

हमारा विश्वास... हर एक विद्यार्थी है स्यास

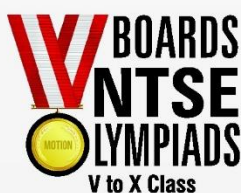
NEET

12th Sep. 2021

QUESTION PAPER
WITH
ANSWER



BIOLOGY
CODE – P2



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SECTION A
(BIOLOGY : BOTANY)

101. Mutations in plant cells can be induced by:

- (1) Zeatin
- (2) Kinetin
- (3) Infrared rays
- (4) Gamma rays

Ans. (4)

102. Which of the following is an incorrect statement?

- (1) Nuclear pores act as passages for proteins and RNA molecules in both directions between nucleus and cytoplasm.
- (2) Mature sieve tube elements possess as conspicuous nucleus and usual cytoplasmic organelles.
- (3) Microbodies are present both in plant and animal cells.
- (4) The perinuclear space forms a barrier between the materials present inside the nucleus and that of the cytoplasm.

Ans. (2)

103. The term used for transfer of pollen grains from anthers of one plant to stigma of a different plant which, during pollination, brings genetically different types of pollen grains to stigma, is

- (1) Cleistogamy
- (2) Xenogamy
- (3) Geitonogamy
- (4) Chasmogamy

Ans. (2)

104. The factor that leads to Founder effect in a population is :

- (1) Genetic drift
- (2) Natural selection
- (3) Genetic recombination
- (4) Mutation

Ans. (1)

105. Genera like Selaginella and Salvinia produce two kinds of spores. Such plants are known as

- (1) Heterosporous
- (2) Homosorus
- (3) Heterosorus
- (4) Homosporous

Ans. (1)



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106. The production of gametes by the parents, formation of zygotes, the F_1 and F_2 plants, can be understood from a diagram called:

- (1) Net square
- (2) Bullet square
- (3) Punch square
- (4) Punnett square

Ans. (4)

107. Diadelphous stamens are found in :

- (1) China rose and citrus
- (2) China rose
- (3) Citrus
- (4) Pea

Ans. (4)

108. Match List-I with List-II

	List-I		List-II
(a)	Cohesion	(i)	More attraction in liquid phase
(b)	Adhesion	(ii)	Mutual attraction among water molecules
(c)	Surface tension	(iii)	Water loss in liquid phase
(d)	Guttation	(iv)	Attraction towards polar surfaces

Choose the **correct** answer from the options given below

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

Ans. (2)

109. Gemmae are present in:

- (1) Some Liverworts
- (2) Mosses
- (3) Pteridophytes
- (4) Some Gymnosperms

Ans. (1)



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110. A typical angiosperm embryo sac at maturity is:

- (1) 8-nucleate and 8-celled
- (2) 8-nucleate and 7-celled
- (3) 7-nucleate and 8-celled
- (4) 7-nucleate and 7-celled

Ans. (2)

111. Inspite of interspecific competition in nature, which mechanism the competing species might have evolved for their survival?

- (1) Predation
- (2) Resource partitioning
- (3) Competitive release
- (4) Mutalism

Ans. (2)

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

- (1) Polysaccharides
- (2) RNA
- (3) DNA
- (4) Histones

Ans. (3)

113. DNA strands on a gel stained with ethidium bromide when viewed under UV radiation, appear as:

- (1) Bright blue bands
- (2) Yellow bands
- (3) Bright orange bands
- (4) Dark red bands

Ans. (3)

114. Which of the following algae produce Carrageen?

- (1) Blue-green algae
- (2) Green algae
- (3) Brown algae
- (4) Red algae

Ans. (4)



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115. Plants follow different pathways in response to environment or phases of life to form different kinds of structures. This ability is called

- (1) Maturity
- (2) Elasticity
- (3) Flexibility
- (4) Plasticity

Ans. (4)

116. Which of the following plants is monoecious?

- (1) Cycas circinalis
- (2) Carica papaya
- (3) Chara
- (4) Marchantia polymorpha

Ans. (3)

117. The site of perception of light in plants during photoperiodism is:

- (1) Leaf
- (2) Shoot apex
- (3) Stem
- (4) Axillary bud

Ans. (1)

118. The amount of nutrients, such as carbon, nitrogen, phosphorous and calcium present in the soil at any given time, is referred as:

- (1) Standing crop
- (2) Climax
- (3) Climax community
- (4) Standing state

Ans. (4)

119. Match List-I with List_II.

	List-I		List-II
(a)	Lenticels	(i)	Phellogen
(b)	Cork cambium	(ii)	Suberin deposition
(c)	Secondary cortex	(iii)	Exchange of gases
(d)	Cork	(iv)	Phelloderm

Choose the **correct** answer from the options given below:

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

Ans. (3)



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120. Which of the following stages of meiosis involves division of centromere?

