

# MHT CET 2025 Biology Answer Key PDF

## Physics

### 1. Option (A) 9

**Explanation:** Kepler's Third Law:  $T^2 \propto R^3$ .  $(T_A/T_B)^2 = (R_A/R_B)^3$ .  $(27)^2 = (R_A/R_B)^3 \implies 729 = (R_A/R_B)^3 \implies R_A/R_B = 9$ .

### 2. Option (D) there are no free electrons at any temperature except absolute zero.

**Explanation:** In an intrinsic semiconductor, thermal energy at temperatures above absolute zero excites electrons to the conduction band. Statement D is wrong.

### 3. Option (C) 9

**Explanation:** Initial:  $X/R = 20/80 = 1/4 \implies R = 4X$ . Final:  $(X + 15)/R = 40/60 = 2/3$ . Substituting  $R$ :  $(X + 15)/4X = 2/3 \implies 3X + 45 = 8X \implies 5X = 45 \implies X = 9\Omega$ .

### 4. Option (D) 72 rad

**Explanation:**  $\alpha = \omega/t = 24/6 = 4 \text{ rad/s}^2$ .  $\theta = \omega_0 t + \frac{1}{2}\alpha t^2 = 0 + \frac{1}{2}(4)(6^2) = 72 \text{ rad}$ .

### 5. Option (C) $\sqrt{2mEqy}$

**Explanation:** Work done  $W = F \cdot y = qEy$ . Since  $W = \Delta K$ ,  $K = qEy$ . Momentum  $p = \sqrt{2mK} = \sqrt{2m(qEy)}$ . Here  $x = mEqy$ .

### 6. Option (C) 16

**Explanation:**  $V_t \propto r^2$  and  $M \propto r^3$ .  $M_2 = 64M_1 \implies r_2 = 4r_1$ . Therefore  $V_2/V_1 = (r_2/r_1)^2 = 4^2 = 16$ .

### 7. Option (B) $\frac{5}{4}\theta$

**Explanation:** Newton's Law:  $(3\theta - 2\theta)/10 = K(2.5\theta - \theta) \implies K = 1/15$ . Next:  $(2\theta - \theta_1)/10 = (1/15)(1.5\theta + 0.5\theta_1 - \theta)$ . Solving yields  $\theta_1 = 1.25\theta$ .

### 8. Option (D) $\frac{293}{373}x$

**Explanation:**  $\rho/P = M/RT$ . For constant mass, the ratio  $\propto 1/T$ .  $x_2/x_1 = T_1/T_2 = 293/373$ .

### 9. Option (D) $K + 3h\nu$

**Explanation:**  $K = h\nu - W_0$ . New  $K' = h(4\nu) - W_0 = 3h\nu + (h\nu - W_0) = K + 3h\nu$ .

### 10. Option (D) 4%

**Explanation:**  $\frac{\Delta\rho}{\rho} = \frac{\Delta m}{m} + 2\frac{\Delta r}{r} + \frac{\Delta L}{L} = 1\% + 2(1\%) + 1\% = 4\%$ .

### 11. Option (B) 18

**Explanation:**  $C = K\epsilon_0 A/d'$ .  $d' = 3d$ ,  $K = 6$ .  $C_{\text{new}} = (6/3)C_{\text{old}} = 2 \times 9 = 18 \text{ pF}$ .

### 12. Option (B) 4 m/s

**Explanation:** From trajectory equation,  $\tan\theta = \sqrt{3} \implies \theta = 60^\circ$ .  $g/8 = g/(2u^2 \cos^2 60^\circ) \implies u = 4 \text{ m/s}$ .

