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## Answer & Solutions

*for*

### NEET 2022 (Re-Exam)

#### Zoology

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

151. Which of the following animals has three chambered heart?

- (1) *Pteropus*                      (2) *Scoliodon*  
(3) *Hippocampus*                (4) *Chelone*

Sol. Answer (4)

- *Pteropus* (Flying fox) belongs to Class Mammalia having four chambered heart.
- *Scoliodon* (Dog fish) belongs to Superclass Pisces having two chambered heart.
- *Hippocampus* (Sea horse) belongs to Superclass Pisces having two chambered heart
- *Chelone* (Turtle) belongs to Class Reptilia having three chambered heart.

152. Which of the following types of epithelium is present in the bronchioles and Fallopian tubes?

- (1) Stratified squamous epithelium  
(2) Simple squamous epithelium  
(3) Simple columnar epithelium  
(4) Ciliated epithelium

Sol. Answer (4)

Ciliated epithelium is mainly present in the inner surface of hollow organs like bronchioles and Fallopian tubes.

153. Which of the following is **not** an Intra Uterine Device?

- (1) Progestasert  
(2) Progestogens  
(3) Multiload 375  
(4) Lippes loop

Sol. Answer (2)

Intra Uterine Devices are presently available as the non-medicated IUDs (e.g. Lippes loop), copper releasing IUDs (CuT, Cu7, Multiload 375) and the hormone releasing IUDs (Progestasert, LNG-20).

154. Match List - I with List - II :

List - I	List - II
(a) <i>Chlamydomonas</i>	(i) Conidia
(b) <i>Penicillium</i>	(ii) Zoospores
(c) <i>Hydra</i>	(iii) Gemmules
(d) Sponge	(iv) Buds

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

Sol. Answer (3)

Different ways of asexual reproduction are seen in different organisms.

<i>Chlamydomonas</i>	– Zoospores
<i>Penicillium</i>	– Conidia
<i>Hydra</i>	– Buds
Sponge	– Gemmules

155. Which of the following reasons is mainly responsible for graft rejection in transplantation of organs?

- (1) Cell-mediated response  
(2) Inability of recipient to differentiate between 'self' and 'non-self' tissues/cells  
(3) Humoral immune response only

(4) Auto-immune response

Sol. Answer (1)

Any tissue or organ used for transplantation is commonly called graft. Tissue matching, blood group matching are essential before undertaking any graft/transplant. Cell mediated immune response is responsible for graft rejection.

**156.** Bivalent or Tetrad formation is a characteristic feature observed during:

- (1) Chiasmata in zygotene stage
- (2) Synaptonemal complex in zygotene stage
- (3) Chiasmata in Diplotene stage
- (4) Synaptonemal complex in Pachytene stage

Sol. Answer (2)

Bivalent or tetrad formation is a characteristic feature observed during zygotene stage when the homologous chromosomes undergo synapsis (pairing).

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

**Assertion (A):**

FSH which interacts with membrane bound receptors does not enter the target cell.

**Reason (R):**

Binding of FSH to its receptors generates second messenger (cyclic AMP) for its biochemical and physiological responses.

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

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

Sol. Answer (3)

Option (3) is the correct answer as FSH is a peptide hormone, which is a lipid insoluble hormone. Lipid insoluble hormones cannot directly pass through the membranes and usually require membrane bound receptors for carrying out their activity.

Binding of hormones to membrane bound receptors generate second messenger for its biochemical and physiological responses.

**158.** Choose the correct statement about a muscular tissue:

- (1) Smooth muscles are multinucleated and involuntary.

(2) Skeletal muscle fibres are uninucleated and found in parallel bundles.

(3) Intercalated discs allow the cardiac muscle cells to contract as a unit.

(4) The walls of blood vessels are made up of columnar epithelium.

Sol. Answer (3)

Smooth muscles are uninucleated and involuntary.

Skeletal muscle fibres are multinucleated and bundled together in a parallel fashion.

Communication junctions (Gap junctions) in the intercalated discs of cardiac muscles at some fusion points allow the cells to contract as a unit.

Wall of blood vessels is lined by simple squamous epithelial tissue.

