

**Time: 60 Minutes.****NEET 2022 (Q6)****Marks: 360****Note:**

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

<p>101. Given below are two statements: one is labelled as . Assertion (A) and the other is labelled as Reason (R). Assertion (A): Polymerase chain reaction is used in DNA amplification. Reason (R): The ampicillin resistant gene is used as a selectable marker to check transformation. In the light of the above statements, choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1) Both (A) and (R) are correct and (R) is the correct explanation of (A) 2) Both (A) and (R) are correct but (R) is not the correct explanation of (A) 3) (A) is correct but (R) is not correct 4) (A) is not correct but (R) is correct <p>102. The process of translation of mRNA to proteins begins as soon as:</p> <ol style="list-style-type: none"> 1) The small subunit of ribosome encounters mRNA. 2) The larger subunit of ribosome encounters mRNA 3) Both the subunits join together to bind with mRNA 4) The tRNA is activated and the larger subunit of ribosome encounters mRNA. 	<p>103. The gaseous plant growth regulator is used in plants to:</p> <ol style="list-style-type: none"> 1) speed up the malting process 2) promote root growth and roothair formation to increase the absorption surface 3) help overcome apical dominance 4) kill dicotyledonous weeds in the fields. <p>104. Exoskeleton of arthropods is composed of:</p> <ol style="list-style-type: none"> 1) Cutin 2) Cellulose 3) Chitin 4) Glucosamine <p>105. Which of the following is not observed during apoplastic pathway?</p> <ol style="list-style-type: none"> 1) Movement of water occurs through intercellular spaces and wall of the cells. 2) The movement does not involve crossing of cell membrane 3) The movement is aided by cytoplasmic streaming 4) Apoplast is continuous and does not provide any barrier to water movement. <p>106. Which of the following is not a method of <i>ex situ</i> conservation?</p> <ol style="list-style-type: none"> 1) In vitro fertilization 2) national Parks 3) Micropropagation 4) Cryopreservation
--	--

107. Match List I with List II

	List I		List II
(a)	Manganese	(i)	Activates the enzyme catalase
(b)	Magnesium	(ii)	Required for pollen germination
(c)	Boron	(iii)	Activates enzymes of respiration
(d)	Iron	(iv)	Functions in splitting of water during photosynthesis

Choose the correct answer from the options given below:

- 1) (a) – (iii), (b) – (iv), (c) – (i), (d) – (ii)
- 2) **(a) – (iv), (b) – (iii), (c) – (ii), (d) – (i)**
- 3) (a) – (iv), (b) – (i), (c) – (ii), (d) – (iii)
- 4) (a) – (iii), (b) – (i), (c) – (ii), (d) – (iv)

108. Which one of the following statement is not true regarding gel electrophoresis technique?

- 1) The process of extraction of separated DNA strand from gel is called elution.
- 2) The separated DNA fragments are stained by using ethidium bromide
- 3) **The presence of chromogenic substrate gives blue coloured DNA bands on the gel.**
- 4) Bright orange coloured bands of DNA can be observed in the gel when exposed to UV light.

109. Which one of the following is not true regarding the release of energy during ATP synthesis through chemiosmosis? It involves:

- 1) Breakdown of proton gradient
- 2) **Breakdown of electron gradient**
- 3) Movement of protons across the membrane to the stroma
- 4) Reduction of NADP to NADPH₂ on the stroma side of the membrane.

110. DNA polymorphism forms the basis of:

- 1) Genetic mapping
- 2) DNA finger printing
- 3) **Both genetic mapping and DNA finger printing**
- 4) Translation

111. Habitual loss and fragmentation over exploitation, alien species invasion and co-extinction are caused for:

- 1) Population explosion
- 2) Competition
- 3) **Biodiversity loss**
- 4) Natalty

112. The device which can remove particulate matter present in the exhaust from a thermal power plant is

- 1) STP
- 2) Incinerator
- 3) **Electrostatic Precipitator**
- 4) Catalytic Convertor

113. Which one of the following plants does not show plasticity?

- 1) Cotton
- 2) Coriander
- 3) Buttercup
- 4) **Maize**

114. Which one of the following statements cannot be connected to predation?

- 1) It helps in maintaining species diversity in a community
- 2) It might lead to extinction of a species
- 3) **Both the interacting species are negatively impacted**
- 4) It is necessitated by nature of maintain the ecological balance.