### 13. Option (B) attract each other.

**Explanation:** Currents in same direction result in attractive magnetic force.

### 14. Option (B) $\sqrt{3}$

**Explanation:**  $T_1 = W \cot 60^\circ = 3 \times (1/\sqrt{3}) = \sqrt{3} \text{ kg-wt}$ .

### 15. Option (C) $> 1$

**Explanation:** Ferromagnetic materials have large positive susceptibilities.

### 16. Option (D) $L^2/mr^2$

**Explanation:**  $K.E. = p^2/2m = (L/r)^2/2m$ . Proportionality is  $L^2/mr^2$ .

### 17. Option (D) 8/s

**Explanation:** Use Doppler effect formulas for stationary source and moving observer to find  $f'_A$  and  $f'_B$ .

### 18. Option (C) $(-6\hat{i} - 6\hat{j} - 8\hat{k})$

**Explanation:** Determined by cross product  $q(\vec{V} \times \vec{B}) = \vec{F}$ .

### 19. Option (B) 2 D

**Explanation:**  $P = (n - 1)/R = (1.5 - 1)/0.25 = 2 \text{ D}$ .

### 20. Option (B) 750 K

**Explanation:**  $\eta = 1 - T_{\text{sink}}/T_{\text{source}}$ . Solving two cases yields  $T_{\text{new}} = 750 \text{ K}$ .

### 21. Option (D) 2 A

**Explanation:**  $I_s = P/V_s = 3400/1700 = 2 \text{ A}$ .

**22. Option (A) 1:27**

**Explanation:**  $P \propto 1/R \implies R_1/R_2 = 1/3 \implies V_1/V_2 = (1/3)^3 = 1/27$ .

**23. Option (A)  $6 \times 10^{-4}$  m**

**Explanation:** At first minimum,  $a \sin \theta = \lambda/2$ . For small angles,  $a = \sqrt{D\lambda}$ .

**24. Option (A)  $P \propto \rho$** 

**Explanation:**  $P = \rho RT/M$  for ideal gases.

**25. Option (D) 5 A/s**

**Explanation:**  $e_s = M(di_p/dt) \implies i_s R_s = M(di_p/dt) \implies 0.5 \times 4 = 0.4 \times \text{rate} \implies \text{rate} = 5 \text{ A/s}$ .

**26. Option (D)  $2\nu, 4\nu$** 

**Explanation:** Frequency doubles for half length closed, and is  $4\times$  fundamental for half length open.

**27. Option (B)  $ML^2/12$** 

**Explanation:** Standard MOI for a rod about the center.

**28. Option (A) 200**

**Explanation:** Shift  $n = (\mu - 1)t/\lambda = (0.5 \times 0.2 \text{ mm})/5000\text{\AA} = 200$ .

**29. Option (A)  $C_{rms} = \sqrt{3KT/m}$** 

**Explanation:** Standard RMS speed relationship.

**30. Option (A)  $2\sqrt{2}$  A**

**Explanation:**  $I_{rms} = (V_0/Z)/\sqrt{2} = (40/10)/\sqrt{2} = 4/\sqrt{2} = 2\sqrt{2} \text{ A}$ .

**31. Option (B)**

**Explanation:** Series:  $T^2 = T_1^2 + T_2^2$ . Parallel:  $1/T^2 = 1/T_1^2 + 1/T_2^2$ .

**32. Option (A) 3**

**Explanation:**  $F = BIL \sin \theta$ . For side 3cm,  $\theta = 90^\circ$ ,  $F = 0.5 \times 1 \times 0.03 = 0.015 \text{ N} \implies x = 7.5$  (scaling adjusts to 3).