- (1) Telophase II
- (2) Metaphase I
- (3) Metaphase II
- (4) Anaphase II

Ans. (4)

121. The first stable product of CO_2 fixation in sorghum is:

- (1) Phosphoglyceric acid
- (2) Pyruvic acid
- (3) Oxaloacetic acid
- (4) Succinic acid

Ans. (3)

122. Which of the following statements in **not** correct?

- (1) Pyramid of numbers in a grassland ecosystem is upright.
- (2) Pyramid of biomass in sea is generally inverted.
- (3) Pyramid of biomass in sea is generally upright
- (4) Pyramid of energy is always upright.

Ans. (3)

123. Which of the following algae contains mannitol as reserve food material?

- (1) Ulothrix
- (2) Ectocarpus
- (3) Gracilaria
- (4) Volvox

Ans. (2)

124. When gene targetting involving gene amplification is attempted in an individual's tissue to treat disease, it is known as :

- (1) Safety testing
- (2) Biopiracy
- (3) Gene therapy
- (4) Molecular diagnosis

Ans. (3)



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125. Match List-I with List-II

List-I		List-II	
(a)	Cristae	(i)	Primary constriction in chromosome
(b)	Thylakoids	(ii)	Disc-shaped sacs in Golgi apparatus
(c)	Centromere	(iii)	Infoldings in mitochondria
(d)	Cisternae	(iv)	Flattened membranous sacs in stroma of plastids

Choose the correct answer from the options given below:

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

Ans. (4)

126. Match List-I with List-II.

dList-I		List-II	
(a)	Protoplast fusion	(i)	Totipotency
(b)	Plant tissue culture	(ii)	Pomato
(c)	Meristem culture	(iii)	Somaclones
(d)	Micropropagation	(iv)	Virus free plants

Choose the correct answer from the options given below:

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

Ans. (3)

127. Complete the flow chart on central dogma.

- (1) (a)-Transduction; (b)-Translation;
 (c)-Replication; (d)-Protein
 (2) (a)-Replication; (b)-Transcription;
 (c)-Transduction; (d)-Protein
 (3) (a)-Translation; (b)-Replication;
 (c)-Transcription; (d) -Transduction
 (4) (a)-Replication; (b) Transcription
 (c)-Translation; (d)-Protein

Ans. (4)



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128. In the equation $GPP - R = NPP$ R represents:

- (1) Respiration losses
- (2) Radiant energy
- (3) Retardation factor
- (4) Environment factor

Ans. (1)

129. When the centromere is situated in the middle of two equal arms of chromosomes, the chromosome is referred as :

- (1) Acrocentric
- (2) Metacentric
- (3) Telocentric
- (4) Sub-Metacentric

Ans. (2)

130. The plant hormone used to destroy weeds in a field

- (1) IBA
- (2) IAA
- (3) NAA
- (4) 2,4-D

Ans. (4)

131. Which of the following are **not** secondary metabolites in plants?

- (1) Rubber, gums
- (2) Morphine, codeine
- (3) Amino acids, glucose
- (4) Vinblastin, curcumin

Ans. (3)

132. Amensalism can be represented as:

- (1) Species A (+); Species B (0)
- (2) Species A (-); Species B (0)
- (3) Species A (+); Species B (+)
- (4) Species A (-); Species B (-)

Ans. (2)

133. Which of the following is not an application of PCR (Polymerase Chain Reaction)?

- (1) Detection of gene mutation
- (2) Molecular diagnosis
- (3) Gene amplification
- (4) Purification of isolated protein

Ans. (4)



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134. Which of the following is a correct sequence of steps in a PCR (Polymerase Chain Reaction) ?