115. What amount of energy is released from glucose during lactic acid fermentation?
- 1) Approximately 15%
 - 2) More than 18%
 - 3) About 10%
 - 4) **Less than 7%**
116. Given below are two statements:
Statement I: Mendel studied seven pairs of contrasting traits in pea plants and proposed the Laws of Inheritance.
Statement II: Seven characters examined by Mendel in his experiment on pea plants were seed shape and colour, flower colour, pod shape and colour, flower position and stem height.
In the light of the above statements, choose the correct answer from the options given below.
- 1) **Both Statement I and Statement II are correct**
 - 2) Both Statement I and Statement II are incorrect
 - 3) Statement I is correct but Statement II is incorrect
 - 4) Statement I is incorrect but Statement II is correct
17. Given below are two statements:
Statement I: Decomposition is a process in which the detritus is degraded into simpler substances by microbes.
Statement II: Decomposition is faster if the detritus is rich in lignin and chitin.
In the light of the above statement, choose the correct answer from the options given below:
- 1) Both Statement I and Statement II are correct
 - 2) Both Statement I and Statement II are incorrect
 - 3) **Statement I is correct but Statement II is incorrect**
 - 4) Statement I is incorrect but Statement II is correct
118. Read the following statements and choose the set of correct statements.
- (a) Euchromatin is loosely packed chromatin
 - (b) Heterochromatin is transcriptionally active
 - (c) Histone octamer is wrapped by negatively charged DNA in nucleosome.
 - (d) Histones are rich in lysine and arginine
 - (e) A typical nucleosome contains 400 bp of DNA helix
- Choose the correct answer from the options given below:
- 1) (b), (d), (e) only
 - 2) **(a), (c), (d) only**
 - 3) (b), (e) only
 - 4) (a), (c), (e) only
119. Which one of the following plants shows vexillary aestivation and diadelphous stamens?
- 1) *Colchicum autumnale*
 - 2) ***Pisum sativum***
 - 3) *Allium c*
 - 4) *Solanum nigurum*
120. In old trees the greater part of secondary xylem is dark brown and resistant to insect attack due to:
- (a) secretion of secondary metabolites and their deposition in the lumen of vessels.
 - (b) deposition of organic compounds like tannins and resins in the central layers of stem,
 - (c) deposition of suberin and aromatic substances in the outer layer of stem
 - (d) deposition of tannins, gum, resin and aromatic substances in the peripheral layers of stem.
 - (e) presence of parenchyma cells, functionally active xylem elements and essential oils.
- Choose the correct answer from the options given below.
- 1) **(a) and (b) only**
 - 2) (c) and (d) only
 - 3) (d) and (e) only
 - 4) (b) and (d) only

*121. Read the following statements about the vascular bundles:

- (a) In roots, xylem and phloem in vascular bundle and arranged in an alternate manner along the different radii.
- (b) Conjoint closed vascular bundles do not possess cambium.
- (c) In open vascular bundles cambium is present in between xylem and phloem
- (d) The vascular bundles of dicotyledonous stem possess endarch protoxylem.
- (e) In monocotyledonous root, usually there are more than six xylem bundles present.

Choose the correct answer from the options given below:

- 1) (a), (b) and (d) only
- 2) (b), (c), (d) and (e) only
- 3) (a), (b), (c) and (d) only
- 4) (a), (c), (d) and (e) only

All statements are correct. Hence the question is inconclusive.

122. Which one of the following never occurs during mitotic cell division?

- 1) Spindle fibres attach to kinetochores of chromosomes
- 2) Movement of centrioles towards opposite poles
- 3) **Pairing of homologous chromosomes**
- 4) Coiling and condensation of the chromatids.

123. Production of Cucumber has increased manifold in recent years. Application of which of the following phytohormones has resulted in this increased yield as the hormone is known to produce female flowers in the plants.

- 1) ABA
- 2) Gibberellin
- 3) **Ethylene**
- 4) Cytokinin

124. The flowers are Zygomorphic in:

- (a) Mustard
- (b) Gulmohar
- (c) *Cassia*
- (d) *Datura*
- (e) Chilly

Choose the correct answer from the options given below:

- 1) (a), (b), (c) only
- 2) **(b), (c) only**
- 3) (d), (e) only
- 4) (c), (d), (e) only

125. Identify the correct set of statements:

- (a) The leaflets are modified into pointed hard thorns in *Citrus* and *Bougainvillea*
- (b) Axillary buds form slender and spirally coiled tendrils in cucumber and pumpkin
- (c) Stem is flattened and fleshy in *Opuntia* and modified to perform the function of leaves.
- (d) Rhizophora shows vertically upward growing
- (e) Subaerially growing stems in grasses and strawberry help in vegetative propagation.