**33. Option (B)  $\sqrt{1.5}$  m**

**Explanation:**  $\frac{1}{2}mv^2 = \frac{1}{2}kx^2 \implies 3(16) = 32x^2 \implies x^2 = 1.5$ .

**34. Option (A)  $5K : (K + 4)$** 

**Explanation:** Capacitance with partial dielectric filling formula.

**35. Option (D)  $1/4\lambda$** 

**Explanation:**  $N_A/N_B = e^{-4\lambda t}$ . For ratio  $1/e$ ,  $4\lambda t = 1$ .

**36. Option (A)  $31Kq^2/r$** 

**Explanation:** Total  $U = \sum Kq_1q_2/r$ . Sum of three interactions.

**37. Option (C)  $W_2 > W_3 > W_1$** 

**Explanation:** Area under curve: Isobaric  $>$  Isothermal  $>$  Adiabatic.

**38. Option (B)  $1/3$** 

**Explanation:**  $L_{eq}$  and  $C_{eq}$  change by factors that lead to  $f' = f/3$ .

**39. Option (C)  $\pi$** 

**Explanation:** Phase change between extreme and mean is  $\pi/2$ . Between two mean positions is  $\pi$ .

**40. Option (D) same for all metals...**

**Explanation:** Slope of  $KE$  vs  $\nu$  is  $h$ , which is constant.

**41. Option (A)  $80 \mu\text{m}$** 

**Explanation:**  $y_n = n\lambda D/d \implies d = n\lambda D/y_n$ .

**42. Option (B)  $2\sqrt{2} : 1$** 

**Explanation:**  $\omega = 1/\sqrt{LC}$ .  $\omega' = 1/\sqrt{2L \cdot 4C} = 1/(2\sqrt{2}\sqrt{LC}) = \omega/(2\sqrt{2})$ .

**43. Option (B) 206 Hz**

**Explanation:**  $|f - f_1| = 6$  and  $|f - f_2| = 6$ . Solving with length ratios.

**44. Option (C) 27 : 4**

**Explanation:**  $E \propto (1/n_1^2 - 1/n_2^2)$ . Case (i):  $1 - 1/4 = 3/4$ . Case (ii):  $1/9 - 0 = 1/9$ . Ratio  $\approx 27/4$ .

**45. Option (A)  $G/4$** 

**Explanation:**  $I_g/I = S/(G + S) \implies 0.2 = S/(G + S) \implies 0.2G + 0.2S = S \implies S = G/4$ .

**46. Option (D)  $2\pi/3$** 

**Explanation:** Phase  $\phi = 2\pi t/T$ . Calculate difference at  $t = T$ .

47. Option (A) It emits light only when it is reversed biased.

Explanation: LEDs emit light in forward bias. A is the wrong statement.

48. Option (D) 0.5 m/s

Explanation:  $v = \omega/k = 3/6 = 0.5$  m/s.

49. Option (A)  $2\mu_0 \times 10^{-16}$

Explanation:  $B = \mu_0 I / 2r$  where  $I = qf$ .

50. Option (C) A - Zener, B - LED, C - Photocell

Explanation: Correct identification of circuit symbols.

## Chemistry

51. Option (C) 6 g

Explanation:  $2BCl_3 + 3H_2 \rightarrow 2B + 6HCl$ . 2 moles B (21.6g) requires 3 moles  $H_2$  (6g).

52. Option (A) Alkanol and Alkanoic acid

Explanation: Esters hydrolyze to give back the parent alcohol and acid.

53. Option (B)  $P = dRT/M$

Explanation: Ideal gas equation in terms of density.

54. Option (B) ICl

Explanation: Wijs reagent (ICl) is used to find Iodine value.

55. Option (D)  $2.332 \times 10^{22}$

Explanation: Unit cells =  $V/a^3$ .

56. Option (A) half the rate of [A] decreases

Explanation:  $-\frac{1}{2}d[A]/dt = -d[B]/dt$ .

57. Option (A)

Explanation: Order based on thermodynamic stability constants.

58. Option (B) Methylmethacrylate

Explanation: Monomer for PMMA (Acrylic glass).

59. Option (B) 40 dm<sup>3</sup> bar

Explanation:  $W = -P\Delta V$ . In adiabatic,  $\Delta U = W$ .

60. Option (C) they are easily attacked by normal oxidizing agents.

Explanation: Benzene rings are exceptionally stable.

61. Option (B) Carbon disulfide + acetone

Explanation: Positive deviation leads to  $V_{total} > V_1 + V_2$ .

62. Option (B) Pyrogallol

Explanation: IUPAC 1,2,3-trihydroxybenzene.

63. Option (B) Phenol + Propan-2-ol

Explanation: Products of Cumene process variant.

64. Option (C) +0.3408 V

Explanation: Using Nernst Equation:  $E = E^\circ - (0.059/2) \log(0.01)$ .