**159.** Identify the region of human brain which has pneumotaxic centre that alters respiratory rate by reducing the duration of inspiration.

- (1) Cerebrum
- (2) Medulla
- (3) Pons
- (4) Thalamus

Sol. Answer (3)

Pneumotaxic centre present in the pons region of the brain can moderate the functions of the respiratory rhythm centre. Neural signal from this centre can reduce the duration of inspiration and thereby alter the respiratory rate.

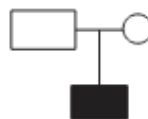
**160.** The amount of biomass or organic matter produced per unit area over a time period by plants during photosynthesis is called:

- (1) Net primary production
- (2) Secondary production
- (3) Primary production
- (4) Gross primary production

Sol. Answer (3)

The amount of biomass or organic matter produced per unit area over a time period by plants during photosynthesis is called primary production.

**161.** Select the incorrect match regarding the symbols used in Pedigree analysis



- (1) Parent with male child affected with disease



- (2) Sex unspecified

(3)  Affected individual

(4)  Consanguineous mating

Sol. Answer (4)



Mating between Relative (consanguineous mating)

**162.** If the pH in lysosomes is increased to alkaline, what will be the outcome?

- (1) Lysosomal enzymes will be more active
- (2) Hydrolytic enzymes will function more efficiently
- (3) Hydrolytic enzymes will become inactive
- (4) Lysosomal enzymes will be released into the cytoplasm

Sol. Answer (3)

Lysosomal enzymes are activated at acidic pH only and get deactivated at alkaline pH.

**163.** According to the sliding filament theory

- (1) The actin filaments slide away from A-band resulting in shortening of sarcomere.
- (2) Actin and myosin filaments slide over each other to increase the length of the sarcomere.
- (3) Length of A-band does not change.
- (4) I-band increases in length.

Sol. Answer (3)

- In sliding filament theory, skeletal muscle shortens during contraction because the thin filaments (Actin) slide past over the thick filaments (Myosin)
- Thus, the I band gets reduced and the A band retains its length.
- As the thin filaments slide inwards the Z discs come close together, and sarcomere shortens.

**164.** Pathogenic bacteria gain resistance to antibiotics due to changes in their :

- (1) Nucleoid
- (2) Cosmids
- (3) Plasmids
- (4) Nucleus

Sol. Answer (3)

R-plasmid or resistance plasmids allow specific bacteria to gain resistance against antibiotics.

**165.** Panspermia, an idea that is still a favourite for some astronomers, means

- (1) Transfer of spores as unit of life from other planets to Earth
- (2) Creation of life from dead and decaying matter
- (3) Creation of life from chemicals
- (4) Origin of sperm in human testes

Sol. Answer (1)

Early Greek thinkers thought units of life called spores were transferred to different planets including Earth, which formed the Theory of Panspermia.

**166.** Why CNG is considered better fuel than diesel?

- (a) It can not be adulterated.
- (b) It takes less time to fill the fuel tank.
- (c) It burns more efficiently.
- (d) It is cheaper.
- (e) It is less inflammable.

Choose the most appropriate answer from the options given below:

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

Sol. Answer (3)

CNG :

- Cannot be adulterated
  - It burns more efficiently
  - it is cheaper
  - (e) is incorrect because CNG is less flammable not inflammable.
- 167.** Which of the following statements are correct with respect to vital capacity?

- (a) It includes ERV, TV and IRV.
  - (b) Total volume of air a person can inspire after a normal expiration.
  - (c) The maximum volume of air a person can breathe in after forced expiration.
  - (d) It includes ERV, RV and IRV.
  - (e) The maximum volume of air a person can breathe out after a forced inspiration.
- Choose the most appropriate answer from the options given below.

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

Sol. Answer (4)

Vital capacity (VC): The maximum volume of air a person can breathe in after a forced expiration or the maximum volume of air a person can breathe out after a forced inspiration. This includes ERV, TV and IRV.

