

R5

# NEET 2024

## Biology (Zoology)

### Section – A (Compulsory)

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

**Assertion A:** FSH acts upon ovarian follicles in female and Leydig cells in male.

**Reason R:** Growing ovarian follicles secrete estrogen in female while interstitial cells secrete androgen in male human being.

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

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

152. Match List I with List II:

	List-I		List-II
A	Lipase	I	Peptide bond
B	Nuclease	II	Ester bond
C	Protease	III	Glycosidic bond
D	Amylase	IV	Phosphodiester bond

Choose the correct answer from the options give below:

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

153. Following are the stages of pathway for conduction of an action potential through the heart:

- A. AV bundle
- B. Purkinje fibres
- C. AV node
- D. Bundle branches
- E. SA node

Choose the correct sequence of pathway from the options given below:

- (1) A-E-C-B-D
- (2) B-D-E-C-A
- (3) E-A-D-B-C
- (4) E-C-A-D-B

154. Match List I with List II:

	List-I		List-II
A	Pons	I	Provides additional space for Neurons, regulates posture and balance
B	Hypothalamus	II	Controls respiration and gastric secretions
C	Medulla	III	Connects different regions of the brain
D	Cerebellum	IV	Neuro secretory cells

Choose the correct answer from the options given below:

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

155. Which one of the following factors will (not/affect the Hardy-Weinberg equilibrium)?

- (1) Genetic drift
- (2) Gene migration
- (3) Constant gene pool
- (4) Genetic recombination

156. In both sexes of cockroach, a pair of jointed filamentous structures called anal cerci are present on:

- (1) 10th segment
- (2) 8th and 9th segment
- (3) 11th segment
- (4) 5th segment

157. Match List I with List II:

	List-I		List-II
A	Expiratory capacity	I	Expiratory reserve volume + Tidal volume + Inspiratory reserve volume
B	Functional residual capacity	II	Tidal volume + Expiratory reserve volume
C	Vital capacity	III	Tidal volume + Inspiratory reserve volume
D	Inspiratory capacity	IV	Expiratory reserve volume + Residual volume

Choose the correct answer from the options given below:

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

158. The flippers of the Penguins and Dolphins are the example of the example of the

- (1) Natural selection
- (2) Convergent evolution
- (3) Divergent evolution
- (4) Adaptive radiation

159. Match List I with List II

	List-I		List-II
A	$\alpha$ -1 antitrypsin.	I	Cotton bollworm
B	Cry IAb	II	ADA deficiency
C	Cry IAc	III	Emphysema
D	Enzyme replacement therapy	IV	Corn borer

Choose the correct answer from the options given below:

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

160. Match List I with List II:

	List-I		List-II
A	Down's syndrome	I	11th chromosome
B	$\alpha$ -Thalassemia	II	'X' chromosome
C	$\beta$ -Thalassemia	III	21st chromosome
D	Klinefelter's syndrome	IV	16th chromosome

Choose the correct answer from the options given below:

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

161. Given below are two statements:

**Statement I:** The presence or absence of hymen is not a reliable indicator of virginity.

**Statement II:** The hymen is torn during the first coitus only.

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

- (1) Both Statement I and Statement II are false
- (2) Statement I is true but Statement II is false
- (3) Statement I is false but Statement II is true
- (4) Both Statement I and Statement II are true

162. Match List I with List II:

	List-I		List-II
A	Common cold	I	Plasmodium
B	Haemozoin	II	Typhoid
C	Widal test	III	Rhinoviruses
D	Allergy	IV	Dust mites

Choose the correct answer from the options given below:

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

163. Which of the following is not a component of Fallopian tube?

- (1) Isthmus
- (2) Infundibulum
- (3) Ampulla
- (4) Uterine fundus

164. Following are the stages of cell division:

- A. Gap 2 phase
- B. Cytokinesis
- C. Synthesis phase
- D. Karyokinesis
- E. Gap 1 phase

Choose the correct sequence of stages from the options given below:

- (1) E-B-D-A-C
- (2) B-D-E-A-C
- (3) E-C-A-D-B
- (4) C-E-D-A-B

165. Match List I with List II:

	List-I		List-II
A	Axoneme	I	Centriole
B	Cartwheel pattern	II	Cilia and flagella
C	Crista	III	Chromosome
D	Satellite	IV	Mitochondria

Choose the correct answer from the options given below:

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

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

**Assertion A:** Breast-feeding during initial period of infant growth is recommended by doctors for bringing a healthy baby.