Choose the correct answer from the options given acid ?

- 1) (b) and (c) Only
- 2) (a) and (d) Only
- 3) **(b),(c) (d) and (e) Only**
- 4) (a), (b), (d) and (e) Only

126. Which of the following is incorrectly matched ?

1)	Ectocarpus	Fucoxanthin
2)	Ulothrix	Mannitol
3)	Porphyra	Floridian Starch
4)	Volvox	Starch

127. Which one of the following produces nitrogen fixing nodules on the roots of *Alnus*?
- 1) *Rhizobium*
 - 2) *Frankia*
 - 3) *Rhodospirillum*
 - 4) *Beijernickia*
128. Identify the incorrect statement related to Pollination:
- 1) Pollination by water is quite rare in flowering plants
 - 2) Pollination by wind is more common amongst abiotic pollination
 - 3) Flowers produce foul odours to attract flies and beetles to get pollinated
 - 4) **Moths and butterflies are the most dominant pollinating agents among insects**
129. Given below are two statements:
- Statement I:** Cleistogamous flowers are invariably autogamous
- Statement II:** Cleistogamy is disadvantageous as there is no chance for cross pollination
- In the light of the above statements, choose the correct answer from the options given below:
- 1) **Both Statement I and Statement II are correct**
 - 2) Both Statement I and Statement II are incorrect
 - 3) Statement I is correct but Statement II is incorrect
 - 4) Statement I is incorrect but Statement II is correct
130. Hydrocolloid carrageen is obtained from:
- 1) Chlorophyceae and Phaeophyceae
 - 2) Phaeophyceae and Rhodophyceae
 - 3) **Rhodophyceae only**
 - 4) Phaeophyceae only
131. What is the net gain of ATP when each molecule of glucose is converted to two molecules of pyruvic acid?
- 1) Four
 - 2) Six
 - 3) **Two**
 - 4) Eight
132. The appearance of recombination nodules homologous chromosomes during meiosis characterizes
- 1) Synaptonemal complex
 - 2) Bivalent
 - 3) **Sites at which crossing over occurs**
 - 4) Terminalization
133. Given below are two statements:
- Statement I:**
- The primary CO_2 acceptor in C_4 plants is phosphoenolpyruvate and is found in the mesophyll cells.
- Statement II:**
- Mesophyll cells of C_4 plants lack RuBisCo enzyme. In the light of the above statements, choose the correct answer from the options given below:
- 1) **Both Statement I and Statement II are correct**
 - 2) Both Statement I and Statement II are incorrect
 - 3) Statement I is correct but Statement II is incorrect
 - 4) Statement I is incorrect but Statement II is correct
134. "Girdling Experiment" was performed by Plant Physiologists to identify the plant tissue through which:
- 1) Water is transported
 - 2) **food is transported**
 - 3) for both water and food transportation
 - 4) osmosis is observed

135. XO type of sex determination can be found in:

- 1) *Drosophila*
- 2) *Birds*
- 3) ***Grasshoppers***
- 4) *Monkeys*

136. Addition of more solutes in a given solution will:

- 1) raise its water potential
- 2) **lower its water potential**
- 3) make its water potential zero
- 4) not affect the water potential at all

137. If a geneticist uses the blind approach for sequencing the whole genome of an organism, followed by assignment of function to different segments, the methodology adopted by him is called as:

- 1) **Sequence annotation**
- 2) Gene mapping
- 3) Expressed sequence tags
- 4) Bioinformatics

138. Which of the following occurs due to the presence of autosomal linked dominant trait?

- 1) Sickle cell anaemia
- 2) **Myotonic dystrophy**
- 3) Haemophilia
- 4) Thalassemia

139. Given below are two statements: one is labelled as

Assertion (A) and the other is labelled as Reason (R)

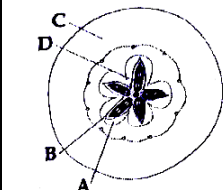
Assertion (A): Mendel's law of Independent assortment does not hold good for the genes that are located closely on the same chromosome.