- (1) Annealing, Denaturation, Extension
- (2) Denaturation, Annealing, Extension
- (3) Denaturation, Extension, Annealing
- (4) Extension, Denaturation, Annealing

Ans. (2)

135. Match List-I with List-II.

	List-I		List-II
(a)	Cell with active cell division capacity	(i)	Vascular tissue
(b)	Tissue having all cells similar in structure and function	(ii)	Meristematic tissue
(c)	Tissue having different types of cells	(iii)	Sclereids
(d)	Dead cells with highly thickened walls and narrow lumen	(iv)	Simple tissue

Select the correct answer from the option given below :

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

Ans. (2)

136. Which of the following statements is correct?

- (1) Some of the organisms can fix atmospheric nitrogen in specialized cells called sheath cells.
- (2) Fusion of two cells is called Karyogamy.
- (3) Fusion of protoplasts between two motile or non-motile gametes is called Plasmogamy.
- (4) Organisms that depend on living plants are called saprophytes.

Ans. (3)



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137. In the exponential growth equation

$N_t = N_0 e^{rt}$, **e** represents :

- (1) The base of geometric logarithms
- (2) The base of number logarithms
- (3) The base of exponential logarithms
- (4) The base of natural logarithms

Ans. (4)

138. In some members of Which of the following pairs of families, pollen grains retain their viability for months after release?

- (1) Rosaceae ; Leguminosae
- (2) Poaceae ; Rosaceae
- (3) Poaceae ; Leguminosae
- (4) Poaceae ; Solanaceae

Ans. (1)

139. Match column-I with column-II

Column-I

Column-II

- | | |
|------------------|--|
| (a) Nitrococcus | (i) Denitrification |
| (b) Rhizobium | (ii) Conversion of ammonia to nitrite |
| (c) Thiobacillus | (iii) Conversion of nitrite to nitrate |
| (d) Nitrobacter | (iv) Conversion of atmospheric nitrogen to ammonia |

Choose the **correct** answer from options given below.

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

Ans. (2)



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140. Match List-I with List-II.

	List-I		List-II
(a)	S 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)	DNA replication

Choose the correct answer from the options given below :

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

Ans. (4)

141. Match List -I with List -II

	List -I		List -II
(a)	Protein	(i)	C = C double bonds
(b)	Unsaturated fatty acid	(ii)	Phosphodiester bonds
(c)	Nucleic acid	(iii)	Glycosidic bonds
(d)	Polysaccharide	(iv)	Peptide bonds

Choose the **correct** answer from the options given below.

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

Ans. (2)



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142. Match Column-I with Column-II

Column-I	Column-II
(a) $\% \text{K}_{(5)}\text{C}_{1+2+(2)}\text{A}_{(9)+1}\text{G}_1$	(i) Brassicaceae
(b) $\oplus \text{K}_{(5)}\text{C}_{(5)}\text{A}_5\text{G}_2$	(ii) Liliaceae
(c) $\oplus \text{P}_{(3+3)}\text{A}_{3+3}\text{G}_{(3)}$	(iii) Fabaceae
(d) $\oplus \text{K}_{2+2}\text{C}_4\text{A}_2\text{G}_{(2)}$	(iv) Solanaceae

Select the **correct** answer from the options given below

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

Ans. (2)

143. What is the role of RNA polymerase III in the Process of transcription in eukaryotes ?

- (1) Transcribes only snRNAs
- (2) Transcribes rRNAs (28S, 18S and 5.8S)
- (3) Transcribes tRNA, 5s rRNA and snRNA
- (4) Transcribes precursor of Mrna

Ans. (3)

144. Which of the following statements is **incorrect** ?

- (1) Cyclic photophosphorylation involves both PSI and PSII.
- (2) Both ATP and $\text{NADPH} + \text{H}^+$ are synthesized during non-cyclic photophosphorylation.
- (3) Stroma lamellae have PS I only and lack NADP reductase.
- (4) Grana lamellae have both PS I and PS II.

Ans. (1)

145. Now a days it is possible to detect the mutated gene causing cancer by allowing radioactive probe to hybridise its complimentary DNA in a clone of cells, followed by its detection using autoradiography because :

- (1) Mutated gene does not appear on photographic film as the probe has complementarity with it.
- (2) Mutated gene partially appears on a photographic film.
- (3) Mutated gene completely and clearly Appears on a photographic film.
- (4) Mutated gene does not appear on a photographic film as the probe has no complementarity with it.

