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NEET : 2023 (SOLUTION)

Time: 90 Minutes.

Version G6

Max. Marks: 360

Note:

- * Every correct answer (+4 Mark)
- * Every wrong answer (-1 Mark)
- * Not attempted question (0 Mark)

101. Given below are two statements: One is labeled as Assertion A and the other is labelled as Reason R :

Assertion A : The first stage of gametophyte in the life cycle of moss is protonema stage.

Reason R : Protonema develops directly from spores produced in capsule.

In the light of the above statements, choose the most appropriate answer from the options given below:

- 1) A is not correct but R is correct
- 2) **Both A and R are correct and R is the correct explanation of A**
(Pg. 36 Plant Kingdom)
- 3) Both A and R are correct but R is not the correct explanation of A
- 4) A is correct but R is not correct.

102. Cellulose does not form blue colour with Iodine because

- 1) It breaks down when iodine reacts with it
- 2) It is disaccharide
- 3) It is a helical molecule
- 4) **It does not contain complex helices and hence cannot hold iodine molecules**
(Pg. 148, Biomolecules)

103. Which micronutrient is required for splitting of water molecule during photosynthesis ?

- 1) copper
- 2) **manganese (Pg. 198, Mineral Nutrition)**
- 3) molybdenum
- 4) magnesium

104. Expressed Sequence Tags (ESTs) refers to

- 1) Certain important expressed genes
- 2) **All genes that are expressed as RNA (Pg. 119, Molecular basis)**
- 3) All genes that are expressed as proteins
- 4) All genes whether expressed or unexpressed.

105. The thickness of ozone in a column of air in the atmosphere is measured in terms of

- 1) Kilobase
- 2) **Dobson units (Pg. 282, Environmental issues)**
- 3) Decibels
- 4) Decameter

106. Given below are two statements: One is labeled as Assertion A and the other is labelled as Reason R :
- Assertion A :** ATP is used at two steps in glycolysis
- Reason R :** First ATP is used in converting glucose into glucose-6-phosphate and second ATP is used in conversion of fructose-6-phosphate into fructose-1-6-diphosphate.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- 1) A is false but R is true
 - 2) **Both A and R are true and R is the correct explanation of A**
(Pg. 229, Respiration in plants)
 - 3) Both A and R are true but R is not the correct explanation of A
 - 4) A is true but R is false.
107. Upon exposure to UV radiation, DNA stained with ethidium bromide will show
- 1) **Bright orange colour**
(Pg. 198, Biotech principles)
 - 2) Bright red colour
 - 3) Bright blue colour
 - 4) Bright yellow colour
108. Among 'The Evil Quarter', which one is considered the most important cause driving extinction of species ?
- 1) Co-extinctions
 - 2) **Habitat loss and fragmentation**
(Pg. 264, Biodiversity)
 - 3) Over exploitation for economic gain
 - 4) Alien species invasions
109. Which of the following stages of meiosis involves division of centromere?
- 1) Telophase **(Pg. 169, Cell Division)**
 - 2) Metaphase I
 - 3) Metaphase II
 - 4) **Anaphase II**
110. Which hormone promotes internode/petiole elongation in deep water rice ?
- 1) 2, 4-D
 - 2) GA₃
 - 3) Kinetin
 - 4) **Ethylene (Pg. 250, Plant Growth)**
111. Frequency of recombination between gene pairs on same chromosome as a measure of the distance between genes to map their distance on chromosome, was used for the first time by
- 1) Hensley
 - 2) Thomas Hunt Morgan
 - 3) Sutton and Boveri
 - 4) **Alfred Sturtevant (Pg. 83, Principles)**
112. How many ATP and NADPH₂ are required for the synthesis of one molecule of Glucose during Calvin cycle.
- 1) 18 ATP and 16 NADPH₂
 - 2) 12 ATP and 12 NADPH₂
 - 3) **18 ATP and 12NADPH₂**
 - 4) 12 ATP and 16 NADPH₂
- (Pg. 218, Photosynthesis)**