168. How many secondary spermatocytes are required to form 400 million spermatozoa?

- (1) 400 million            (2) 50 million  
(3) 100 million           (4) 200 million

Sol. Answer (4)

During spermatogenesis, each secondary spermatocyte undergoes Meiosis II and forms two spermatids that in turn differentiate to form two spermatozoa. So, the number of spermatozoa is twice that of secondary spermatocytes. Therefore, 200 million secondary spermatocytes are required to form 400 million spermatozoa.

169. Mad cow disease in cattle and Cr Jacob disease in humans are due to infection by \_\_\_\_\_.

- (1) Prion  
(2) Bacterium  
(3) Virus  
(4) Viroid

Sol. Answer (1)

Mad cow disease in cattle and Cr Jacob disease in humans are due to infection by Prions which are abnormally folded proteins.

170. Arrange the components of mammary gland. (from proximal to distal).

- (a) Mammary duct            (b) Lactiferous duct  
(c) Alveoli                    (d) Mammary ampulla  
(e) Mammary tubules

Choose the most appropriate answer from the options given below .

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

Sol. Answer (4)

Alveoli → Mammary tubules → Mammary duct → Mammary ampulla → Lactiferous duct

171. Western Ghats have a large number of plants and animal species that are not found anywhere else. Which of the following term is used to notify such species?

- (1) Vulnerable species  
(2) Threatened species  
(3) Keystone species  
(4) Endemic species

Sol. Answer (4)

Endemism is distribution of a taxon limited to a small geographic area and found nowhere else.

172. Match List - I with List - II regarding the organs of Cockroach :

List - I

List - II

- |                        |                                    |
|------------------------|------------------------------------|
| (a) Crop               | (i) grinding the food particles    |
| (b) Proventriculus     | (ii) secretion of digestive juice  |
| (c) Hepatic caecae     | (iii) removal of nitrogenous waste |
| (d) Malpighian tubules | (iv) storage of food               |

Choose the correct answer from the options given below .

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

Sol. Answer (2)

- |                    |                                 |
|--------------------|---------------------------------|
| Crop               | - storage of food               |
| Proventriculus     | - grinding of food              |
| Hepatic caecae     | - secretion of digestive juices |
| Malpighian tubules | - Removal of excretory products |

173. Two butterfly species are competing for the same nectar of a flower in a garden. To survive and coexist together, they may avoid competition in the same garden by

- (1) predated on each other  
(2) feeding at the same time  
(3) choosing different foraging patterns  
(4) increasing time spent on attacking each other

Sol. Answer (3)

Two butterfly species are competing for same nectar of a flower. To survive and co-exist together they can choose different foraging patterns.

174. Role of enamel is to :

- (1) Give basic shape to the teeth  
(2) Connect crown of tooth with its root  
(3) Masticate the food  
(4) Form bolus

Sol. Answer (3)

Enamel is present on the outer side of the crown in teeth and is involved in mastication of the food.

175. Choose the incorrect enzymatic reaction.

- (1) Dipeptides  $\xrightarrow{\text{Dipeptidases}}$  Amino acids  
 (2) Maltose  $\xrightarrow{\text{Maltase}}$  Glucose + Galactose  
 (3) Sucrose  $\xrightarrow{\text{Sucrase}}$  Glucose + Fructose  
 (4) Lactase  $\xrightarrow{\text{Lactase}}$  Glucose + Galactose

Sol. Answer (2)

Maltase enzyme converts maltose into two glucose molecules

Dipeptidase converts dipeptides into two amino acid molecules.

Sucrase converts sucrose into glucose and fructose.

Lactase converts lactose into glucose and galactose

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

Assertion (A) :

During pregnancy the level of thyroxine is increased in the maternal blood.

Reason (R) :

Pregnancy is characterised by metabolic changes in the mother.

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

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

Sol. Answer (2)

During pregnancy, the metabolic rate in the mother is increased to fulfil the increased requirements of the mother and the developing fetus by increase in thyroxine

Both assertion and reason are correct and reason is the correct explanation of the assertion.