**Reason R:** Colostrum contains several antibodies absolutely essential to develop resistance for the new born baby,

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

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

### 167. Match the List I with List II

	List-I (Sub Phases of Prophase I)		List-II (Specific characters)
A	Diakinesis	I	Synaptonemal complex formation
B	Pachytene	II	Completion of terminalisation of chiasmata
C	Zygotene	III	Chromosomes look like thin threads
D	Leptotene	IV	Appearance of recombination nodules

Choose the correct answer from the options given below:

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

### 168. Match List I with List II:

	List-I		List-II
A	Fibrous joints	I	Adjacent Vertebrae, limited movement
B	Cartilaginous joints	II	Humerus and Pectoral girdle, rotational movement
C	Hinge joints	III	Skull, don't allow any movement
D	Ball and socket joints	IV	Knee, help in locomotion

Choose the correct answer from the options given below:

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

### 169. Which of the following factors are favourable for the formation of oxyhaemoglobin in alveoli?

- (1) **High pO<sub>2</sub> and Lesser H<sup>+</sup> concentration**
- (2) Low pCO<sub>2</sub> and High H<sup>+</sup> concentration
- (3) Low pCO<sub>2</sub> and High temperature
- (4) High pO<sub>2</sub> and High pCO<sub>2</sub>

### 170. Which of the following is not a contraceptive method?

- (1) Periodic abstinence
- (2) Lactational amenorrhea
- (3) **Vaults**
- (4) Coitus interruptus

### 171. Which of the following are Autoimmune disorders?

- A. Myasthenia gravis
  - B. Rheumatoid arthritis
  - C. Gout
  - D. Muscular dystrophy
  - E. Systemic Lupus Erythematosus (SLE)
- Choose the most appropriate answer from the options given below

- (1) **B & E only**
- (2) B, C & E only
- (3) C, D & E only
- (4) A, B & D only

### 172. The "Ti plasmid" of Agrobacterium tumefaciens stands for

- (1) Tumor independent plasmid
- (2) **Tumor inducing plasmid**
- (3) Temperature independent plasmid
- (4) Tumour inhibiting plasmid

173. Which one is the correct product of DNA dependent RNA polymerase to the given template?

3'TACATGGCAAATATCCATTCA5'

- (1) 5'AUGUAAAGUUUUAUAGGUAAGU3'
- (2) 5'AUGUACCQUUUUAUAGGGAAGU3
- (3) 5'ATGTACCGTTTATAGGTAAGT3
- (4) 5'AUGUACCGUUUUAUAGGGAAGU3

174. Which of the following statements is incorrect?

- (1) Most commonly used bio-reactors are of stirring type.
- (2) Bio-reactors are used to produce small scale bacterial cultures.
- (3) Bio-reactors have an agitator system, an oxygen delivery system and foam control system.
- (4) A bio-reactor provides optimal growth conditions for achieving the desired product.

175. Match List I with List II:

	List-I		List-II
A	Cocaine	I	Effective sedative in surgery
B	Heroin	II	Cannabis sativa
C	Morphine	III	Erythroxyllum
D	Marijuana	IV	Papaver somniferum

Choose the correct answer from the options given below:

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

176. Which of the following is not a steroid hormone?

- (1) Testosterone
- (2) Progesterone
- (3) Glucagon
- (4) Cortisol

177. Match List I with List II:

	List-I		List-II
A	Non-medicated IUD.	I	Multiload 375
B	Copper releasing IUD	II	Progestogens
C	Hormone releasing IUD	III	Lippes loop
D	Implants	IV	LNG-20

Choose the correct answer from the options given below:

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

178. Given below are two statements:

**Statement I:** In the nephron, the descending limb of loop of Henle is impermeable to water and permeable to electrolytes.

**Statement II:** The proximal convoluted tubule is lined by simple columnar brush border epithelium and increases the surface area for reabsorption.

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

- (1) Both Statement I and Statement II are false
- (2) Statement I is true but Statement II is false
- (3) Statement I is false but Statement II is true
- (4) Both Statement I and Statement II are true

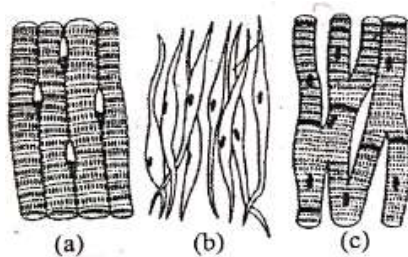
179. Given below are some stages of human evolution. Arrange them in correct sequence. (Past to Recent)

- A. Homo habilis
- B. Homo sapiens
- C. Homo neanderthalensis
- D. Homo erectus

Choose the correct sequence of human evolution from the options given below:

- (1) B-A-D-C                      (2) C-B-D-A
- (3) A-D-C-B                      (4) D-A-C-B

180. Three types of muscles are given as a, b and c. Identify the correct matching pair along with their location in human body :



Name of muscle/location

- (1) (a) Skeletal - Triceps
- (b) Smooth - Stomach
- (c) Cardiac - Heart.
- (2) (a) Skeletal - Biceps
- (b) Involuntary - Intestine
- (c) Smooth - Heart.
- (3) (a) Involuntary - Nose tip
- (b) Skeletal - Bone
- (c) Cardiac - Heart.
- (4) (a) Smooth - Toes
- (b) Skeletal - Legs
- (c) Cardiac - Heart.