113. What is the role of RNA polymerase III in the process of transcription in Eukaryotes?
- 1) Transcription of only snRNAs
 - 2) Transcription of rRNAs (28S, 18S and 5.8S)
 - 3) **Transcription of tRNA, 5 srRNA and snRNA (Pg. 111, Molecular)**
 - 4) Transcription of precursor of mRNA
114. Family Fabaceae differs from Solanaceae and Liliaceae. With respect to the stamens, pick out the characteristics specific to family Fabaceae but not found in Solanaceae or Liliaceae.
- 1) Epiphyllous and Ditheous anthers
 - 2) **Diadelphous and Ditheous anters (Pg. 80,81, Morphology)**
 - 3) Polyadelphous and epipetalous stamens
 - 4) Monoadelphous and Monotheous anthers
115. The process of appearance of recombination nodules occurs at which sub stage of prophase I in meiosis ?
- 1) Diakinesis
 - 2) Zygotene
 - 3) **Pachytene (Pg. 168, Cell Division)**
 - 4) Diplotene
116. In the equation $GPP - R = NPP$
 GPP is Gross Primary Productivity
 NPP is Net Primary Productivity
 R here is _____
- 1) Reproductive allocation
 - 2) Photosynthetically active radiation
 - 3) Respiratory quotient
 - 4) **Respiratory loss (Pg. 243, Ecosystem)**
117. The reaction centre in PS II has an absorption maxima at
- 1) 780 nm
 - 2) **680 nm (Pg. 211, Photosynthesis)**
 - 3) 700 nm
 - 4) 660 nm
118. Unequivocal proof that DNA is the genetic material was first proposed by
- 1) Wilkins and Franklin
 - 2) Frederic Griffith
 - 3) **Alfred Hershey and Martha Chase**
 - 4) Avery, Macleoid and McCarthy
- (Pg. 101, Molecular)**
119. Spraying of which of the following phytohormone on juvenile conifers helps in hastening the maturity period, that leads to early seed production?
- 1) Abscises Acid
 - 2) Indole-3-butyric Acid
 - 3) **Gibberellin Acid**
 - 4) Zeatin
- (Pg. 249, Plant Growth)**

120. What is the function of tassels in the corn cob?

- | | |
|---------------------------------|------------------------------|
| 1) To protect seeds | 2) To attract insects |
| 3) To trap pollen grains | 4) To disperse pollen grains |

(Pg. 29, Repro & Flowering plants)

121. During the purification process for recombinant DNA technology, addition of chilled ethanol precipitates out

- | | |
|---|-------------|
| 1) Polysaccharides | 2) RNA |
| 3) DNA (Pg. 201, Biotech Principles) | 4) Histones |

122. In angiosperm, the haploid, diploid and triploid structures of a fertilized embryo sac sequentially are :

- 1) Synergids, antipodals and Polar nuclei
- 2) Synergids, Primary endosperms nucleus and zygote
- 3) Antipodals, synergids and primary endosperm nucleus
- 4) **Synergids, Zygote and Primary endosperms nucleus**

(Pg. 27, Repro in Flowering plants)

123. Large, colourful fragrant flowers with nectar are seen in :

- | | |
|---------------------------|------------------------------------|
| 1) wind pollinated plants | 2) insect pollinated plants |
| 3) bird pollinated plants | 4) bat pollinated plants |

(Pg. 30, Repro in flowering plants)

124. In tissue culture experiments, leaf mesophyll cells are put in a culture medium to form calius. This phenomenon may be called as :

- | | |
|-----------------------------|--------------------|
| 1) Senescence | 2) Differentiation |
| 3) Dedifferentiation | 4) Development |

(Pg. 245, Plant Growth)

125. Given below are two statements

Statement I : The forces generated by transpiration can lift a xylem-sized column of water over 130 meters height.

Statement II : Transpiration cools leaf surfaces sometimes 10 to 15 degrees, by evaporative cooling.

In the light of the above statements, choose the most appropriate answer from the options given below:

- 1) Statement I is incorrect but Statement II is correct
- 2) **Both statement I and Statement II are correct. (Pg. 188, 189 Transport)**
- 3) Both statement I and Statement II are in correct
- 4) Statement I is correct but Statement II is incorrect.

126. The historic Convention on Biological Diversity, 'The Earth Summit' was held in Rio de Janeiro in the year:
- 1) 2002
 - 2) 1985
 - 3) **1992 (Pg. 267, Biodiversity)**
 - 4) 1986
127. In gene gun method used to introduce alien DNA into host cells, microparticles of _____ metal are used.
- 1) Silver
 - 2) Copper
 - 3) Zinc
 - 4) **Tungsten or gold (Pg. 201, Biotech Principles)**
128. Movement and accumulation of ions across a membrane against their concentration gradient can be explained by
- 1) **Active Transport (Pg. 178, Transport)**
 - 2) Osmosis
 - 3) Facilitated Diffusion
 - 4) Passive Transport
129. Axile placentation is observed in
- 1) **China rose, Petunia and Lemon (Pg. 75, Morphology)**
 - 2) Mustard, Cucumber and Primrose
 - 3) China rose, Beans and Lupin
 - 4) Tomato, Dianthus and Pea
130. Identify the correct statements :
- A. Detrivores perform fragmentation.
 - B. The humus is further degraded by some microbes during minieralization.
 - C. Water soluble inorganic nutrients go down into the soil and get precipitated by a process called leaching.
 - D. The detritus food chain begins with living organism.
 - E. Earthworms break down detritus into smaller particles by process called catabolism.
- Choose the correct answer from the options given below
- 1) D, E, A only
 - 2) **A, B, C only (Pg. 244, Ecosystem)**
 - 3) B, C, D only
 - 4) C, D, E only
131. Among eukaryotes, replication of DNA takes place in
- 1) G₂ phase
 - 2) M phase
 - 3) **S phase (Pg. 163, Cell Division)**
 - 4) G₁ phase
132. Given below are two statements
- Statement I :** Endarch and exarch are the terms often used for describing the position of secondary xylem in the plant body.
- Statement II :** Exarch condition is the most common feature of the root system.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- 1) **Statement I is incorrect but Statement II is true. (Pg. 87, Anatomy)**
 - 2) Both statement I and Statement II are true.
 - 3) Both statement I and Statement II are false.
 - 4) Statement I is correct but Statement II is false.