177. Choose the correct statements :

- (a) Bones support and protect softer tissues and organs

- (b) Weight bearing function is served by limb bones  
 (c) Ligament is the site of production of blood  
 (d) Adipose tissue is specialised to store fats.  
 (e) Tendons attach one bone to another. Choose the most appropriate answer from the options given below

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

Sol. Answer (2)

C---Ligament is the site of production of blood cells (false statement)... should be bone marrow

D---Tendons join one bone to another bone (False statement)...should be ligament

178. If DNA contained sulfur instead of phosphorus and proteins contained phosphorus instead of sulfur, what would have been the outcome of Hershey and Chase experiment?

- (1) Radioactive phosphorus in bacterial cells  
 (2) No radioactive sulfur in bacterial cells  
 (3) Both radioactive sulfur and phosphorus in bacterial cells  
 (4) Radioactive sulfur in bacterial cells

Sol. Answer (4)

If DNA contains sulphur

Protein contains Phosphorous

Then, Radioactive sulphur will be found in bacterial cells.

179. Select the incorrect statements with respect to Cyclostomes .

- (a) They lack scales and paired fins.  
 (b) They have circular mouth with jaws.  
 (c) They bear 6-15 pairs of gills.  
 (d) They migrate to deep sea for spawning.

Choose the most appropriate answer from the options given below :

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

Sol. Answer (4)

- (a) Correct  
 (b) False (as the jaws are absent)  
 (c) Correct  
 (d) False (as they migrate to fresh water or shallow water for spawning)

180. A unique vascular connection between the digestive tract and liver is called

- (1) Hepato-cystic system
- (2) Hepato-pancreatic system
- (3) Hepatic portal system
- (4) Renal portal system

Sol. Answer (3)

Hepatic portal system is a specialised system that connects the digestive tract with the liver.

181. Milk of transgenic 'Cow Rosie' was nutritionally more balanced product for human babies than natural cow milk because it contained :

- (1) Human enzyme Adenosine Deaminase (ADA)
- (2) Human protein  $\alpha$ -1-antitrypsin
- (3) Human alpha-lactalbumin
- (4) Human insulin-like growth factor

Sol. Answer (3)

Alpha-lactalbumin is the human milk protein produced by the transgenic cow 'Rosie'.

182. Gout is a type of disorder which leads to :

- (1) Weakening of bones due to low calcium level
- (2) Inflammation of joints due to accumulation of uric acid crystals
- (3) Weakening of bones due to decreased bone mass
- (4) Inflammation of joints due to cartilage degeneration

Sol. Answer (2)

Gout is a metabolic disease characterised by increased production of uric acid and deposition of uric acid crystals in the joints leading to inflammation of the joints.

183. Which of the following methods is not commonly used for introducing foreign DNA into the plant cell?

- (1) Bacteriophages
- (2) Agrobacterium mediated transformation
- (3) Gene gun
- (4) 'Disarmed pathogen' vectors

Sol. Answer (1)

Bacteriophages are used to insert foreign DNA into the bacteria(not into the plants).

184. Given below are two statements :

**Statement I :**

Amino acids have a property of ionizable nature of  $\text{—NH}_2$  and  $\text{—COOH}$  groups, hence have different structures at different pH.

**Statement II :**

Amino acids can exist as Zwitterionic form at acidic and basic pH.

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

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

Sol. Answer (2)

Statement I :Correct

Statement II: Correct, Zwitterion formation takes place at isoelectric point that can be at acidic or basic pH.

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

**Assertion (A) :**

*Spirulina* is a microbe that can be used for reducing environmental pollution.

**Reason (R) :**

*Spirulina* is a rich source of protein, carbohydrates, fats, minerals and vitamins.

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

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

Sol. Answer (3)

*Spirulina* is a blue green algae as it performs photosynthesis. It enriches the surrounding environment with oxygen.

It can be cultivated on starch rich waste waters from potato processing industry, straw, molasses etc.

Large amounts of *Spirulina* can be grown this way as it can also serve as a rich source of protein, carbohydrates, fats, minerals and vitamins.

#### Zoology : Section-B (Q. No. 186 to 200)

186. With respect to metaphase, which of the following statements is incorrect?

- (1) Chromosomes lie at the equator of the cell

- (2) Complete disintegration of nuclear envelope takes place
- (3) Chromosomes are highly condensed
- (4) Metaphase chromosomes are made up of four sister chromatids held together by centromere

**Sol.** Answer (4)

Each chromosome is made up of 2 sister chromatids.