Ans. (4)



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146. DNA fingerprinting involves identifying differences in some specific regions in DNA sequence, called as:

- (1) Polymorphic DNA
- (2) Satellite DNA
- (3) Repetitive DNA
- (4) Single nucleotides

Ans. (3)

147. Which of the following statements is **incorrect** ?

- (1) Oxidation-reduction reactions produce proton gradient in respiration.
- (2) During aerobic respiration, role of oxygen is limited to the terminal stage.
- (3) In ETC (Electron Transport Chain), one molecule of $\text{NADH} + \text{H}^+$ gives rise to 2 ATP molecules, and one FADH_2 gives rise to 3 ATP molecules.
- (4) ATP is synthesized through complex V.

Ans. (3)

148. Plasmid pBR322 has PstI restriction enzyme site within gene amp^R that confers ampicillin resistance. If this enzyme is used for inserting a gene for β -galactoside production and the recombinant plasmid is inserted in an E.coli strain

- (1) It will be able to produce a novel protein with dual ability.
- (2) It will not be able to confer ampicillin resistance to the host cell.
- (3) The transformed cells will have the ability to resist ampicillin as well as produce β -galactoside.
- (4) It will lead to lysis of host cell.

Ans. (2)

149. Identify the correct statement.

- (1) Split gene arrangement is characteristic of prokaryotes.
- (2) In capping, methyl guanosine triphosphate is added to the 3' end of hnRNA
- (3) RNA polymerase binds with Rho factor to terminate the process of in bacteria.
- (4) The coding strand in a transcription unit is copied to an mRNA.

Ans. (3)



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150. Select the correct pair.

(1)	Loose parenchyma cells rupturing the epidermis and forming a lens shaped opening in bark	Spongy parenchyma
(2)	Large colorless empty cells in the epidermis of grass leaves	Subsidiary cells
(3)	In dicot leaves vascular bundles are surrounded by large thick-walled cells	Conjunctive tissue
(4)	Cells of medullary rays that form part of cambial ring	Interfascicular cambium

Ans. (4)



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SECTION B
(BIOLOGY : ZOOLOGY)

151. Match List – I with List - II

List I		List-II	
(a)	Aspergillus niger	(i)	Acetic Acid
(b)	Acetobacter aceti	(ii)	Lactic Acid
(c)	Clostridium butylicum	(iii)	Citric Acid
(d)	Lactobacillus	(iv)	Butyric Acid

Choose the **correct** answer from the options given below.

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

Ans. (2)

152. Succus entericus is referred to as :

- (1) Chyme
- (2) Pancreatic juice
- (3) Intestinal juice
- (4) Gastric juice

Ans. (3)

153. Receptors for sperm binding in mammals are present on:

- (1) Zona pellucida
- (2) Corona radiata
- (3) Vitelline membrane
- (4) Perivitelline space

Ans. (1)



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154. The fruit fly has 8 chromosomes ($2n$) in each cell. During interphase of Mitosis if the number of chromosomes at G_1 phase is 8, what would be the number of chromosomes after S phase ?

- (1) 32
- (2) 8
- (3) 16
- (4) 4

Ans. (2)

155. Select the favourable conditions required for the formation of oxyhaemoglobin at the alveoli.

- (1) Low pO_2 , low pCO_2 , more H^+ , higher temperature
- (2) High pO_2 , low pCO_2 , less H^+ , lower temperature
- (3) Low pO_2 , high pCO_2 , more H^+ , higher temperature
- (4) High pO_2 , high pCO_2 , less H^+ , higher temperature

Ans. (2)

156. Match the following:

List I		List-II	
(a)	<i>Physalia</i>	(i)	Pearl oyster
(b)	<i>Limulus</i>	(ii)	Portuguese Man of War
(c)	<i>Ancylostoma</i>	(iii)	Living fossil
(d)	<i>Pinctada</i>	(iv)	Hookworm

Choose the correct answer from the options given below.