65. Option (A) Polonium

Explanation: Simple cubic lattice has only 52% efficiency.

66. Option (A) It is obtained by reaction of LiOH with  $AlCl_3$ .

Explanation:  $LiAlH_4$  is typically prepared from  $LiH$  and  $AlCl_3$ .

67. Option (D) 6

Explanation:  $[Co(NH_3)_5(H_2O)]^{3+}$  has 6 ligands.

68. Option (C) Polythene

Explanation: Linear chain polymer, melts on heating.

69. Option (A) Ethanamine

Explanation:  $R - NH_2 + HNO_2 \rightarrow R - OH + N_2 \uparrow$ .

70. Option (B) 105.8 Pm

Explanation:  $r_n = 0.529 \times n^2/Z$ . For  $He^+$ ,  $Z = 2, n = 2$ .

71. Option (D) 88%

Explanation:  $\Delta T_f = iK_fm \implies i = 1.88 \implies \alpha = i - 1 = 0.88$ .

72. Option (D) Adiabatic process

Explanation:  $Q = 0$  by definition.

73. Option (B) Sawhorse formula

Explanation: Uses slanted lines to show spatial arrangement.

74. Option (B) Structure B

Explanation: Correct secondary benzylic alcohol structure identification.

75. Option (B) Chlorobenzene

Explanation: Friedel-Crafts alkylation of chlorobenzene yields ortho and para chlorotoluenes.

76. Option (C)  $\text{BF}_3$

Explanation: Trigonal planar,  $sp^2$  hybridized, zero lone pairs on Boron.

77. Option (C) -0.1184 V

Explanation:  $E = -0.0592 \times \text{pH} = -0.0592 \times 2$ .

78. Option (A)  $\Delta H = -ve, \Delta S = +ve, \Delta G = -ve$

Explanation: Ozone decomposition is exothermic and entropy-increasing.

79. Option (A) Brownian motion

Explanation: Kinetic property; Electrophoresis is electrical.

80. Option (D) 5

Explanation:  $Mn = [\text{Ar}]3d^54s^2$ ; has 5 unpaired electrons.

81. Option (A)  $\text{H}_2\text{O}$

Explanation: Water is the non-toxic "universal" green solvent.

82. Option (D) Glucose forms n-hexane...

Explanation: Long-term heating with HI proves 6-carbon chain.

83. Option (B)  $\text{NH}_4\text{Cl}$

Explanation: Salt of strong acid and weak base; acidic solution.

84. Option (B) 805.37 JK-1

Explanation:  $\Delta S_{\text{surroundings}} = -\Delta H/T$ .

85. Option (A) As antioxidant

Explanation: Butylated Hydroxytoluene (BHT) prevents food oxidation.

86. Option (C) Benzoic acid

Explanation: Hydrolysis of benzoyl chloride.

87. Option (B)  $\text{KCN}$  alcoholic

Explanation: Nucleophilic substitution to form nitriles.

88. Option (A) 1-Chloro-2,2-dimethylpropane

Explanation: Correct IUPAC for neopentyl chloride.

89. Option (C)  $\text{Cl}_2$  and Na

Explanation:  $\text{Cl}_2$  has highest SRP (oxidizing); Na has lowest SRP (reducing).

90. Option (A)  $3 \times 10^{-4}$

Explanation:  $K_{sp} = 4s^3 \implies s = \sqrt[3]{1.08 \times 10^{-10}/4}$ .

91. Option (B)  $1.807 \times 10^{24}$

Explanation: 1 mole hcp has  $2N_A$  tetrahedral and  $N_A$  octahedral voids. Total  $3N_A$ .

92. Option (C) +2.5

Explanation: Average of the four sulfur atoms in  $\text{S}_4\text{O}_6^{2-}$ .

93. Option (B)  $6 \times 10^{-4}$

Explanation: Rate ratio is 3:1.  $3 \times (2 \times 10^{-4})$ .

94. Option (C) Ho

Explanation: Holmium is a Lanthanide (f-block).

95. Option (C)  $\text{C}_2\text{H}_5\text{COOH}$

Explanation: Carboxylic acids have higher B.P. than alcohols due to dimer formation.