**187.** Against the codon 5' UAC 3', what would be the sequence of anticodon on tRNA?

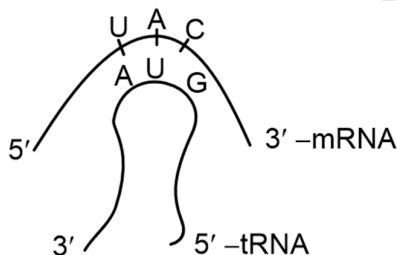
- (1) 5' GUA 3'                      (2) 5' AUG 3'
- (3) 5' ATG 3'                      (4) 5' GTA 3'

**Sol.** Answer (1)

mRNA codon : 5' UAC 3'

tRNA Anticodon : 3' AUG 5'

The sequence of anticodon on tRNA would be 5' GUA 3'



**188.** Arrange the following formed elements in the decreasing order of their abundance in blood in humans :

- (a) Platelets                      (b) Neutrophils
- (c) Erythrocytes.              (d) Eosinophils
- (e) Monocytes

Choose the most appropriate answer from the options given below :

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

**Sol.** Answer (2)

- Erythrocytes/RBCs : 5 – 5.5 million/mm<sup>3</sup>
- Platelets : 1,50,000 – 3,50,000/mm<sup>3</sup>
- WBCs/Leukocytes : 6,000 – 8,000/mm<sup>3</sup>
  - Neutrophils : 60 to 65%
  - Lymphocytes : 20 to 25%
  - Monocytes : 6 to 8%

Eosinophils : 2 to 3%

Basophils : 0.5 to 1%

**189.** Which of the following are true about the taxonomical aid 'key'?

- (a) Keys are based on the similarities and dissimilarities.
- (b) Key is analytical in nature.
- (c) Keys are based on the contrasting characters in pair called Couplet.
- (d) Same key can be used for all taxonomic categories.
- (e) Each statement in the key is called Lead. Choose the most appropriate answer from the options given below :

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

**Sol.** Answer (4)

Keys are a type of taxonomical aid. They are analytical in nature. Different keys are used for different taxonomic categories.

**190.** A normal girl, whose mother is haemophilic marries a male with no ancestral history of haemophilia. What will be the possible phenotypes of the offsprings?

- (a) Haemophilic son and haemophilic daughter.
- (b) Haemophilic son and carrier daughter.
- (c) Normal daughter and normal son.
- (d) Normal son and haemophilic daughter.

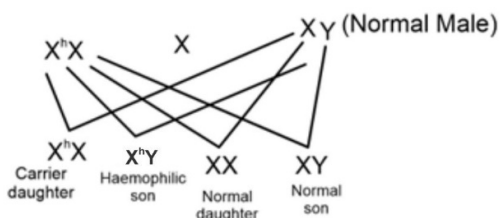
Choose the most appropriate answer from the options given below :

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

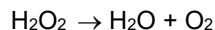
**Sol.** Answer (3)

Normal girls whose mother was Haemophilic. Haemophilia is a X linked Recessive disease

X<sup>h</sup>X is genotype of daughter as she receives one X<sup>h</sup> from mother



191. In the enzyme which catalyses the breakdown of:



the prosthetic group is:

- (1) Niacin
- (2) Nicotinamide adenine dinucleotide
- (3) Haem
- (4) Zinc

Sol. Answer (3)

Peroxidase and catalase enzymes catalyze the breakdown of Hydrogen peroxide to water and oxygen, Haem is the prosthetic group.

192. Select the incorrect statement with respect to inbreeding of animals.

- (1) It exposes harmful recessive genes that are eliminated by selection.
- (2) It is used for evolving pure lines in cattle.
- (3) It helps in accumulation of superior genes and elimination of less desirable genes.
- (4) It decreases homozygosity.

Sol. Answer (4)

Inbreeding refers to the mating of more closely related individuals within the same breed for 4-6 generations.

Hence, Inbreeding increases Homozygosity.

193. IUDs are small objects made up of plastic or copper that are inserted in the uterine cavity. Which of the following statements are correct about IUDs?