133. The phenomenon of pleiotropism refers to

- 1) more than two genes affecting a single character
- 2) presence of several alleles of a single gene controlling a single crossover
- 3) presence of two alleles, each of the two genes controlling a single trait
- 4) **a single gene affecting multiple phenotypic expression.**

(Pg. 85, Principles of inheritance & variation)

134. Identify the pair of heterosporous pteridophytes among the following

- 1) *Equisetum* and *Salvinia*
- 2) *Lycopodium* and *Selaginella*
- 3) ***Selaginella* and *Salvinia***
- 4) *Psilotum* and *Salvinia*

(Pg. 36, Plant Kingdom)

135. Given below are two statements: One is labelled as Assertion A and the other is labelled as Reason R :

Assertion A : Late wood has fewer xylary elements with narrow vessels.

Reason R : Cambium is less active in winters

In the light of the above statements, choose the most appropriate answer from the options given below:

- 1) A is false but R is true
- 2) **Both A and R are true and R is the correct explanation of A (Pg. 96, Anatomy)**
- 3) Both A and R are true but R is not the correct explanation of A
- 4) A is true but R is false.

136. Identify the correct statements:

- A. Lenticels are the lens-shaped openings permitting the exchange of gases.
- B. Bark formed early in the season is called hard bark.
- C. Bark is a technical term that refers to all tissues exterior to vascular cambium.
- D. Bark refers to periderm and secondary phloem.
- E. Phellogen is single-layered in thickness

Choose the correct answer from the options given below:

- 1) B and C only
- 2) B, C and E only
- 3) **A and D only (Pg. 96, 97, Anatomy)**
- 4) A, B and only

137. Match list I with list II

List I		List II	
A	M Phase	I.	Proteins are synthesized
B	G ₂ Phase	II.	Inactive phase
C	Quiescent stage	III.	Interval between mitosis and initiation of DNA replication
D.	G ₁ Phase	IV.	Equational division

Choose the correct answer from the options given below

- 1) A – II, B – IV, C – I, D – III 2) A – III, B – II, C – IV, D – I
 3) A – IV, B – II, C – I, D – III 4) **A – IV, B – I, C – II, D – III**

(Pg. 163, 164, Cell Division)

138. Given below are two statements: One is labeled as Assertion A and the other is labelled as Reason R :

Assertion A : In gymnosperms the pollen grains are released from the microsporangium and carried by air currents.

Reason R : Air currents carry the pollen grains to the mouth of the archegonia where the male gametes are discharged and pollen tube is not formed.

In the light of the above statements, choose the most appropriate answer from the options given below:

- 1) A is false but R is true
 2) Both A and R are true and R is the correct explanation of A
 3) Both A and R are true but R is not the correct explanation of A
 4) **A is true but R is false. (Pg. 38, 39, Plant Kingdom)**

139. Match list I with list II

List I		List II	
A	Iron	I.	Synthesis of auxin
B	Zinc	II.	Component of nitrate reductase
C	Boron	III.	Activator of catalase
D.	Molybdenum	IV.	Cell elongation and differentiation

Choose the correct answer from the options given below

- 1) A – II, B – IV, C – I, D – III 2) A – III, B – II, C – I, D – IV
 3) A – II, B – III, C – IV, D – I 4) **A – III, B – I, C – IV, D – II**

(Pg. 198, Mineral Nutrition)