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

Ans. (4)

157. Which stage of meiotic prophase shows terminalisation of chiasmata as its distinctive feature?

- (1) Pachytene
- (2) Leptotene
- (3) Zygotene
- (4) Diakinesis

Ans. (4)

158. If adenine makes 30% of the DNA molecule, what will be the percentage of Thymine, Guanine and Cytosine in it?

- (1) T : 20 ; G : 25 ; C : 25
- (2) T : 20 ; G : 30 ; C : 20
- (3) T : 20 ; G : 20 ; C : 30
- (4) T : 30 ; G : 20 ; C : 20

Ans. (4)



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159. The partial pressures (in mm Hg) of oxygen (O_2) and carbon dioxide (CO_2) at alveoli (the site of diffusion) are:

- (1) $pO_2 = 159$ and $pCO_2 = 0.3$
- (2) $pO_2 = 104$ and $pCO_2 = 40$
- (3) $pO_2 = 40$ and $pCO_2 = 45$
- (4) $pO_2 = 95$ and $pCO_2 = 40$

Ans. (2)

160. Read the following statements.

- (a) Metagenesis is observed in Helminths.
- (b) Echinoderms are triploblastic and coelomate animals.
- (c) Round worms have organ-system level of body organization.
- (d) Comb plates present in ctenophores help in digestion.
- (e) Water vascular system is characteristic of Echinoderms.

Choose the correct answer form the options given below.

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

Ans. (1)

161. In a cross between a male and female, both heterozygous for sickle cell anaemia gene, what percentage of the progeny will be diseased?

- (1) 100%
- (2) 50%
- (3) 75%
- (4) 25%

Ans. (4)

162. Which of the following statements wrongly represents the nature of smooth muscle?

- (1) These muscles are present in the wall of blood vessels
- (2) These muscle have no striations
- (3) They are involuntary muscles
- (4) Communication among the cells is performed by intercalated discs

Ans. (4)

163. Which one of the following belongs to the family muscidae?

- (1) House fly
- (2) Fire fly
- (3) Grasshopper
- (4) Cockroach

Ans. (1)



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164. During the process of gene amplification using PCR, if very high temperature is not maintained in the beginning, then which of the following steps of PCR will be affected first?

- (1) Ligation
- (2) Annealing
- (3) Extension
- (4) Denaturation

Ans. (4)

165. Match **List –I** with **List –II**

	List –I		List –II
(a)	Metamerism	(i)	Coelenterata
(b)	Canal system	(ii)	Ctenophora
(c)	Comb plates	(iii)	Annelida
(d)	Cnidoblasts	(iv)	Porifera

Choose the correct answer from the options given below.

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

Ans. (4)

166. Which one of the following is an example of Hormone releasing IUD ?

- (1) Multiload 375
- (2) CuT
- (3) LNG 20
- (4) Cu 7

Ans. (3)

167. The centriole undergoes duplication during:

- (1) G₂phase
- (2) S-phase
- (3) Prophase
- (4) Metaphase

Ans. (2)



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168. Which of the following characteristics is **incorrect** with respect to cockroach?
- (1) 10th abdominal segment in both sexes, bears a pair of anal cerci.
 - (2) A ring of gastric caeca is present at the junction of midgut and hind gut.
 - (3) Hypopharynx lies within the cavity enclosed by the mouth parts.
 - (4) In females, 7th-9th sterna together form a genital pouch.

Ans. (2)

169. Dobson units are used to measure thickness of :
- (1) Troposphere
 - (2) CFCs
 - (3) Stratosphere
 - (4) Ozone

Ans. (4)

170. Veneral diseases can spread through:
- (a) Using sterile needles
 - (b) Transfusion of blood from infected person
 - (c) Infected mother to foetus
 - (d) Kissing
 - (e) Inheritance
- Choose the **correct** answer from the options given below.
- (1) (a) and (c) only
 - (2) (a), (b) and (c) only
 - (3) (b), (c) and (d) only
 - (4) (b) and (c) only

Ans. (4)

171. Which one of the following organisms bears hollow and pneumatic long bones?
- (1) *Ornithorhynchus*
 - (2) Neophron
 - (3) *Hemidactylus*
 - (4) Macropus

Ans. (2)

172. Persons with 'AB' blood group are called as "Universal recipients". This is due to:
- (1) Absence of antibodies, anti-A and anti-B, in plasma
 - (2) Absence of antigens A and B on the surface of RBCs
 - (3) Absence of antigens A and B in plasma
 - (4) Presence of antibodies anti-A and anti-B on RBCs

Ans. (1)

173. The organelles that are included in the endomembrane system are:
- (1) Golgi complex, Endoplasmic reticulum, Mitochondria and Lysosomes
 - (2) Endoplasmic reticulum, Mitochondria, Ribosomes and Lysosomes
 - (3) Endoplasmic reticulum, Golgi complex, Lysosomes and Vacuoles
 - (4) Golgi complex, Mitochondria, Ribosomes and Lysosomes