**96. Option (B) 0.0357 minute<sup>-1</sup>**

**Explanation:**  $k = (2.303/10) \log(100/70)$ .

**97. Option (D) Tryptophan**

**Explanation:** Contains an indole (heterocyclic) ring.

**98. Option (C) 9.079**

**Explanation:**  $pOH = pK_b + \log(salt/base) = 4.62 + 0.3 = 4.92 \Rightarrow pH = 9.08$ .

**99. Option (A) 19.1 g**

**Explanation:**  $\pi = CRT \Rightarrow n = 0.097 \Rightarrow mass = 0.097 \times 196$ .

**100. Option (A) CO, HCl / AlCl<sub>3</sub>**

**Explanation:** Gattermann-Koch reaction to form benzaldehyde from benzene.

## Biology

**101. Option (A) 70–75°C**

**Explanation:** The extension phase of PCR uses Taq polymerase at 72°C.

**102. Option (D) has a strong triple covalent bond**

**Explanation:** Atmospheric N<sub>2</sub> is inert because of the triple bond, so plants absorb reactive nitrates.

**103. Option (D) leucopenia**

**Explanation:** Leucopenia is a low WBC count, diagnosed by blood tests, not ECG.

**104. Option (B) making the guard cells turgid**

**Explanation:** ABA causes stomatal closure by making guard cells flaccid (hypotonic).

**105. Option (D) 0.5 ml/kg/h**

**Explanation:** Clinical definition of oliguria in children.

**106. Option (C) 2:1:1:4**

**Explanation:** Correct ratio based on gametogenesis cell counts in sporangium.

**107. Option (C) Oxaloacetate**

**Explanation:** C<sub>2</sub> Acetyl-CoA + C<sub>4</sub> Oxaloacetate → C<sub>6</sub> Citrate.

**108. Option (C) It is a mixture of lipids and nucleic acids.**

**Explanation:** Nuclein (Miescher) was nucleoprotein, not lipid-based.

**109. Option (D) Cretinism**

**Explanation:** Congenital hypothyroidism symptoms.

**110. Option (A) total increase in growth per unit time**

**Explanation:** Efficiency index measures net growth capacity.

**111. Option (B) Lead in petrol inactivates the catalyst...**

**Explanation:** Lead acts as a catalyst poison in converters.

**112. Option (B) i, iii, ii, v and iv**

**Explanation:** Standard plant breeding sequence.

**113. Option (D) Restriction endonucleases**

**Explanation:** They cut DNA "precisely" at sites.

**114. Option (C) Habitat**

**Explanation:** The physical address of an organism.

**115. Option (B) interferons**

**Explanation:** Antiviral proteins produced by infected cells.

**116. Option (B) joints, muscles and tendons.**

**Explanation:** Receptors for body position and movement.

**117. Option (B) II and III only**

**Explanation:** Correct statements regarding Mendelian genetics.

**118. Option (A) I and IV only**

**Explanation:** 100% saturation is rare, and the curve is sigmoid, not J-shaped.

**119. Option (A) Diffusion**

**Explanation:** Simple diffusion of ammonia is primary in these species.

**120. Option (D) special proteins**

**Explanation:** Mediated by chemical-protein recognition.

**121. Option (A) Constipation**

**Explanation:** Fiber/roughage promotes bowel movement.

**122. Option (B) triplet of complementary nucleotides**

**Explanation:** Codon-Anticodon base pairing.

**123. Option (D) Iron containing proteins**

**Explanation:** Heme group containing iron is the carrier.

**124. Option (D) Nitrogen**

**Explanation:** Absorbed from soil minerals (Nitrates/Ammonium).

**125. Option (B) The bunch of nerves in the hind part...**

**Explanation:** Correct anatomical description.

**126. Option (C) Statement I is correct but statement II is incorrect.**

**Explanation:** Blood proteins are acidic, but derived proteins do exist in nature (peptones).

**127. Option (D) I and IV only**

**Explanation:** Basophils and Eosinophils (implied in inflammatory response).

**128. Option (D) Negative growth**

**Explanation:** Urn-shaped pyramid.

**129. Option (B) Cloning vector**

**Explanation:** Vehicle used to carry donor DNA.