140. Which of the following combination is required for chemiosmosis ?
- 1) proton pump, electron gradient, NADP synthase
 - 2) **membrane, proton pump, proton gradient, ATP synthase (Pg. 215, Photosynthesis)**
 - 3) membrane, proton pump, proton gradient, NADP synthase
 - 4) proton pump, electron gradient, ATP synthase.
141. Main steps in the formation of Recombinant DNA are given below. Arrange these steps in a correct sequence.
- A. Insertion of recombinant DNA into the host cell.
 - B. Cutting of DNA at specific location of restriction enzyme.
 - C. Isolation of desired DNA fragment.,
 - D. Amplification of gene of interest using PCR.
- Choose the correct answer from the options given below:
- 1) B, D, A, C
 - 2) **B, C, D, A (Pg. 202, Biotech principles)**
 - 3) C, A, B, D
 - 4) C, B, D, A
142. Which one of the following statements is NOT correct?
- 1) The amount of some toxic substances of industrial waste water increase in the organisms at successive trophic levels.
 - 2) The micro-organisms involved in biodegradation of organic matter in a sewage polluted water body consume a lot of oxygen causing the death of aquatic organisms.
 - 3) **Algal blooms caused by excess of organic matter in water improve water quality and promote fisheries. (Pg. 277, Environmental issues)**
 - 4) Water hyacinth grows abundantly in tropical water bodies and leads to an imbalance in the ecosystem dynamics of the water body.
143. Which of the following statements are correct about Klinefelter's Syndrome?
- A. this disorder was first described by Langdon Down (1866).
 - B. Such an individual has overall masculine development. However, the feminine development is also expressed.
 - C. The affected individual is short statured.
 - D. Physical, psychomotor and mental development is retarded.
 - E. Such individuals are sterile.
- Choose the correct answer from the options.
- 1) A and E only
 - 2) A and B only
 - 3) C and D only
 - 4) **B and E only (Pg. 92, Principles)**

148. Match list I with list II.

List I		List II	
A	Oxidative decarboxylation	I.	Citrate synthase
B	Glycolysis	II.	Pyruvate dehydrogenase
C	Oxidative phosphorylation	III.	Electron transport system
D.	Tricarboxylic acid cycle	IV.	EMP pathway

Choose the correct answer from the options given below

- 1) **A – II, B – IV, C – III, D – I** 2) A – III, B – IV, C – II, D – I

(Pg. 231, 232, Respiration in plants)

- 3) A – II, B – IV, C – I, D – III 4) A – III, B – I, C – II, D – IV

149. Metlonaate inhibits the growth of pathogenic bacteria by inhibiting the activity of

- 1) Dinitrogenase 2) **Succinic dehydrogenase (Pg. 158, Biomolecules)**
 3) Amylase 4) Lipase

150. Given below are two statements

Statement I : Gause's 'Competitive Exclusion Principle' state that two closely related species competing for the same resources cannot co-exist indefinitely and competitively inferior one will be eliminated eventually.

Statement II : In general, carnivores are more adversely affected by competition than herbivores.

In the light of the above statements, choose the most appropriate answer from the options given below:

- 1) Statement I is incorrect but Statement II is true
 2) Both statement I and Statement II are true.
 3) Both statement I and Statement II are false.
 4) **Statement I is correct but Statement II is false. (Pg. 235, Organism & population)**

151. Match List I with List II

	List I		List II
A.	Gene 'a'	I.	β -galactosidase
B.	Gene 'y'	II.	Transacetylase
C.	Gene 'i'	III.	Permease
D.	Gene 'z'	IV.	Repressor protein

Choose the correct answer from the options given below.

- 1) A – III, B – I, C – IV, D - II 2) A – II, B – I, C – IV, D – III

- 3) **A – II, B – III, C – IV, D – I** 4) A – III, B – IV, C – I, D – II

(Ch 6 Pg. 117)

152. Given below are two statements:

Statement I: Ligaments are dense irregular tissue.

Statement II: Cartilage is dense regular tissue.

In the light of the above statements choose the correct answer from the options given below.

- 1) Statement I is false but Statement II is true
- 2) Both Statement I and Statement II are true
- 3) **Both Statement I and statement II are false (Ch 7 Pg. 103 & 104)**
- 4) Statement I is true but Statement II is false.

153. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Amniocentesis for sex determination is one of the strategies of Reproductive and Child Health Care Programme.

Reason R: Ban on amniocentesis checks increasing menace of female foeticide.

In the light of the above statements, choose the correct answer from the options given below.

- 1) **A is false but R is true (Ch 4 Pg. 58)**
- 2) Both A and R are true and R is the correct explanation of A.
- 3) Both A and R are true and R is NOT the correct explanation of A.
- 4) A is true but R is false

154. Match List I with List II.

	List I (Type of Joint)		List II (Found between)
A.	Cartilaginous joint	I.	Between flat skull bones
B.	Ball and Socket Joint	II.	Between adjacent vertebrae in vertebral column
C.	Fibrous Joint	III.	Between carpal and metacarpal of thumb
D.	Saddle Joint	IV	Between Humerus and Pectoral girdle

Choose the correct answer from the options given below.

