planning a family.

160. There is no yolk present in the human eggs.

161. These are called as palindromic sequences

162. These are also called as genetically modified organisms (GMO). We get genetic hybrids.

163.It became extinct in mid-20thcentury, about the time that India gained its independence in 1947.

164. This is a biological community of interacting organisms and their physical environment.

165. The MesozoicEra lasted about 180 million years, and is divided into three periods, the Triassic, the Jurassic, and the Cretaceous.

166. This enables different crops to be harvested and also help in increase the soil fertility.

167. This is also called as quantitative inheritance. Characteristics controlled in this way show continuous variation.

168. *Epistasis* is the phenomenon of the effect of one gene being dependent on the presence of one or more 'modifier genes', the genetic background. Thus, *epistatic* mutations have different effects in combination than individually.

169. This helps us identify the unkown genotype of the offsprings.

170. This is a ratio of 1:1:1:1 Test cross confirms independent assortment of characters. traits, only one form of
the trait will appear in the next generation. Offspring that have a hybrid genotype will only exhibit the dominant trait.

171. DNA fingerprinting is a test to identify and evaluate the genetic information—called
NA (deoxyribonucleic
acid)—in a person's cells.

172. RNA interference (RNAi) is a natural process used by cells to regulate gene expression

173. This does not code for any amino acid.

174. This is a mass of nutritive material outside the embryo sac.

175. Luteinizing hormone (**LH**) is an important hormone both men and women produce.

176.The short-term immunity which results from the introduction of antibodies from another person or animal.

177. These are species that are not indigenous to that place.

178. This is always erect. Because when energy flows from a trophic level to next trophic level, some energy is
always lost as heat at each step. Finally it is lost to atmosphere and never goes back to Sun.

179. All show extreme climatic conditions with very less or no rainfall.

180. It will be consumed by the developing embryo.