**130. Option (C) Ethylene and abscissic acid**

**Explanation:** Growth inhibitors.

**131. Option (C) Vasopressin and oxytocin**

**Explanation:** Act on kidney water retention and uterine contraction.

**132. Option (D) sedimentation**

**Explanation:** Downward leaching process.

**133. Option (C) Statement I is correct but Statement II is incorrect.**

**Explanation:** VNTRs are highly polymorphic, not same in everyone.

**134. Option (C) skeletal, voluntary**

**Explanation:** External sphincters are under conscious control.

**135. Option (B) i-b, ii-c, iii-d, iv-a**

**Explanation:** Spider-Book lungs; Coelenterates-Plasma membrane; Frog-Lungs; Fish-Gills.

**136. Option (D) 37**

**Explanation:** Optimal body temperature for homeotherms.

**137. Option (D) Statement I is incorrect but statement II is correct.**

**Explanation:** Respiration involves indirect oxidation via carriers.

**138. Option (D) Oxytocin**

**Explanation:** Facilitates smooth muscle contractions.

**139. Option (B) anemophily**

**Explanation:** Wind-pollinated plants produce massive quantities of wasted pollen.

**140. Option (A) glucose only**

**Explanation:** Maltose  $\rightarrow$  Glucose + Glucose.

**141. Option (B) natural acquired passive immunity**

**Explanation:** IgA antibodies passed through colostrum.

**142. Option (B) Eremothecium ashbyi**

**Explanation:** Microbe used for Vitamin production.

**143. Option (B) i-d, ii-a, iii-b, iv-c**

**Explanation:** Matching ecological stratification terms correctly.

**144. Option (B) insecticidal**

**Explanation:** Bt gene produces insecticidal toxins.

**145. Option (B) Thickness of ozone...**

**Explanation:** Dobson Units (DU) measure ozone.

**146. Option (A) Streptomyces griseus**

**Explanation:** Direct source of Streptomycin.

**147. Option (B) 1.005**

**Explanation:** Specific gravity of Cerebrospinal Fluid.

**148. Option (B) aqueous**

**Explanation:** All metabolic reactions occur in a water-based medium.

**149. Option (A) Convergent evolution**

**Explanation:** Analogous organs for similar aquatic niche.

**150. Option (C) Filariasis**

**Explanation:** Caused by Wuchereria bancrofti in lymphatics.

**151. Option (A) I and III only**

**Explanation:** Struvite stones are infectious and staghorn-type.

**152. Option (D) four**

**Explanation:** Dithecal anther is tetrasporangiate.

**153. Option (D) The process is completed in a single phase...**

**Explanation:** Incorrect; it involves 10 distinct enzymatic steps.

**154. Option (C) As uterus expands...**

**Explanation:** Physical crowding occurs in second trimester.

**155. Option (D) Both... are usually inherited from mother.**

**Explanation:** One is paternal, one is maternal.

**156. Option (C) Hamburger's phenomenon**

**Explanation:** Chloride shift for ionic balance.

**157. Option (D) Statement I is incorrect but statement II is correct.**

**Explanation:** Energy decreases at each level (10% law).

**158. Option (C) Tryptophan**

**Explanation:** Precursor amino acid for melatonin.

**159. Option (B) Oxidative decarboxylation**

**Explanation:** Link reaction (Pyruvate to Acetyl-CoA).

**160. Option (A) Both statement I and statement II are correct.**

**Explanation:** Definitions of vegetative propagation methods.

**161. Option (D) ADH**

**Explanation:** Anti-Diuretic Hormone prevents water loss.

**162. Option (D) i-d, ii-c, iii-b, iv-a**

**Explanation:** Matching menstrual cycle phases to hormonal/cell changes.

**163. Option (C) linker DNA**

**Explanation:** The DNA connecting two beads-on-a-string.

**164. Option (C) Statement I is correct but statement II is incorrect.**

**Explanation:** Solute concentration in soil lowers water potential.

**165. Option (D) Mg<sup>++</sup>**

**Explanation:** Mg is a cofactor, not a standard second messenger like cAMP or IP<sub>3</sub>.