Reason (R): Closely located genes assort independently.

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

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

140. Which part of the fruit, labelled in the given

<ol style="list-style-type: none"> 1) A → Mesocarp 2) B → Endocarp 3) C → Thalamus 4) D → Seed 	
---	---

141. Read the following statements on lipids and choose the correct set of statements:

- (a) Lecithin found in the plasma membrane glycolipid
- (b) Saturated fatty acids possess one or more C=C bonds
- (c) Gingely oil has lower melting point, remains as oil in winter
- (d) Lipids are generally insoluble in water but soluble in some organic solvents
- (e) When fatty acid is esterified with glycerol monoglycerides are formed

Choose the correct answer from the options below:

- 1) (a), (b) and (c) only
- 2) (a), (d) and (e) only
- 3) **(c), (d) and (e) only**
- 4) (a), (b) and (d) only

142. Transposons can be used during which one following?

- 1) Polymerase Chain Reaction
- 2) **Gene silencing**
- 3) Autoradiography
- 4) Gene sequencing

143. While explaining interspecific interaction population (+) sign is assigned for beneficial interaction, (-) sign is assigned for detrimental interaction and (0) for neutral interaction. Which of the following interactions can be assigned (+) for one species and (-) for another species involved the interaction?

- 1) **Predation**
- 2) Amensalism
- 3) Commensalism
- 4) Competition

144. In the following palindromic base sequences of DNA, which one can be cut easily by particular restriction enzyme?

- 1) 5' G A T A C T 3' ; 3' C T A T G A 5'
- 2) **5' G A A T T C 3' ; 3' C T T A A G 5'**
- 3) 5' C T C A G T 3' ; 3' G A G T C A 5'
- 4) 5' G T A T T C 3' ; 3' C A T A A G 5'

145. Which one of the following will accelerate phosphorus cycle?

- 1) Burning of fossil fuels
- 2) Volcanic activity
- 3) **Weathering of rocks**
- 4) Rain fall and storms

146. The entire fleet of buses in Delhi were converted to CNG from diesel. In reference of this, which one of the following statements is false?

- 1) CNG burns more efficiently than diesel
- 2) **The same diesel engine is used in CNG buses making the cost of conversion low**
- 3) It is cheaper than diesel
- 4) It can not be adulterated like diesel

147. Match the plant with the kind of the life cycle it exhibits:

	List I		List II
(a)	Spirogyra	(i)	Dominant diploid sporophyte vascular plant, with highly reduced male or female gametophyte
(b)	Fern	(ii)	Dominant haploid free-living gametophyte
(c)	Funaria	(iii)	Dominant diploid sporophyte alternating with reduced gametophyte called prothallus
(d)	Cycas	(iv)	Dominant haploid leafy gametophyte alternating with partially dependent multicellular sporophyte

Choose the correct answer form the options given below

- 1) (a)-(iv), (b)-(i), (c)- (ii), (d)-(iii)
- 2) **(a)-(ii), (b)-(iii), (c)- (iv), (d)-(i)**
- 3) (a)-(iii), (b)-(iv), (c)- (i), (d)-(ii)
- 4) (a)-(ii), (b)-(iv), (c)- (i), (d)-(iii)

148. Match List I with List II

	List I		List II
(a)	Metacentric chromosome	(i)	Centromere situated close to the end forming one extremely short and one very long arms
(b)	Acrocentric chromosome	(ii)	Centromere at the terminal end
(c)	Sub-metacentric	(iii)	Centromere in the middle forming two equal arms of chromosomes
(d)	Telocentric chromosome	(iv)	Centromere slightly away from the middle forming one shorter arm and one longer arm

Choose the correct answer from the options given below:

- 1) **(a)-(iii), (b)-(i), (c)- (iv), (d)-(ii)**
- 2) (a)-(i), (b)-(iii), (c)- (ii), (d)-(iv)
- 3) (a)-(ii), (b)-(iii), (c)- (iv), (d)-(i)
- 4) (a)-(i), (b)-(ii), (c)- (iii), (d)-(iv)