- 1) A – II, B – IV, C – III, D - I
 - 2) A – III, B – I, C – II, D - IV
 - 3) **A – II, B – IV, C – I, D – III**
 - 4) A – I, B – IV, C – III, D - II
- (Ch 20 Pg. 312)**

155. Given below are two statements:

Statement I: Vas deferens receives a duct from seminal vesicle and opens into urethra as the ejaculatory duct.

Statement II: The cavity of the cervix is called cervical canal which along with vagina forms birth canal.

In the light of the above statements, choose the correct answer from the options given below.

- 1) Statement I is false but Statement II is true
- 2) **Both Statement I and Statement II are true (Ch 3 Pg. 43 & 46)**
- 3) Both Statement I and statement II are false
- 4) Statement I is true but Statement II is false.

156. Which one of the following techniques does not serve the purpose of early diagnosis of a disease for its early treatment?
- 1) Enzyme Linked Immuno-Sorbent Assay (ELISA) technique
 - 2) Recombinant DNA Technology
 - 3) **Serum and Urine analysis (Ch 12 Pg. 212)**
 - 4) Polymerase Chain Reaction (PCR) technique

157. Which one of the following common sexually transmitted disease is completely curable when detected early and treated properly?
- 1) HIV Infection
 - 2) Genital herpes
 - 3) **Gonorrhoea (Ch 4 Pg. 63)**
 - 4) Hepatitis - B

158. Which of the following is not a cloning vector?
- 1) **Probe (Ch 11 Pg.199 and Ch 6 page 119)**
 - 2) BAC
 - 3) YAC
 - 4) pBR322

159. Match List I with List II.

	List I		List II
A.	CCK	I.	Kidney
B.	GIP	II.	Heart
C.	ANF	III.	Gastric gland
D.	ADH	IV	Pancreas

- 1) A – IV, B – II, C – III, D - I
- 2) **A – IV B – III. C – II, D – I (Ch 22 Pg. 339)**
- 3) A – III, B – II, C – IV, D – I
- 4) A – II, B – IV, C – I, D - III

160. Which of the following are NOT considered as the part of endomembrane system?

- A. Mitochondria.
- B. Endoplasmic Reticulum
- C. Chloroplasts
- D. Golgi complex
- E. Peroxisomes

Choose the most appropriate answer from the options given below.

- 1) A, D and E only
- 2) B and D only
- 3) **A, C and E only (Ch 8 Pg. 133)**
- 4) A and D only

161. Match List I with List II.

	List I		List II
A.	<i>Taenia</i>	I.	Nephridia
B.	<i>Paramoecium</i>	II.	Contractile Vacuole
C.	<i>Periplaneta</i>	III.	Flame cells
D.	<i>Pheretima</i>	IV	Urecose gland

- 1) A – II, B – I, C – IV, D - III 2) A – I, B – II, C – III, D - IV
 3) A – I, B – II, C – IV, D – III 4) A – III, B – II, C – IV, D - I

(Ch Pg. 51,52, 291, 114, 134)

162. Once the undigested and unabsorbed substances enter the caecum, their backflow is prevented by;

- 1) Pyloric sphincter 2) Sphincter of Oddi
 3) **Ileo – caecal valve** (Ch 16 Pg. 264) 4) Gastro – oesophageal sphincter

163. Match List I with List II with respect to human eye.

	List I		List II
A.	Fovea	I.	Visible coloured portion of eye that regulates diameter of pupil.
B.	Iris	II.	External layer of eye formed of dense connective tissue.
C.	Blind spot	III.	Point of greatest visual acuity of resolution
D.	Sclera	IV	Point where optic nerve leaves the eyeball and photoreceptor cells are absent

Choose the correct answer from the options given below.

- 1) A – II, B – I, C – III, D – IV
 2) **A – III, B – I, C – IV, D – II** (Ch 21 Pg. 324)
 3) A – IV, B – III, C – II, D – I
 4) A – I, B – IV, C – III, D - II

164. Match List I with List II.

	List I (Interacting species)		List II (Name of Interaction)
A.	A Leopard and a Lion in a forest grassland	I.	Competition
B.	A Cuckoo laying egg in a Crow's nest	II.	Brood parasitism
C.	Fungi and root of a higher plant in Mycorrhizae	III.	Mutualism
D.	A cattle egret and a Cattle in a field	IV	Commensalism

Choose the correct answer from the options given below.

