

ZOOLOGY**SECTION-A**

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

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

Answer (4)

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

Answer (3)

153. Which of the following statements is incorrect?

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

Answer (3)

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

3'TACATGGCAAATATCCATTCA5'

- (1) 5'AUGUACCGUUUAUAGGUAAGU3'
(2) 5'AUGUAAAGUUUAUAGGUAAGU3'
(3) 5'AUGUACCGUUUAUAGGGAAGU3'
(4) 5'ATGTACCGTTTATAGGTAAGT3'

Answer (1)

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

Answer (4)

Name of muscle/location

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

Answer (2)

160. 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 option given below:

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

Answer (4)

161. 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 given below :

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

Answer (3)

162. 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 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

Answer (1)

163. Given below are some stages of human evolution.

Arrange them in correct sequence. (Past to Recent)

- | | |
|---------------------------------|------------------------|
| A. <i>Homo habilis</i> | B. <i>Homo sapiens</i> |
| C. <i>Homo neanderthalensis</i> | D. <i>Homo erectus</i> |

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

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

Answer (4)

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

Answer (4)

165. Match List I with List II :

- | List I | List II |
|------------------------|-----------------|
| A. <i>Pterophyllum</i> | I. Hag fish |
| B. <i>Myxine</i> | II. Saw fish |
| C. <i>Pristis</i> | III. Angel fish |
| D. <i>Exocoetus</i> | IV. Flying fish |

Choose the correct answer from the options given below :

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

Answer (2)

166. Match List I with List II :

List I	List II
A. α -I 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 form the options given below:

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

Answer (3).

167. The "Ti plasmid" of *Agrobacterium tumefaciens* stands for

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

Answer (3).

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

Answer (2)

169. Which of the following is not a natural/traditional contraceptive method?

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

Answer (4)

170. 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) C-E-D-A-B (2) E-B-D-A-C
(3) B-D-E-A-C (4) E-C-A-D-B

Answer (4)

171. Which one of the following factors will not affect the Hardy-Weinberg equilibrium?

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

Answer (4)

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

Answer (2)

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

Answer (1)

174. 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) A, B & D only (2) A, B & E only
(3) B, C & E only (4) C, D & E only

Answer (2)

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

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

Answer (1)

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

Answer (4)

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

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

Answer (3)

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 option given below :

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

Answer (2)

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

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

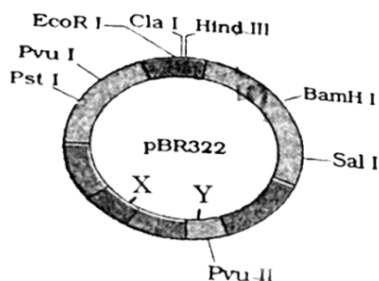
Answer (2)

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

- | | |
|--|--|
| (1) High pO ₂ and High pCO ₂ | (2) High pO ₂ and Lesser H ⁺ concentration |
| (3) Low pCO ₂ and High H ⁺ concentration | (4) Low pCO ₂ and High temperature |

Answer (2)

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

Answer (2)

182. Match List I with List II :

	List I		List II
A.	Down's syndrome	I.	11 th chromosome
B.	α -Thalassemia	II.	'X' chromosome
C.	β -Thalassemia	III.	21 st chromosome
D.	Klinefelter's syndrome	IV.	16 th chromosome

Choose the correct answer from the options given below :

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

Answer (3)

183. 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) B only
- (2) A only
- (3) C only
- (4) D only

Answer (2)

184. Match List I with List II :

List I	List II
A. Common cold	I. <i>Plasmodium</i>
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-II, B-IV, C-III, D-I
- (2) A-I, B-III, C-II, D-IV
- (3) A-III, B-I, C-II, D-IV
- (4) A-IV, B-II, C-III, D-I

Answer (3)

Sol. Correct answer is option (3) because

- Common cold is caused by Rhinoviruses
- Haemozoin is released in blood due to ruptured RBCs after *Plasmodium* infection.
- Widal test is used to confirm the typhoid fever.
- Allergy is caused due to dust mites.

185. Match List I with List II :

List I	List II
A. Cocaine	I. Effective sedative in surgery
B. Heroin	II. <i>Cannabis sativa</i>
C. Morphine	III. <i>Erythroxylum</i>
D. Marijuana	IV. <i>Papaver somniferum</i>

Choose the correct answer from the options given below:

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

Answer (4)

SECTION-B

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

Answer (4)

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

Answer (3)

188. Given below are two statements:

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

Statement II: 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 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.

Answer (3)

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

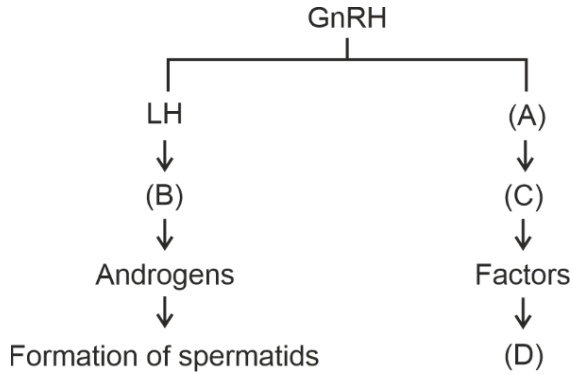
	List I		List II
A.	The structures used for storing of food	I.	Gizzard
B.	Ring of 6-8 blind tubules at junction of foregut and midgut.	II.	Gastric Caeca
C.	Ring of 100-150 yellow coloured thin filaments at junction of midgut and hindgut.	III.	Malpighian tubules
D.	The structures used for grinding the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

Choose the correct answer from the options given below:

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

Answer (1)

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



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

Answer (1)

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

- A. I^Bi/I^Ai/ii
- B. I^BI^B/I^AI^A/ii
- C. I^AI^B/ii/I^A/I^Bi
- D. I^Ai/I^Bi/I^Ai
- E. ii/I^B/ii/I^A/I^AI^B

Choose the most appropriate answer from the options given below :

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

Answer (1)

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

Answer (4)

