

MODEL QUESTIONS OF ZOOLOGY (GENERAL)

1ST YEAR GENERAL (PAPER- I)

TERM – I

➤ GROUP- A : Functional Anatomy of Non- Chordates

❖ LONG ANSWER TYPE QUESTIONS :

1. Describe the role of microfibrils in amoeboid movement.
2. Describe the E.M. structure of a cilium.
3. Describe the respiratory organ and mechanism of respiration in Prawn.
4. What is circulatory system? What are its function?
5. Describe the structure of the septal nephridium in earthworm and its mechanism of excretion.
6. What is ladder like nervous system? Where it is found?
7. Describe the process of conjugation in *Paramecium sp.*

❖ SHORT ANSWER TYPE QUESTIONS :

1. Distinguish between alternation of generation and metagenesis.
2. What is clitellum? Where it is found?
3. What is a somatogastric nerve? Where it is found?
4. What do you mean by torsion?
5. What is the difference between connective and commissure?
6. What is pharyngeal nephridia?
7. What are nephrocytes? Where they are found?
8. Why the blood of an earthworm is red?
9. What is monopectinate gill and where it is found?
10. What is the difference between the circumvallation and circumfluence?

TERM – II

➤ GROUP – B: Cell Biology, Genetics and Molecular Biology

❖ LONG ANSWER TYPE QUESTIONS :

1. Give an account of the chemical composition of plasma membrane.
2. What are monotopic, bitopic and polytopic membrane proteins?
3. What is MPF? What is its function?

4. What do you mean by tumour suppressor gene? Describe how they function to regulate the cell cycle?
5. Describe the chemical structure of DNA.
6. Compare complete linkage with incomplete linkage.
7. Describe the role of the following enzymes- DNA Pol III, SSB protein, RNA Pol II, Ligase
8. What is Rho dependent termination? How it is different from Rho independent termination?
9. What are the types of Thalassemia? What is its genetic basis of occurrence?
10. How do the Genic Balance theory related to sex determination process in *Drosophila sp.*?

❖ SHORT ANSWER TYPE QUESTIONS :

1. What are the coefficient of coincidence and interference?
2. What do you mean by centimorgan?
3. What is nucleotide and nucleoside?
4. What is OriC?
5. What do you mean by Protanopia, Deuteranopia, Tritanopia?
6. What is cyclin?
7. What do you mean by gynandromorph?
8. What are holandric genes?

TERM – III

➤ GROUP – C: Developmental Biology

❖ LONG ANSWER TYPE QUESTIONS :

1. Describe the process of spermiogenesis.
2. Describe in detail the E.M. structure of a sperm.
3. Describe the process of gastrulation in Amphioxus.
4. What are the types of the egg on the basis of the amount of yolk?
5. How do the chorion and amnion are formed in chick embryo?
6. What is placenta? Mention its various functions.
7. What do you mean by acrosomal reaction? Describe the slow block of polyspermy in sea urchin.

❖ SHORT ANSWER TYPE QUESTIONS :

1. What is deciduous placenta?
2. What is haemoendothelial placenta?
3. Differentiate between holoblastic and meroblastic cleavage.
4. What do you mean by polyspermy?
5. What is amphimixis?
6. What is vitellogenesis?

2ND YEAR GENERAL (PAPER- II)

TERM – I

➤ GROUP – A: Functional anatomy of Chordates

❖ LONG ANSWER TYPE QUESTIONS :

1. Give the systematic position of the following animals:
Scoliodon, Ichthyophis, Naja, Ornithorhynchus, Elephas
2. What is the difference epidermis and skin. Name different epidermal derivatives in vertebrate animals.
3. “Birds have many exoskeletal structures”- Discuss.
4. Describe the pharynx of Branchiostoma.
5. Describe the structure of ruminant stomach of *Bos sp.*
6. What is a gill? How a gill is formed? What is difference between septal gill and opercular gill.
7. What do you mean by single circuit heart? Mention the course of blood circulation through it.