- 1) A – II, B – III, C – I, D - IV 2) **A – I, B – II, C – III, D – IV (Ch 13 Pg. 234-237)**
 3) A – I, B – II, C – IV, D – III 4) A – III, B – IV, C – I, D - II

165. Which of the following statements are correct regarding female reproductive cycle?

- A. In non-primate mammals cyclical changes during reproduction are called oestrous cycle.
 B. First menstrual cycle begins at puberty and is called menopause.
 C. Lack of menstruation may be indicative of pregnancy.
 D. Cyclic menstruation extends between menarche and menopause.

Choose the most appropriate answer from the options given below.

- 1) **A, C, and D only (vol 2, Pg. 9, 49, 50)** 2) A and D only
 3) A and B only 4) A, B and C only

166. Given below are two statements:

Statement I: Low temperature preserves the enzyme in a temporarily inactive state whereas high temperature destroys enzymatic activity because proteins are denatured by heat.

Statement II: When the inhibitor closely resembles the substrate in its molecular structure and inhibits the activity of the enzyme, it is known as competitive inhibitor.

In the light of the above statements, choose the correct answer from the options given below.

- 1) Statement I is false but Statement II is true
 2) **Both Statement I and Statement II are true (Ch 9 Pg. 158)**
 3) Both Statement I and statement II are false
 4) Statement I is true but Statement II is false.

167. Radial symmetry is NOT found in adults of Phylum _____.

- 1) Echinodermata 2) Ctenophora
 3) **Hemichordata (Ch 4 Pg. 54)** 4) Coelenterata

168. Match List I with List II.

	List I		List II
A.	Vasectomy	I.	Oral method
B.	Coitus interruptus	II.	Barrier method
C.	Cervical caps	III.	Surgical method
D.	Saheli	IV	Natural method

Choose the correct answer from the options given below.

- 1) A – IV, B – II, C – I, D - III 2) A – III, B – I, C – IV, D - II
 3) A – III, B – IV, C – II, D – I 4) A – II, B – III, C – I, D - IV

(Ch 4 Pg. 60, 61)

169. Match List I with List II.

	List I (Cells)		List II (Secretion)
A.	Peptic cells	I.	Mucus
B.	Goblet cells	II.	Bile juice
C.	Oxyntic cells	III.	Proenzyme pepsinogen
D.	Hepatic cells	IV	HCl and intrinsic factor for absorption of vitamin B ₁₂

Choose the correct answer from the options given below.

- 1) A – II, B – IV, C – I, D - III 2) A – IV, B – III, C – II, D - I
 3) A – II, B – I, C – III, D – IV 4) A – III, B – I, C – IV D – II **(Ch 16 Pg. 262)**

170. In which blood corpuscles, the HIV undergoes replication and produces progeny viruses?

- 1) Eosinophils 2) **T_H cells (Ch 8 Pg. 156)**
 3) B-lymphocytes 4) Basophils

171. Vital capacity of lung is _____.

- 1) **IRV + ERV + TV (Ch 17 Pg. 272)** 2) IRV + ERV
 3) IRV + ERV + TV + RV 4) IRV + ERV + TV – RV

172. Given below are two statements

Statement I: A protein is imagined as a line, the left end represented by first amino acid (C-terminal) and the right end represented by last amino acid (N-terminal)

Statement II: Adult human haemoglobin, consists of 4 subunits (two subunits of α type and two subunits of β type)

In the light of the above statements, choose the correct answer from the options given below.

- 1) **Statement I is false but Statement II is true (Ch 9 Pg. 150)**
- 2) Both Statement I and Statement II are true
- 3) Both Statement I and statement II are false
- 4) Statement I is true but Statement II is false.

173. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Endometrium is necessary for implantation of blastocyst.

Reason R: In the absence of fertilization the corpus luteum degenerates that causes Disintegration of endometrium.

In the light of the above statements choose the correct answer from the options given below.

- 1) A is false but R is true
- 2) Both A and R are true and R is the correct explanation of A
- 3) **Both A and R are true but R is NOT the correct explanation of A (Ch 3 Pg. 51)**
- 4) A is true but R is false.

174. Select the correct group/set of Australian Marsupials exhibiting adaptive radiation.

- 1) Lemur, Anteater, Wolf
- 2) Tasmanian wolf, Bobcat, Marsupial mole
- 3) **Numbat, Spotted cuscus, Flying phalanger (Ch 7 Pg. 134)**
- 4) Mole, Flying squirrel, Tasmanian tiger cat

175. Match List I with List II.

	List I		List II
A.	Heroin	I.	Effect on cardiovascular system
B.	Marijuana	II.	Slow down body function
C.	Cocaine	III.	Painkiller
D.	Morphine	IV	Interfere with transport of dopamine

Choose the correct answer from the options given below.