- (a) IUDs decrease phagocytosis of sperm within the uterus.
- (b) The released copper ions suppress the sperm motility.
- (c) IUDs do not make the cervix hostile to the sperm.
- (d) IUDs suppress the fertilization capacity of sperm.
- (e) The IUDs require surgical intervention for their insertion in the uterine cavity.

Choose the most appropriate answer from the options given below:

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

Sol. Answer (4)

IUDs - Inserted by doctors or expert nurses in the uterus through vagina.

- Increase phagocytosis of sperms within the uterus
- Release Cu ions which suppress sperm motility & the fertilizing capacity of sperms
- Make the uterus unsuitable for implantation & the cervix hostile to the sperms.
- The IUDs require no surgical intervention for their insertion in the uterine cavity.

194. Select the correct statement regarding mutation theory of evolution.

- (1) Large differences due to mutations arise gradually in a population
- (2) This theory was proposed by Alfred Wallace
- (3) Variations are small directional changes
- (4) Single step large mutation is a cause of speciation

Sol. Answer (4)

- Mutation theory was given by Hugo de Vries.
- Mutation is the large difference arising suddenly in population.
- Mutations are random and directionless.

195. Excretion in cockroach is performed by all, EXCEPT:

- (1) Hepatic caeca
- (2) Ureose glands
- (3) Malpighian tubules
- (4) Fat body

Sol. Answer (1)

A ring of 6-8 blind tubules called Hepatic or gastric caeca is present at the junction of foregut and midgut, which secrete digestive juice.

196. Select the **correct** statements.

- (a) Angiotensin II activates the cortex of adrenal gland to release aldosterone.
- (b) Aldosterone leads to increase in blood pressure.



- (c) ANF acts as a check on renin-angiotensin mechanism.
- (d) ADH causes vasodilation.
- (e) Vasopressin is released from adenohypophysis.

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

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

Sol. Answer (1)

- Hypothalamus release ADH or vasopressin through the neurohypophysis.
- ADH affects the kidney function by its constrictory effect on blood vessels.

**197.** If A and C make 30% and 20% of DNA, respectively, what will be the percentage composition of T. and G ?

- (1) T : 20%, G : 20%
- (2) T : 20%, G : 30%
- (3) T : 30%, G : 20%
- (4) T : 30%, G : 30%

Sol. Answer (3)

According to the Chargaff's rule, the DNA should have an equal ratio of Purine (Adenine & Guanine) and Pyrimidine (Thymine & Cytosine).

It means the number of Adenine is equal to Thymine and the number of Guanine is equal to Cytosine molecules.

**198.** Refer to the following statements for agarose-gel electrophoresis :

- (a) Agarose is a natural polymer obtained from sea-weed.
- (b) The separation of DNA molecules in agarose-gel electrophoresis depends on the size of DNA.
- (c) The DNA migrates from negatively-charged electrode to the positively-charged electrode
- (d) The DNA migrates from positively-charged electrode to the negatively-charged electrode.

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

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

Sol. Answer (3)

Fragments of DNA after the action of restriction endonuclease can be separated by a technique known as gel electrophoresis.

DNA fragments are negatively charged molecules they can be separated by forcing them to move towards the anode (positively charged) under electric field.

**199.** Match List - I with List - II :

List - I	List - II
(a) Multipolar neuron	(i) Somatic neural system
(b) Bipolar neuron	(ii) Cerebral cortex
(c) Myelinated nerve fibre	(iii) Retina of Eye
(d) Unmyelinated nerve fibre	(iv) Spinal nerves

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

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

Sol. Answer (1)

Multipolar Neurons (with one axon and two or more dendrites ; found in the cerebral cortex)

Bipolar (with one axon and one dendrite , found in the retina of eye)

Myelinated nerve fibres - found in spinal and cranial nerves

Unmyelinated nerve fibres - found in autonomous and the somatic neural system

**200.** Match List - I with List - II :

List - I	List - II
(a) Cellular barrier	(i) Interferons
(b) Cytokine barrier	(ii) Mucus
(c) Physical barrier	(iii) Neutrophils
(d) Physiological barrier	(iv) HCl in gastric juice

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

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

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

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

Sol. Answer (1)

Innate immunity consists of four barriers:

1. Physical barriers - e.g. Mucus coating of the epithelium lining the respiratory, gastrointestinal and urogenital tracts.