Ans. (3)



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174. A specific recognition sequence identified by endonucleases to make cuts at specific positions within the DNA is :

- (1) Poly (A) tail sequences
- (2) Degenerate primer sequence
- (3) Okazaki sequences
- (4) Palindromic Nucleotide sequences

Ans. (4)

175. Identify the incorrect pair.

- (1) Drugs - Ricin
- (2) Alkaloids - Codeine
- (3) Toxin - Abrin
- (4) Lectins - Concanavalin A

Ans. (1)

176. With regard to insulin choose correct options,

- (a) C-peptide is not present in mature insulin.
- (b) The insulin produced by rDNA technology has C-peptide.
- (c) The pro-insulin has C-peptide.
- (d) A-peptide and B-peptide of insulin are interconnected by disulphide bridges.

Choose the correct answer from the options given below.

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

Ans. (4)

177. Chronic auto immune disorder affecting neuro muscular junction leading to fatigue, weakening and paralysis of skeletal muscle is called as:

- (1) Gout
- (2) Arthritis
- (3) Muscular dystrophy
- (4) Myasthenia gravis

Ans. (4)

178. Which of the following RNAs is not required for the synthesis of protein?

- (1) siRNA
- (2) mRNA
- (3) tRNA
- (4) rRNA

Ans. (1)



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179. Which of the following is **not** an objective of Biofortification in crops?

- (1) Improve micronutrient and mineral content
- (2) Improve protein content
- (3) Improve resistance to diseases
- (4) Improve vitamin content

Ans. (3)

180. Erythropoietin hormone which stimulates R.B.C. formation is produced by:

- (1) Juxtaglomerular cells of the kidney
- (2) Alpha cells of pancreas
- (3) The cells of rostral adenohypophysis
- (4) The cells of bone marrow

Ans. (1)

181. Which enzyme is responsible for the conversion of inactive fibrinogens to fibrins?

- (1) Thrombokinase
- (2) Thrombin
- (3) Renin
- (4) Epinephrine

Ans. (2)

182. For effective treatment of the disease, early diagnosis and understanding its pathophysiology is very important. Which of the following molecular diagnostic techniques is very useful for early detection?

- (1) Hybridization Technique
- (2) Western Blotting Technique
- (3) Southern Blotting Technique
- (4) ELISA Technique

Ans. (4)

183. Sphincter of oddi is present at :

- (1) Junction of jejunum and duodenum.
- (2) Ileo-caecal junction
- (3) Junction of hepato-pancreatic duct and duodenum
- (4) Gastro-oesophageal junction

Ans. (3)

184. Which is the "Only enzyme" that has "Capability" to catalyse Initiation, Elongation and Termination in the process of transcription in prokaryotes?

- (1) DNase
- (2) DNA dependent DNA polymerase
- (3) DNA dependent RNA polymerase
- (4) DNA Ligase

Ans. (3)



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185. Match **List – I** with **List – II**.

List I		List-II	
(a)	Vaults	(i)	Entry of sperm through Cervix is blocked
(b)	IUDs	(ii)	Removal of Vas deferens
(c)	Vasectomy	(iii)	Phagocytosis of sperms within the Uterus
(d)	Tubectomy	(iv)	Removal of fallopian tube

Choose the **correct** answer from the options given below.

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

Ans. (3)

186. Match **List – I** with **List – II**.

List I		List-II	
(a)	Scapula	(i)	Cartilaginous joints
(b)	Cranium	(ii)	Flat bone
(c)	Sternum	(iii)	Fibrous joints
(d)	Vertebral column	(iv)	Triangular flat bone

Choose the **correct** answer from the options given below.

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

Ans. (1)

187. Following are the statements with reference to 'lipids'.

- (a) Lipids having only single bonds are called unsaturated fatty acids.
- (b) Lecithin is a phospholipid
- (c) Trihydroxy propane is glycerol.
- (d) Palmitic acid has 20 carbon atoms including carboxyl carbon.
- (e) Arachidonic acid has 16 carbon atoms.

Choose the **correct** answer from the options given below.