- 1) A – III, B – IV, C – I, D - II
- 2) **A – II, B – I, C – IV, D – III (Ch 8 Pg. 159)**
- 3) A – I, B – II, C – III, D – IV
- 4) A – IV, B – III, C – II, D - I

181. Give below are two statements

Statement I: In prokaryotes, the positively charged DNA is held with some negatively charged proteins in a region called nucleoid.

Statement II: In eukaryotes, the negatively charged DNA is wrapped around the positively charged histone octamer to form nucleosome.

In the light of the above statements, choose the most appropriate answer from the options given below

- 1) **Statement I is false but Statement II is true (Ch 6 Pg. 99)**
- 2) Both Statement I and Statement II are true
- 3) Both Statement I and statement II are false
- 4) Statement I is true but Statement II is false.

182. Match List I with List II.

	List I		List II
A.	P – wave	I.	Beginning of systole
B.	Q – wave	II.	Repolarisation of ventricles
C.	QRS complex	III.	Depolarisation of atria
D.	T - wave	IV	Depolarisation of ventricles

Choose the correct answer from the options given below.

- 1) A – I, B – II, C – III, D - IV 2) **A – III, B – I, C – IV, D – II (Ch 18 Pg. 286)**
- 3) A – IV, B – III, C – II, D – I 4) A – II, B – IV, C – I, D - III

183. Which of the following statements is correct?

- 1) Algal Bloom decreases fish mortality
- 2) Eutrophication refers to increase in domestic sewage and waste water in lakes.
- 3) **Biomagnification refers to increase in concentration of the toxicant at successive trophic levels. (Ch 16 Pg. 275, 276)**
- 4) Presence of large amount of nutrients in water restricts ‘Algal Bloom’

184. Give below are two statements

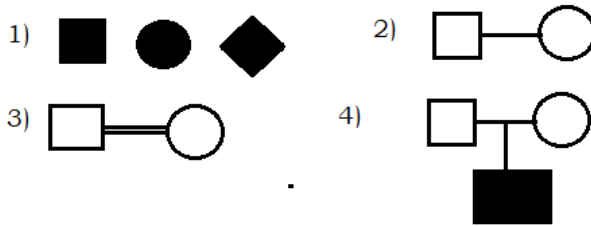
Statement I: RNA mutates at a faster rate.

Statement II: Viruses having RNA genome and shorter life span mutate and evolve faster.

In the light of the above statements, choose the most appropriate answer from the options given below

- 1) Statement I is false but Statement II is true
- 2) **Both Statement I and Statement II are true (Ch 6 Pg. 103)**
- 3) Both Statement I and statement II are false
- 4) Statement I is true but Statement II is false.

185. Which one of the following symbols represents mating between relative in human pedigree analysis? (3) (Ch 5 Pg. 88)



186. The parts of human brain that helps in regulation of sexual behaviour, expression of excitement, pleasure, rage feat etc are:

- 1) corpus callosum and thalamus
- 2) **limbic system and hypothalamus** (Ch 21 Pg. 321)
- 3) corpora quadrigemina and hippocampus
- 4) Brain stem and epithalamus

187. Match List I with List II.

	List I		List II
A.	Logistic growth	I.	Unlimited resources availability condition
B.	Exponential growth	II.	Limited resource availability condition
C.	Expanding age pyramid	III.	The percent individuals of pre reproductive age is largest flowed by reproductive and post reproductive
D.	Stable age pyramid	IV	The percent individuals of pre-reproductive and reproductive age group are same

- 1) A – II, B – IV, C – III, D - I
- 2) **A – II, B – I, C – III, D – IV**
(Ch 13 Pg. 227, 229, 231)
- 3) A – II, B – III, C – I, D – IV
- 4) A – II, B – IV, C – I, D - III

188. Which of the following statements correct?

- A. An excessive loss of body fluid from the body switches off osmoreceptors.
- B. ADH facilitates water reabsorption of prevent diuresis.
- C. ANF causes vasodilation
- D. ADH causes increase in blood pressure
- E. ADH is responsible for decrease in GFR

Choose the correct answer from the options given below.

- 1) C, D and E only
- 2) A and B only
- 3) **B, C and D only** (Ch 19 Pg. 297)
- 4) A, B and E only

189. Select the correct statements with reference to chordates.

- A. Presence of a mid-dorsal, solid and double nerve cord.
- B. Presence of closed circulatory system
- C. Presence of paired pharyngeal gill slits.
- D. Presence of dorsal heart
- E. Triploblastic pseudocoelomate animals

Choose the correct answer from the options given below.