149. The anatomy of springwood shows some peculiar features. Identify the correct set of statements about springwood
- It is also called as the earlywood
 - IN spring season cambium produces xylem elements with narrow vessels
 - It is lighter in colour
 - The springwood along with autumnwood shows alternate concentric rings forming annual rings.
 - It has lower density
- Choose the correct answer from the options given below
- (a), (b), (d) and (e) only
 - (a), (c), (d) and (e) only**
 - (a), (b) and (d) only
 - (c), (d) and (e) only
150. What is the role of large bundle sheath cells found around the vascular bundles in C_4 plants?
- To provide the site for photorespiratory pathway
 - To increase the number of chloroplast for the operation of Calvin cycle**
 - To enable the plant to tolerate high temperature
 - To protect the vascular tissue from high light intensity
151. Given below are two statements
- Statement I :** Fatty acids and glycerols cannot be absorbed into the blood.
- Statement II :** Specialized lymphatic capillaries called lacteals carry chylomicrons into lymphatic vessels and ultimately into the blood.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- Both statement I and Statement II are correct**
 - Both statement I and Statement II are incorrect.
 - Statement I is correct but Statement II is incorrect
 - Statement I is incorrect but Statement II is correct.
152. Given below are two statements
- Statement I :**
The release of sperms into the seminiferous tubules is called spermiation
- Statement II :**
Spermatogenesis is the process of formation of sperms from spermatogonia.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- Both Statement I and Statement II are correct
 - Both Statement I and Statement II are incorrect.**
 - Statement I is correct but Statement II is incorrect
 - Statement I is incorrect but Statement II is correct.
153. Which of the following is not the function of conducting part of respiratory system?
- It clears inhaled air from foreign particles
 - Inhaled air is humidified
 - Temperature of inhaled air is brought to body temperature
 - Provides surface for diffusion of O_2 and CO_2**
154. Identify the microorganism which is responsible for the production of an immunosuppressive molecule cyclosporine A.
- Trichoderma polysporum***
 - Clowtridium butylicum*
 - Aspergillus niger*
 - Streptococcus cerevisiae*
155. Under normal physiological conditions in human being every 100 ml of oxygenated blood can deliver ____ ml of O_2 to the tissues.
- 2 ml
 - 5 ml**
 - 4 ml
 - 10 ml

156. Tegmina in cockroach, arises from :
- 1) Prothorax
 - 2) **Mesothorax**
 - 3) Metathorax
 - 4) Prothorax and Mesothorax
157. *In-situ* conservation refers to :
- 1) **Protect and conserve the whole ecosystem**
 - 2) Conserve only high risk species
 - 3) Conserve only endangered species
 - 4) Conserve only extinct species
158. Detritivores breakdown detritus into smaller particles. This process is called:
- 1) Catabolism
 - 2) **Fragmentation**
 - 3) Humification
 - 4) Decomposition
159. A dehydration reaction links two glucose molecules to produce maltose. If the formula for glucose is $C_6H_{12}O_6$ then what is the formula for maltose ?
- 1) $C_{12}H_{20}O_{10}$
 - 2) $C_{12}H_{24}O_{12}$
 - 3) **$C_{12}H_{22}O_{11}$**
 - 4) $C_{12}H_{24}O_{11}$
160. Identify the asexual reproductive structure associated with *Penicillium*:
- 1) Zoospores
 - 2) **Conidia**
 - 3) Germmules
 - 4) Buds
161. Select the incorrect statement with reference to mitosis
- 1) All the chromosomes lie at the equator at metaphase
 - 2) **Spindle fibres attach to centromere of chromosomes.**
 - 3) Chromosomes decondense at telophase
 - 4) Splitting of centromere occurs at anaphase.
162. Which of the following statements with respect to Endoplasmic Reticulum is incorrect
- 1) RER has ribosomes attached to ER
 - 2) SER is devoid of ribosomes
 - 3) **In prokaryotes only RER are present**
 - 4) SER are the sites for lipid synthesis
163. In the taxonomic categories which hierarchial arrangement in ascending order is correct in case of animals?
- 1) **Kingdom, Phylum, Class, Order, Family, Genus, Species**
 - 2) Kingdom, Class, Phylum, Family, Order, Genus, Species
 - 3) Kingdom, Order, Class, Phylum, Family, Genus, Species
 - 4) Kingdom, Order, Phylum, Class, Family, Genus, Species
164. In which of the following animals, digestive tract has additional chambers like crop and gizzard ?
- 1) *Corpus, Columba, Chameleon*
 - 2) *Bufo, Balaenoptera, Bangarus*
 - 3) *Catla, Columba, Crocodilus*
 - 4) ***Pavo, Psittacula, Corvus***
165. Given below are two statements
- Statement I** : Mycoplasma can pass through less than 1 micron filter size :
- Statement II** : Mycoplasma are bacteria with cell wall
- In the light of the above statements, choose the most appropriate answer from the options given below:
- 1) Both statement I and Statement II are correct
 - 2) Both statement I and Statement II are incorrect.
 - 3) **Statement I is correct but Statement II is incorrect**
 - 4) Statement I is incorrect but Statement II is correct.