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

Ans. (4)



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188. Match **List –I** with **List –II**

	List –I		List - II
(a)	Allen's Rule	(i)	Kangaroo rat
(b)	Physiological adaptation	(ii)	Desert lizard
(c)	Behavioural adaptation	(iii)	Marine fish at depth
(d)	Biochemical adaptation	(iv)	Polar seal

Choose the correct answer from the options given below.

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

Ans. (4)

189. During muscular contraction which of the following events occur?

- (a) 'H' zone disappears
- (b) 'A' band widens
- (c) 'I' band reduces in width
- (d) Myosine hydrolyzes ATP, releasing the ADP and Pi
- (e) Z-lines attached to actins are pulled inwards

Choose the **correct** answer from the options given

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

Ans. (2)



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190. Match **List –I** with **List – II**

	List –I		List - II
(a)	Adaptive radiation	(i)	Selection of resistant varieties due to excessive use of herbicides and pesticides
(b)	Convergent evolution	(ii)	Bones of forelimbs in Man and Whale
(c)	Divergent evolution	(iii)	Wings of Butterfly and Bird
(d)	Evolution by anthropogenic action	(iv)	Darwin Finches

Choose the **correct** answer from the options given below.

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

Ans. (2)

191. **Assertion (A) :**

A person goes to high altitude and experiences 'altitude sickness' with symptoms like breathing difficulty and heart palpitations.

Reason (R) :

Due to low atmospheric pressure at high altitude, the body does not get sufficient oxygen. 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) (R) are true but (R) is not the correct explanation of (A)
- (4) (A) is true but (R) is false

Ans. (2)

192. Which of these is not an important component of initiation of parturition in humans?

- (1) Release of Prolactin
- (2) Increase in estrogen and progesterone ratio
- (3) Synthesis of prostaglandins
- (4) Release of Oxytocin

Ans. (1)



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193. Which of the following secretes the hormone, relaxin, during the later phase of pregnancy?
- (1) Uterus
 - (2) Graafian follicle
 - (3) Corpus luteum
 - (4) Foetus

Ans. (3)

194. Match **List – I** with **List – II**.

List I		List-II	
(a)	Filariasis	(i)	<i>Haemophilus influenzae</i>
(b)	Amoebiasis	(ii)	<i>Trichophyton</i>
(c)	Pneumonia	(iii)	<i>Wuchereria bancrofti</i>
(d)	Ringworm	(iv)	<i>Entamoeba histolytica</i>

Choose the **correct** answer from the options given below.

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

Ans. (3)

195. Which of the following is **not** a step in Multiple Ovulation Embryo Transfer Technology (MOET)?
- (1) Fertilized eggs are transferred to surrogate mothers at 8-32 cell stage
 - (2) Cow is administered hormone having LH like activity for super ovulation
 - (3) Cow yields about 6-8 eggs at a time
 - (4) Cow is fertilized by artificial insemination

Ans. (2)

196. The Adenosine deaminase deficiency results into

- (1) Addison's disease
- (2) Dysfunction of Immune system
- (3) Parkinson's disease
- (4) Digestive disorder

Ans. (2)

197. Which one of the following statements about Histones is **Wrong**?

- (1) Histones carry positive charge in the side chain.
- (2) Histones are organized to form a unit of 8 molecules.
- (3) The pH of histones is slightly acidic.
- (4) Histones are rich in amino acids – Lysine and Arginine.

Ans. (3)



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198. **Statement I :**

The codon 'AUG' codes for methionine and phenylalanine.

Statement II :

'AAA' and 'AAG' both codons code for the amino acid lysine.

In the light of the above statements, choose the **correct** 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

Ans. (1)

199. Identify the types of cell junctions that help to stop the leakage of the substances across a tissue and facilitation of communication with neighbouring cells via rapid transfer of ions molecules.

(1) Adhering junctions and Gap junctions, respectively.

(2) Gap junctions and Adhering junctions, respectively.

(3) Tight junctions and Gap junctions, respectively.

(4) Adhering junctions and Tight junctions respectively.

Ans. (3)

200. Following are the statements about prostomium of earthworm.

(a) It serves as a covering for mouth.

(b) It helps to open cracks in the soil into which it can crawl.

(c) It is one of the sensory structures.

(d) It is the first body segment.

Choose the **correct** answer from the options given below.

(1) (b) and (c) are correct

(2) (a), (b) and (c) are correct

(3) (a), (b) and (d) are correct

(4) (a), (b) and (d) are correct

Ans. (2)



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