- 1) C, D and E only
- 2) A, C and D only
- 3) **B and C only (Ch 4 Pg. 55)**
- 4) B, D and E only

190. Which of the following is characteristic feature of cockroach regarding sexual dimorphism?

- 1) Presence of anal cerci
- 2) Dark brown body colour and anal cerci
- 3) **Presence of anal styles (Ch 7 Pg. 112)**
- 4) Presence of sclerites

191. Give below are two statements

Statement I: During G_0 phase of cell cycle, the cell is metabolically inactive.

Statement II: The centrosome undergoes duplication during S phase of interphase

In the light of the above statements, choose the most appropriate answer from the options given below

- 1) **Statement I is false but Statement II is true (Ch 10 Pg. 163)**
- 2) Both Statement I and Statement II are true
- 3) Both Statement I and statement II are false
- 4) Statement I is true but Statement II is false

192. Which of the following are NOT under the control of thyroid hormone?

- A. Maintenance of water and electrolyte balance
- B. Regulation of basal metabolic rate
- C. Normal rhythm of sleep-wake cycle
- D. Development of immune system
- E. Support the process of R.B.Cs formation

Choose the correct answer from the options given below

- 1) D and E only
- 2) A and D only
- 3) B and C only
- 4) **C and D only (Ch 22 Pg. 335)**

193. Which one of the following is the sequence on corresponding coding strand, if the sequence of mRNA for 4meed is as follows.

5'AUCGAUCGAUCGAUCGAUCGAUCG 3'?

- 1) 3' ATCGATCGATCGATCGATCGT ATCGATCG 5'
- 2) 3' UAGCUAGCUAGCUAGCUA GCUAGC UAGC 3'
- 3) 3' UAGCUAGCUAGCUAGCUA GCUAGCUAGC 5'
- 4) **5' ATCGATCGATCGATCGATCTG ATCGATCG 3' (Ch 6 Pg. 108)**

194. The unique mammalian characteristics are:

- 1) pinna, monocondylic skull and mammary glands
- 2) hairs, tympanic membrane and mammary glands
- 3) **hairs, pinna and mammary glands (Ch 4 Pg. 59)**
- 4) hairs, pinna and indirect development

195. Which one of the following is NOT an advantage of inbreeding?

- 1) **It decreases the productivity of inbred population, after continuous inbreeding.**
- 2) **It decreases homozygosity. (Ch 9 Pg. 167)**
- 3) It exposes harmful recessive genes that are eliminated by selection.
- 4) Elimination of less desirable genes and accumulation of superior genes takes place due to it

196. Which of the following statements are correct?

- A. Basophils are most abundant cells of the total WRBCs
- B. Basophils secrete histamine, serotonin and heparin
- C. Basophils are involved in inflammatory response
- D. Basophils have kidney shaped nucleus
- E. Basophils are agranulocytes

Choose the correct answer from the options given below

- 1) A and B only
- 2) D and E only
- 3) C and E only
- 4) **B and C only (Ch 18 Pg. 279)**

197. Select the correct statements

- A. Tetrad formation is seen during Leptotene
- B. During Anaphase, the centromeres split and chromatids separate
- C. Terminalization takes place during pachytene
- D. Nucleolus, Golgi complex, and ER are reformed during Telophase
- E. Crossing over takes place between sister chromatids of homologous chromosome.

Choose the correct answer from the option given below

- 1) B and E only
- 2) A and C only
- 3) **B and D only (Ch 10 Pg. 168)**
- 4) A, C and E only

198. In cockroach, excretion is brought about by

- A. Phallic gland
- B. Urecose gland
- C/ Nephrocytes
- D. Fat body
- E. Collateral glands

Choose the correct answer from the options given below.

- 1) B and D only
- 2) A and E only
- 3) A, B and E only
- 4) **B, C and D only (Ch 7 Pg. 114)**

199. Match List I with List II.

	List I		List II
A.	Mast cells	I.	Ciliated epithelium
B.	Inner surface of bronchiole	II.	Areolar connective tissue
C.	Blood	III.	Cuboidal epithelium
D.	Tubular parts	IV	Specialised connective tissue

Choose The correct answer from the options given below

- 1) A – III, B – IV, C – II, D - I 2) A – I, B – II, C – IV, D - III
 3) A – II, B – III, C – I, D – IV 4) **A – II, B – I, C – IV, D - III**

(Ch 7 Pg. 101-103)

200. Which of the following statements are correct regarding skeletal muscle

- A. Muscle bundles are held together by collagenous connective tissue layer called fascicle
 B. Sarcoplasmic reticulum of muscle fibre is a store house of calcium ions
 C. Striated appearance of skeletal muscle fibre is due to distribution pattern of actin and myosin proteins.
 D. M line is considered as functional unit of contraction called sarcomere

Choose the most appropriate answer from the options given below

- 1) C and D only 2) A, B and C only
 3) **B and C only (Ch 20 Pg. 304)** 4) A, C and D only