166. Which of the following is not a connective tissue ?
- 1) Blood
 - 2) Adipose tissue
 - 3) Cartilage
 - 4) **Neuroglia**
167. Nitrogenous waste is excreted in the form of pellet or paste by :
- 1) *Ornithorhynchus*
 - 2) *Salamandra*
 - 3) *Hippocampus*
 - 4) ***Pavo***
168. Given below are two statements : One is labelled as
- Assertion (A) :** All vertebrates are chordates but all chordates are not vertebrates.
- Reason (R) :** Notochord is replaced by vertebral column in the adult vertebrates.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- 1) **Both (A) and (R) are correct and (R) is the correct explanation of (A)**
 - 2) Both (A) and (R) are correct but (R) is not the correct explanation of (A).
 - 3) (A) is correct but (R) is not correct
 - 4) (A) is not correct but (R) is correct.
169. Which of the following is a correct match for disease and its symptoms ?
- 1) **Arthritis – Inflamed joints**
 - 2) Tetany – high Ca^{2+} level causing rapid spasms.
 - 3) Myasthenia gravis – Genetic disorder resulting in weakening and paralysis of skeletal muscle
 - 4) Muscular dystrophy – An autoimmune disorder causing progressive degeneration of skeletal muscle
170. Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R)
- Assertion (A):** Osteoporosis is characterized by decreased bone mass and increased chances of fractures.
- Reason (R):** Common cause of osteoporosis is increased levels of estrogen.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- 1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
 - 2) Both (A) and (R) are correct but (R) is not the correct explanation of (A).
 - 3) **(A) is correct but (R) is not correct**
 - 4) (A) is not correct but (R) is correct.
171. In an *E.coli* strain *i* gene gets mutated and its product cannot bind the inducer molecule. If growth medium is provided with lactose, what will be the outcome ?
- 1) only *z* gene will get transcribed
 - 2) *z*, *y* genes will be transcribed
 - 3) ***z*, *y*, *a* genes will not be translated**
 - 4) RNA polymerase will bind the promoter region.
172. If the length of a DNA molecule is 1.1 metres, what will be the appropriate number of base pairs?
- 1) **3.3×10^9 bp**
 - 2) 6.6×10^9 bp
 - 3) 3.3×10^6 bp
 - 4) 6.6×10^6 bp

173. Which of the following statements are true for spermatogenesis but do not hold true for Oogenesis ?
- It results in the formation of haploid gametes
 - Differentiation of gamete occurs after the completion of meiosis
 - Meiosis occurs continuously in the mitotically dividing stem cell population
 - It is controlled by the Luteinising hormone (LH) and Follicle Stimulating Hormone (FSH) secreted by the anterior pituitary
 - It is initiated at puberty
- Choose the most appropriate answer from the options given below :
- (c) and (e) only
 - (b) and (c) only
 - (b), (d) and (e) only
 - (b), (c) and (e) only**
174. Which of the following is present between adjacent bones of the vertebral column ?
- Intercalated discs
 - Cartilage**
 - Areolar tissue
 - Smooth muscle
175. Regarding Meiosis, which of the statements is incorrect ?
- There are two stages in Meiosis, Meiosis I and II
 - DNA replication occurs in S phase of Meiosis II**
 - Pairing of homologous chromosomes and recombination occurs in Meiosis-I
 - Four haploid cells are formed at the end Meiosis II
176. Given below are two statements:
- Statement I:**
Autoimmune disorder is a condition where body defense mechanism recognizes its own cells as foreign bodies
- Statement II:**
Rheumatoid arthritis is a condition where body does not attack self cells.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- Both statement I and Statement II are correct
 - Both statement I and Statement II are incorrect.
 - Statement I is correct but Statement II is incorrect**
 - Statement I is incorrect but Statement II is correct.
177. Natural selection where more individuals acquired specific character value other than the most character value, leads to
- Stabilising change
 - Directional change**
 - Disruptive change
 - Random change
178. Given below are two statements:
- Statement I:**
The coagulum is formed of network of threads called thrombins.
- Statement II:**
Spleen is the graveyard of erythrocytes.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- Both statement I and Statement II are correct
 - Both statement I and Statement II are incorrect.
 - Statement I is correct but Statement II is incorrect
 - Statement I is incorrect but Statement II is correct.**