181. Match List I with List II:

	List-I		List-II
A	Pleurobrachia	I	Mollusca
B	Radula	II	Ctenophora
C	Stomochord	III	Osteichthyes
D	Air bladder	IV	Hemichordata

Choose the correct answer from the options given below:

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

182. Match List I with List II:

	List-I		List-II
A	Pterophyllum	I	Hag fish
B	Myxine	II	Saw fish
C	Pristis	III	Angel fish
D	Exocoetus	IV	Flying fish

Choose the correct answer from the options given below:

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

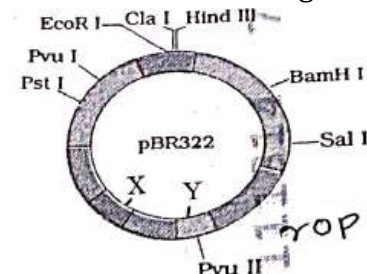
183. Match List I with List II:

	List-I		List-II
A	Typhoid	I	Fungus
B	Leishmaniasis	II	Nematode
C	Ringworm	III	Protozoa
D	Filariasis	IV	Bacteria

Choose the correct answer from the options given below:

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

184. The following diagram showing restriction sites in E.coli cloning vector pBR322. Find the role of 'X' and 'Y' genes:



- (1) The gene 'X' is for protein involved in replication of Plasmid and 'Y' for resistance to antibiotics.
- (2) Gene 'X' is responsible for recognition sites and 'Y' is responsible for antibiotic resistance.
- (3) The gene 'X' is responsible for resistance to antibiotics and 'Y' for protein involved in the replication of Plasmid.
- (4) The gene 'X' is responsible for controlling the copy number of the linked DNA and 'Y' for protein involved in the replication of Plasmid.

185. Consider the following statements:

- A. Annelids are true coelomates
- B. Poriferans are pseudocoelomates
- C. Aschelminthes are acoelomates
- D. Platyhelminthes are pseudocoelomates

Choose the correct answer from the options given below:

- (1) A only
- (2) C only
- (3) B only
- (4) B only

### Section – B (Attempt Any 10)

186. Choose the correct statement given below regarding juxta medullary nephron.

- (1) Renal corpuscle of juxta medullary nephron lies in the outer portion of the renal medulla.
- (2) Loop of Henle of juxta medullary nephron runs deep into medulla.
- (3) Juxta medullary nephrons outnumber the cortical nephrons.
- (4) Juxta medullary nephrons are located in the columns of Bertini.

187. Given below are two statements:

**Statement I:** Bone marrow is the main lymphoid organ where all blood cells including lymphocytes are produced.

**Statement II:** Both bone marrow and thymus provide micro environments for the development and maturation of T-lymphocytes.

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 incorrect.
- (2) Statement I is correct but Statement II is incorrect.
- (3) Statement I is incorrect but Statement II is correct.
- (4) Both Statement I and Statement II are correct.

188. Match List I with List II related to digestive system of cockroach.

	List-I		List-II
A	The structures used for storing of food.	I	Gizzard
B	Ring of 6-8 blind tubules at junction of foregut and midgut	II	Gastric Caeca
C	Ring of 100-150 yellow coloured thin filaments at junction of midgut and hindgut	III	Malpighian tubules
D	The structures used for grinding the food	IV	Crop

Choose the correct answer from the options given below:

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

189. Match List I with List II:

	List-I		List-II
A	P wave	I	Heart muscles are electrically silent.
B	QRS complex	II	Depolarisation of ventricles
C	T wave	III	Depolarisation of atria
D	T-P gap	IV	Repolarisation of ventricles

Choose the correct answer from the options given below:

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

190. As per ABO blood grouping system, the blood group of father is B<sup>+</sup> + mother is A<sup>+</sup> + and child is O<sup>+</sup>. Their respective genotype can be

- A. I<sup>B</sup>i / I<sup>A</sup>i / ii
- B. I<sup>B</sup>I<sup>B</sup> / I<sup>A</sup>I<sup>A</sup> / ii
- C. I<sup>A</sup>I<sup>B</sup> / iI<sup>A</sup> / I<sup>B</sup>i
- D. I<sup>A</sup>i / I<sup>B</sup>i / I<sup>A</sup>i
- E. ii<sup>B</sup> / ii<sup>A</sup> / ii<sup>A</sup>/I<sup>A</sup>I<sup>B</sup>

