

Section-A (Q. No. 151 to 185)

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

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

Choose the **most appropriate** answer from the options given below:

- A and B only
- A, B and C only
- A, C and D only
- A and D only

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

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

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

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

- (1) Both **A** and **R** are true and **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**.

153 Match List I with List II.

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

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

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

154 Vital capacity of lung is _____.

- (1) IRV + ERV + TV + RV
- (2) IRV + ERV + TV - RV
- (3) IRV + ERV + TV
- (4) IRV + ERV

155 Which one of the following common sexually transmitted diseases is completely curable when detected early and treated properly?

- (1) Gonorrhoea
- (2) Hepatitis-B
- (3) HIV Infection
- (4) Genital herpes

156 Match List I with List II.

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

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

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

157 Match List I with List II.

List I	List II
A. Ringworm	I. <i>Haemophilus influenzae</i>
B. Filariasis	II. <i>Trichophyton</i>
C. Malaria	III. <i>Wuchereria bancrofti</i>
D. Pneumonia	IV. <i>Plasmodium vivax</i>

Choose the correct answer from the options given below:

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

158 Match List I with List II.

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

Choose the correct answer from the options given below:

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

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

- (1) B-lymphocytes (2) Basophils
(3) Eosinophils (4) T_H cells

160 Given below are two statements:

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

Statement II: When the inhibitor closely resembles the substrate in its molecular structure and inhibits the activity of the enzyme, it is known as competitive inhibitor. In the light of the above statements, choose the correct answer from the options given below:

- (1) 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.

161 Given below are two statements:

Statement I: Ligaments are dense irregular tissue.

Statement II: Cartilage is dense regular tissue.

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

- (1) 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 Which of the following are NOT considered as the part of endomembrane system?

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

Choose the most appropriate answer from the options given below:

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

163 Given below are two statements:

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

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

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

- (1) 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.

- 164 Broad palm with single palm crease is visible in a person suffering from-
- (1) Turner's syndrome
 - (2) Klinefelter's syndrome
 - (3) Thalassaemia
 - (4) Down's syndrome

- 165 Which of the following statements is correct?
- (1) Biomagnification refers to increase in concentration of the toxicant at successive trophic levels.
 - (2) Presence of large amount of nutrients in water restricts 'Algal Bloom'
 - (3) Algal Bloom decreases fish mortality
 - (4) Eutrophication refers to increase in domestic sewage and waste water in lakes.

Match List I with List II.

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

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

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

- 167 Given below are two statements:
Statement I: Electrostatic precipitator is most widely used in thermal power plant.

Statement II: Electrostatic precipitator in thermal power plant removes ionising radiations

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

- 168 Given below are two statements:

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

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

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

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

- 169 Radial symmetry is NOT found in adults of phylum _____.

- (1) Hemichordata
- (2) Coelenterata
- (3) Echinodermata
- (4) Ctenophora

- 170 Match List I with List II.

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

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

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

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

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

Choose the correct answer from the options given below:

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

172 Which of the following functions is carried out by cytoskeleton in a cell?

- (1) Protein synthesis
 (2) ~~Motility~~
 (3) Transportation
 (4) Nuclear division

173 Once the undigested and unabsorbed substances enter the caecum, their backflow is prevented by-

- (1) Ileo - caecal valve
 (2) Gastro - oesophageal sphincter
 (3) Pyloric sphincter
 (4) Sphincter of Oddi

174 Match List I with List II.

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

Choose the correct answer from the options given below:

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

175 Match List I with List II.

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

Choose the correct answer from the options given below:

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

76 Given below are two statements:

Statement I: RNA mutates at a faster rate.

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

In the light of the above statements, choose the **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** false but **Statement II** is true.
- (4) Both **Statement I** and **Statement II** are true.