179. Breeding crops with higher levels of vitamins and minerals or higher proteins and healthier fats is called
- 1) Bio-magnification
 - 2) Bio-remediation
 - 3) **Bio-fortification**
 - 4) Bio-accumulation
180. In gene therapy of Adenosine Deaminase (ADA) deficiency, the patient requires periodic infusion of genetically engineered lymphocytes because
- 1) Retroviral vector is introduced into these lymphocytes.
 - 2) Gene isolated from marrow cells producing ADA is introduced into cells at embryonic stages
 - 3) Lymphocytes from patient's blood are grown in culture, outside the body
 - 4) **Genetically engineered lymphocytes are not immortal cells.**
181. At which stage of life the oogenesis process is initiated ?
- 1) Puberty
 - 2) **Embryonic development stage**
 - 3) Birth
 - 4) Adult
182. Lippe's loop is a type of contraceptive used as :
- 1) Cervical barrier
 - 2) Vault barrier
 - 3) **Non-Medicated IUD**
 - 4) Copper released IUD
183. Which of the following functions is not performed by secretions from salivary glands ?
- 1) Control bacterial population in mouth
 - 2) Digestion of complex carbohydrates
 - 3) Lubrication of oral cavity
 - 4) **Digestion of disaccharides**
184. If '8' *Drosophila* in a laboratory population of '80' died during a week, the death rate in the population is _____ individuals per *Drosophila* per week.
- 1) **0.1**
 - 2) 10
 - 3) 1.0
 - 4) zero
185. Given below are two statements:
- Statement I:**
Restriction endonucleases recognise specific sequence to cut DNA known as palindromic nucleotide sequence.
- Statement II:**
Restriction endonucleases cut the DNA strand a little away from the centre of the palindromic site.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- 1) **Both statement I and Statement II are correct**
 - 2) Both statement I and Statement II are incorrect.
 - 3) Statement I is correct but Statement II is incorrect
 - 4) Statement I is incorrect but Statement II is correct.
186. Which of the following is a correct statement ?
- 1) **Cyanobacteria are a group of autotrophic organisms classified under Kingdom Monera**
 - 2) Bacteria are exclusively heterotrophic organisms
 - 3) Slime moulds are saprophytic organism classified under Kingdom Monera
 - 4) Mycoplasma have DN, Ribosome and cell wall.

187. Statements related to human Insulin are given below.

Which statement(s) is / are correct about genetically engineered Insulin ?

- Pro-hormone insulin contain extra stretch of C-peptide
 - A-peptide and B-peptide chains of insulin were produced separately in *E.coli*, extracted and combined by creating disulphide bond between them.
 - Insulin used for treating Diabetes was extracted from Cattles and Pigs
 - Pro-hormone Insulin needs to be processed for converting into a mature and function hormone
 - Some patients develop allergic reactions to the foreign insulin.
- a), b) and d) only
 - b) only**
 - c) and d) only
 - c), d) and e) only

188. Given below are two statements:

Statement I:

In a scrubber the exhaust from the thermal plant is passed through the electric wires to charge the dust particles.

Statement II:

Particulate matter (PM 2.5) can not be removed by scrubber but can be removed by an electrostatic precipitator.

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

- Both statement I and Statement II are correct
- Both statement I and Statement II are incorrect.**
- Statement I is correct but Statement II is incorrect
- Statement I is incorrect but Statement II is correct.

189. The recombination frequency between the genes a & c is 5 %, b & c is 15 %, b & d is 9 %, a & b is 20 %, c & d is 24 % and a & d is 29 %. What will be the sequence of these genes on a linear chromosome ?