Choose the most appropriate answer from the options given below :

- (1) B only
- (2) C & B only
- (3) D & E only
- (4) A only

191. Match List I with List II:

	List-I		List-II
A	RNA polymerase III	I	snRNPs
B	Termination of transcription	II	Promotor
C	Splicing of Exons	III	Rho factor
D	TATA box	IV	SnRNAs, tRNA

Choose the correct answer from the options given below:

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

192. Given below are two statements:

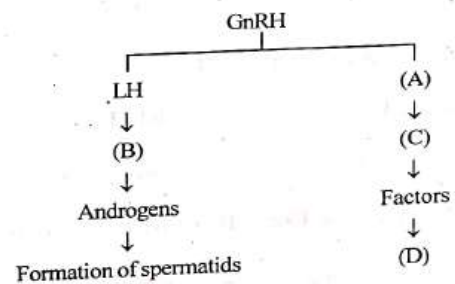
**Statement I:** Mitochondria and chloroplasts are both double membrane bound organelles.

**Statement II:** Inner membrane of mitochondria is relatively less permeable, as compared to chloroplast.

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 incorrect.
- (2) Statement I is correct but Statement II is incorrect.
- (3) Statement I is incorrect but Statement II is correct.
- (4) Both Statement I and Statement II are correct.

193. Identify the correct option (A), (B), (C), (D) with respect to spermatogenesis.



- (1) ICSH, Interstitial cells, Leydig cells, spermiogenesis.
- (2) FSH, Sertoli cells, Leydig cells, spermatogenesis.
- (3) ICSH, Leydig cells, Sertoli cells, spermatogenesis.
- (4) FSH, Leydig cells, Sertoli cells, spermiogenesis



194. The following are the statements about non- chordates:

- A. Pharynx is perforated by gill slits.
- B. Notochord is absent.
- C. Central nervous system is dorsal.
- D. Heart is dorsal if present.
- E. Post anal tail is absent.

Choose the most appropriate answer from the options given below :

- (1) A, B & D only
- (2) B, D & E only
- (3) B, C & D only
- (4) A & C only

195. Given below are two statements:

**Statement I:** Gause's competitive exclusion principle states that two closely related species competing for different resources cannot exist indefinitely.

**Statement II:** According to Gause's principle, during competition, the inferior will be eliminated. This may be true if resources are limiting.

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

- (1) Both Statement I and Statement II are false.
- (2) Statement I is true but Statement II is false.
- (3) Statement I is false but Statement II is true.
- (4) Both Statement I and Statement II are true.

196. Regarding catalytic cycle of an enzyme action, select the correct sequential steps:

- A. Substrate enzyme complex formation.
- B. Free enzyme ready to bind with another substrate.
- C. Release of products.
- D. Chemical bonds of the substrate broken.
- E. Substrate binding to active site.

Choose the correct answer from the options given below:

- (1) A, E, B, D, C
- (2) B, A, C, D, E
- (3) E, D, C, B, A
- (4) E, A, D, C, B

197. Given below are two statements:

**Statement I:** The cerebral hemispheres are connected by, nerve tract known as corpus callosum.

**Statement I:** The brain stem consists of the medulla oblongata, pons and cerebrum  
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 incorrect
- (2) Statement I is correct but Statement II is incorrect.
- (3) Statement I is incorrect but Statement II is correct.
- (4) Both Statement I and Statement II are correct.

### 198. Match List I with List II:

	List-I		List-II
A	Exophthalmic goiter	I	Excess secretion of cortisol, moon face & hyperglycemia
B	Acromegaly	II	Hypo-secretion of thyroid hormone and stunted growth
C	Cushing' syndrome	III	Hyper secretion of thyroid hormone & protruding eye balls
D	Cretinism	IV	Excessive secretion of growth hormone

Choose the correct answer from the options given below:

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

### 199. Match List I with List II:

	List-I		List-II
A	Unicellular glandular epithelium	I	Salivary glands
B	Compound epithelium	II	Pancreas
C	Multicellular glandular epithelium	III	Goblet cells of alimentary canal
D	Endocrine glandular epithelium	IV	Moist surface of buccal cavity

Choose the correct answer from the options given below:

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

### 200. Match List I with List II:

	List-I		List-II
A	Mesozoic Era	I	Lower invertebrates
B	Proterozoic Era	II	Fish & Amphibia
C	Cenozoic Era	III	Birds & Reptiles
D	Paleozoic Era	IV	Mammals

Choose the correct answer from the options given below:

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