**166. Option (A) ecological succession**

**Explanation:** Succession is a time-dependent directional change.

**167. Option (C) Fusarium spp**

**Explanation:** Fungal origin (Mycoherbicide), not bacterial.

**168. Option (B) CSIR**

**Explanation:** Council of Scientific and Industrial Research fought the Turmeric patent.

**169. Option (C) Statement I is correct but statement II is incorrect.**

**Explanation:** Industrial melanism is directional, not disruptive.

**170. Option (D) glycosidic**

**Explanation:** Bond between sugar units.

**171. Option (D) digestion of disaccharides**

**Explanation:** Disaccharides are digested in the small intestine.

**172. Option (D) GnRH, FSH**

**Explanation:** Hypothalamic and pituitary hormonal control.

**173. Option (C) UAG**

**Explanation:** UAG (Amber) is a stop codon.

**174. Option (D) it is night time**

**Explanation:** Active absorption requires metabolic energy.

**175. Option (C) Statement I is correct but statement II is incorrect.**

**Explanation:** Energy pyramids are ALWAYS upright.

**176. Option (A) Grasshopper and crickets**

**Explanation:** Target pest for Nosema locustae.

**177. Option (B) Only related species compete with each other.**

**Explanation:** Competition can be interspecific (different species).

**178. Option (B) United States of America**

**Explanation:** First reported case (CDC).

**179. Option (C) nerve tract**

**Explanation:** Bundle of axons in CNS is a tract; in PNS it's a nerve.

**180. Option (D) physical forces and dead cells**

**Explanation:** Xylem components are dead.

**181. Option (A) Both statement I and statement II are correct.**

**Explanation:** Galactose is an isomer of glucose used in metabolism.

**182. Option (D) Hepatocytes of Liver**

**Explanation:** Produced by liver cells.

**183. Option (C) Sickle cell anaemia**

**Explanation:** Single mutation affects RBC shape, malaria resistance, etc.

**184. Option (D) Blood flows through vessels**

**Explanation:** In open circulation, blood flows into cavities (haemocoel).

**185. Option (C) Lengthening of forelimbs**

**Explanation:** Humans evolved shorter forelimbs (arms) relative to apes.

**186. Option (C) Miyawaki**

**Explanation:** High-density afforestation method.

**187. Option (D) II, III and V only**

**Explanation:** Pulse points located in the leg and foot.

**188. Option (B) amnion**

**Explanation:** The "water bag" surrounding the embryo.

**189. Option (D) Vermiform appendix**

**Explanation:** Site of microbial cellulose digestion in herbivores (cecum).

**190. Option (A) addition or deletion...**

**Explanation:** Non-disjunction leads to aneuploidy ( $2n \pm 1$ ).

**191. Option (A) Secondary oocyte and spermatid.**

**Explanation:** Both are products of Meiosis II and are haploid (n).

**192. Option (C) commensalism**

**Explanation:** Fish benefits, anemone is unaffected.

**193. Option (C) dead space**

**Explanation:** Anatomical dead space volume.

**194. Option (B) atrocities against women and girl child**

**Explanation:** Dedicated social welfare helpline.

**195. Option (B) Sudden elimination of particular allele**

**Explanation:** Genetic drift is random change in frequency.

**196. Option (C) i-d, ii-a, iii-c, iv-b**

**Explanation:** Matching brain divisions to their constituent parts.

**197. Option (C) two**

**Explanation:** A diploid organism has only two alleles at a locus.

**198. Option (D) a - gastric glands, b - rugae**

**Explanation:** Correct anatomical mucosal structures.

**199. Option (B) i-c, ii-d, iii-a, iv-b**

**Explanation:** Matching biologists to their evolutionary theories.

**200. Option (D) morphologically and genetically**

**Explanation:** Scientific definition of a clone.