- a, d, b, c
- d, b, a, c
- a, b, c, d
- a, c, b d**

190. Match List I with List II:

Column I		Column II	
a)	Glycogen	i)	Hormone
b)	Globulin	ii)	Biocatalyst
c)	Steroids	iii)	Antibody
d)	Thrombin	v)	Storage product

Choose the correct answer from the options given below

- (a) – (iii), (b) – (ii), (c) – (iv), (d) – (i)
- (a) – (iv), (b) – (ii), (c) – (i), (d) – (iii)
- (a) – (ii), (b) – (iv), (c) – (iii), (d) – (i)
- (a) – (iv), (b) – (iii), (c) – (i), (d) – (ii)**

191. Match List –I with List – II with respect to met of Contraception and their respective actions.

Column I		Column II	
a)	Diaphragms	i)	Inhibit ovulation and implantation
b)	Contraceptive Pills	ii)	Increase phagocytosis sperm within Uterus
c)	Intra Uterine Devices	iii)	Absence of Menstrual and ovulation following parturition
d)	Lactational Amenorrhea	v)	They over the cervix blocking the entry of sperms

Choose the correct answer from the options given below

- (a) – (iv), (b) – (i), (c) – (iii), (d) – (ii)
- (a) – (iv), (b) – (i), (c) – (ii), (d) – (iii)**
- (a) – (ii), (b) – (iv), (c) – (i), (d) – (iii)
- (a) – (iii), (b) – (ii), (c) – (i), (d) – (iv)

192. Which of the following are not the effect of Parathyroid hormone ?
- Stimulates the process of bone resorption
 - Decreases Ca^{2+} level in blood
 - Reabsorption of Ca^{2+} by renal tubules
 - Decreases the absorption of Ca^{2+} digested food
 - Increases metabolism of carbohydrates
- Choose the most appropriate answer from options given below :
- a) and c) only
 - b), d) and e) only**
 - a) and e) only
 - b) and c) only
193. Select the incorrect statement with respect to acquired immunity
- Primary response is produced when our body encounters a pathogen for the first time.
 - Anamnestic response is elicited on subsequent encounters with the same pathogen
 - Anamnestic response is due to memory of first encounter
 - Acquired immunity is non-specific type of defense present at the time of birth**
194. Ten *E. coli* cells with ^{15}N -dsDNA are incubated in medium containing ^{14}N nucleotide. After 60 minutes, how many *E. coli* cells will have DNA totally free from ^{15}N ?
- 20 cells
 - 40 cells
 - 60 cells**
 - 80 cells
195. If a colour blind female marries a man whose mother was also colour blind, what are the chances of her progeny having colour blindness ?
- 25 %
 - 50 %
 - 75 %
 - 100 %**
196. Which of the following is not a desirable feature of a cloning vector ?
- Presence of origin of replication
 - Presence of a marker gene
 - Presence of a single restriction enzyme site
 - Presence of two or more recognition sites**
197. Match List I with List II
- | Column I | | Column II | |
|----------|----------------|-----------|---------------------------------|
| a) | Bronchioles | i) | Dense Regular Connective Tissue |
| b) | Goblet cell | ii) | Loose Connective Tissue |
| c) | Tendons | iii) | Glandular Tissue |
| d) | Adipose Tissue | v) | Ciliated Epithelium |
- Choose the correct answer from the options given below
- (a) – (iv), (b) – (iii), (c) – (i), (d) – (ii)**
 - (a) – (i), (b) – (ii), (c) – (iii), (d) – (iv)
 - (a) – (ii), (b) – (i), (c) – (iv), (d) – (iii)
 - (a) – (iii), (b) – (iv), (c) – (ii), (d) – (i)
198. Which of the following statements is correct?
- The atrio-ventricular node (AVN) generates an action potential to stimulate atrial contraction
 - The tricuspid and the bicuspid valves open due to the pressure exerted by the simultaneous contraction of the atria
 - Blood moves freely from atrium to the ventricle during joint diastole**
 - Increased ventricular pressure causes closing of the semilunar valves.

199. Select the incorrect statement regarding synapses.

- 1) The membranes of presynaptic and postsynaptic neurons are in close proximity in an electrical synapse.
- 2) Electrical current can flow directly from one neuron into the other across the electrical synapse.
- 3) Chemical synapses use neurotransmitters
- 4) **Impulse transmission across a chemical synapse is always faster than that across an electrical synapse**

200. Which of the following statements is not true ?

- 1) Analogous structures are a result of convergent evolution
- 2) Sweet potato and potato is an example of analogy
- 3) Homology indicates common ancestry
- 4) **Flippers of penguins and dolphins are a pair of homologous organs.**