177 Given below are two statements:

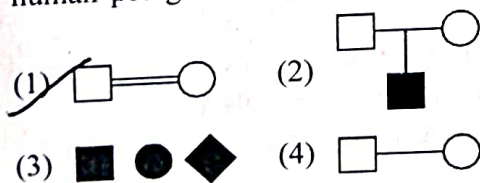
Statement I: In prokaryotes, the positively charged DNA is held with some negatively charged proteins in a region called nucleoid.

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

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

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

178 Which one of the following symbols represents mating between relatives in human pedigree analysis?



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

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

180 Which of the following is not a cloning vector?

- (1) YAC
- (2) pBR322
- (3) Probe
- (4) BAC

181 Match **List I** with **List II**.

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

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

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

182 Which one of the following techniques does not serve the purpose of early diagnosis of a disease for its early treatment?

- (1) Serum and Urine analysis
- (2) Polymerase Chain Reaction (PCR) technique
- (3) Enzyme Linked Immuno-Sorbent Assay (ELISA) technique
- (4) Recombinant DNA Technology

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

Assertion A: Endometrium is necessary for implantation of blastocyst.

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

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

- (1) 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**.

184 Match List I with List II.

List I

- A. Gene 'a'
- B. Gene 'y'
- C. Gene 'i'
- D. Gene 'z'

List II

- I. β -galactosidase
- II. Transacetylase
- III. Permease
- IV. Repressor protein

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

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

Assertion A: Nephrons are of two types: Cortical & Juxta medullary, based on their relative position in cortex and medulla.

Reason R: Juxta medullary nephrons have short loop of Henle whereas, cortical nephrons have longer loop of Henle.

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**.

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

- (1) Presence of anal styles
- (2) Presence of sclerites
- (3) Presence of anal cerci
- (4) Dark brown body colour and anal cerci

187 Select the correct statements.

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

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

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

188 Which of the following statements are correct?

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

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

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

189 Given below are two statements:
Statement I: During G_0 phase of cell cycle, the cell is metabolically inactive.

Statement II: The centrosome undergoes duplication during S phase of interphase. In the light of the above statements, choose the **most appropriate** answer from the options given below:

- (1) 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.

190 Which one of the following is NOT an advantage of inbreeding?

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

191 Match List I with List II.

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

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

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

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

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

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

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

193 The unique mammalian characteristics are:

- (1) hairs, pinna and mammary glands
- (2) hairs, pinna and indirect development
- (3) pinna, monocondylic skull and mammary glands
- (4) hairs, tympanic membrane and mammary glands

194 Which of the following statements are correct regarding skeletal muscle?

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

Choose the **most appropriate** answer from the options given below:

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

195 Which of the following statements are correct ?

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

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

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

196 Which one of the following is the sequence on corresponding coding strand, if the sequence on mRNA formed is as follows

5' AUCGAUCGAUCGAUCGAUCG
AUCG AUCG 3'?

(1) 3' UAGCUAGCUAGCUAGCUA
GCUAGCUAGC 5'

(2) 5' ATCGATCGATCGATCGATCG
ATCGATCG 3'

(3) 3' ATCGATCGATCGATCGATCG
ATCGATCG 5'

(4) 5' UAGCUAGCUAGCUAGCUA
GCUAGC UAGC 3'

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

- (1) Corpora quadrigemina & hippocampus
- (2) Brain stem & epithalamus
- (3) Corpus callosum and thalamus
- (4) Limbic system & hypothalamus

198 Match List I with List II.

- | List I | | List II |
|--------------------------------|-------------|-------------------------------|
| A. Mast cells | <u>I.</u> | Ciliated epithelium |
| B. Inner surface of bronchiole | <u>II.</u> | Areolar connective tissue |
| C. Blood | <u>III.</u> | Cuboidal epithelium |
| D. Tubular parts of nephron | <u>IV.</u> | specialised connective tissue |

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

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

199 In cockroach, excretion is brought about by-

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

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

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

200 Select the correct statements with reference to chordates.

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

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

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