2. Physiological barrier - e.g. Acid (HCl) in stomach

3. Cellular barriers - e.g. Polymorpho-nuclear leukocytes (PMNL-Neutrophils)

4. Cytokine barrier - e.g. Interferons (secreted by virus infected cells to protect non infected cells from further viral infection)



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## Answer Key

### NEET 2022 (Re-Exam)

1.	(1)	35.	(2)	69.	(2)	103.	(2)	137.	(4)	171.	(4)
2.	(2)	36.	(4)	70.	(1)	104.	(1)	138.	(3)	172.	(2)
3.	(4)	37.	(4)	71.	(3)	105.	(2)	139.	(4)	173.	(3)
4.	(1)	38.	(4)	72.	(4)	106.	(2)	140.	(4)	174.	(3)
5.	(2)	39.	(2)	73.	(2)	107.	(3)	141.	(1)	175.	(2)
6.	(3)	40.	(3)	74.	(4)	108.	(3)	142.	(3)	176.	(2)
7.	(2)	41.	(1)	75.	(3)	109.	(1)	143.	(2)	177.	(2)
8.	(1)	42.	(2)	76.	(2)	110.	(4)	144.	(3)	178.	(4)
9.	(1)	43.	(2)	77.	(2)	111.	(4)	145.	(4)	179.	(4)
10.	(1)	44.	(2)	78.	(2)	112.	(3)	146.	(3)	180.	(3)
11.	(1)	45.	(1)	79.	(2)	113.	(4)	147.	(4)	181.	(3)
12.	(1)	46.	(1)	80.	(4)	114.	(3)	148.	(3)	182.	(2)
13.	(2)	47.	(4)	81.	(2)	115.	(3)	149.	(2)	183.	(1)
14.	(4)	48.	(3)	82.	(1)	116.	(4)	150.	(4)	184.	(2)
15.	(2)	49.	(4)	83.	(2)	117.	(3)	151.	(4)	185.	(3)
16.	(4)	50.	(2)	84.	(4)	118.	(2)	152.	(4)	186.	(4)
17.	(3)	51.	(1)	85.	(1)	119.	(4)	153.	(2)	187.	(1)
18.	(2)	52.	(3)	86.	(4)	120.	(2)	154.	(3)	188.	(2)
19.	(3)	53.	(4)	87.	(4)	121.	(1)	155.	(1)	189.	(4)
20.	(2)	54.	(4)	88.	(1)	122.	(4)	156.	(4)	190.	(3)
21.	(4)	55.	(2)	89.	(1)	123.	(3)	157.	(2)	191.	(3)
22.	(3)	56.	(4)	90.	(3)	124.	(2)	158.	(3)	192.	(4)
23.	(4)	57.	(1)	91.	(2)	125.	(2)	159.	(3)	193.	(4)
24.	(4)	58.	(4)	92.	(4)	126.	(1)	160.	(4)	194.	(4)
25.	(4)	59.	(3)	93.	(2)	127.	(3)	161.	(4)	195.	(1)
26.	(4)	60.	(3)	94.	(3)	128.	(3)	162.	(3)	196.	(1)
27.	(3)	61.	(4)	95.	(3)	129.	(4)	163.	(3)	197.	(3)
28.	(4)	62.	(3)	96.	(1)	130.	(3)	164.	(3)	198.	(3)
29.	(4)	63.	(3)	97.	(4)	131.	(2)	165.	(1)	199.	(1)
30.	(4)	64.	(1)	98.	(1)	132.	(3)	166.	(3)	200.	(1)
31.	(2)	65.	(4)	99.	(2)	133.	(1)	167.	(4)		
32.	(4)	66.	(3)	100.	(1)	134.	(NA)	168.	(4)		
33.	(2)	67.	(4)	101.	(1)	135.	(3)	169.	(1)		
34.	(2)	68.	(3)	102.	(4)	136.	(4)	170.	(4)		

□ □ □