❖ SHORT ANSWER TYPE QUESTIONS :

1. What is fossa ovalis?
2. What is physostomus air bladder?
3. Why does the endostyle called as the “fore runner of thyroid gland”?
4. What is pterylae?
5. What is the function of rumen?

TERM – II

➤ GROUP- B: Ecology, Animal behaviour, Biodiversity and Wildlife

❖ LONG ANSWER TYPE QUESTIONS :

1. How the density dependent and independent factors regulate the population size.
2. What is difference between the fertility and fecundity rate?
3. What are the J- shaped and S-shaped growth curves? Explain with diagrams.
4. What do you mean by ecological niche? How it differs from habitat?
5. What is community dominance? Explain with example.
6. What do you mean by LD50 and LC50? How it is related to the population biology?

7. Define national park, reserve forest and sanctuaries with examples.
8. How destruction of wildlife disturbs the ecological balance?
9. Name the various categories of members found in a bee colony.

❖ **SHORT ANSWER TYPE QUESTIONS :**

1. What is the difference between the resistance and resilience in case of a community?
2. What do you mean by survivorship curve?
3. What is hypervolume niche?
4. Differentiate between the in situ and ex situ conservation.
5. What are the full forms of IUCN, CITES?
6. What is Agenda 21?
7. What do you mean by sustainable development?
8. What are the causes of acid rain?
9. Name two green house gases.

TERM – III

➤ **GROUP- C : Histology, Endocrinology, Animal Physiology & Biochemistry**

❖ **LONG ANSWER TYPE QUESTIONS :**

1. Classify hormones according to their chemical nature.
2. How the hypophyseal axis regulates the secretion of pituitary hormones?
3. Describe the histological structure of the pancreas.
4. Explain the Michaelis Menten's equation for enzyme kinetics.
5. Explain the effects of pH and temperature on enzymatic action.
6. Give an account of the generation of action potential in a nerve cell.
7. How the marine fishes maintain the electrolyte balance in their body?

❖ **SHORT ANSWER TYPE QUESTIONS :**

1. What is receptor?
2. What do you mean by second messenger system?
3. Name two hormones secreted from neurohypophysis.
4. How the V_{max} and K_m will change in case of competitive inhibition?
5. What do you mean by the synaptic transmission?
6. What is difference between the osmoregulators and osmoconformers?
7. Differentiate between the stenohaline and euryhaline condition.

3RD YEAR GENERAL (PAPER- IV)

TERM – I

➤ GROUP – A : Applied Zoology

❖ LONG ANSWER TYPE QUESTIONS :

1. What is silk? Give the composition of Silk.
2. Name four species of mulberry silk moth.
3. What is induced breeding? How induced breeding is applied on major carps? What are the advantages of induced breeding?
4. What do you mean by mixed polyculture? What are the advantages of it?
5. Why *Bandicota* is regarded as a pest? Describe the behaviour pattern of it?
6. Define a pest. Name a paddy pest. What are major and minor pests? Give example of each type.
7. Describe a standard Langstroth's chamber used in scientific bee culture.

❖ SHORT ANSWER TYPE QUESTIONS :

1. What do you mean by royal jelly and propolis?
2. What is deep litter system?
3. Give two names of exotic carps.
4. What is the causative agent of Pebrine disease?
5. What do you mean by dead heart and white ear head?
6. What do you mean by integrated pest management?

TERM – II

➤ GROUP – B : Parasitology & Immunology

❖ LONG ANSWER TYPE QUESTIONS :

1. What do you mean by symbiosis, commensalism and mutualism?
2. What is parasitism and hyperparasitism? Explain with examples.
3. Describe the human cycle of *P. vivax*. When the malaria fever occurs? What type of malaria it is? What is the treatment of this malaria?
4. Explain the pathogenecity of *E. histolytica* and its control measures.
5. Describe the typical structure of an immunoglobulin.

❖ **SHORT ANSWER TYPE QUESTIONS :**

1. What do you mean by Löffler's syndrome?
2. What is signet ring?
3. What is Schuffner's dot and Maurer's dot?
4. Which immunoglobulin can cross the placenta?
5. What do you mean by antigen avidity?
6. Name one drug which can control the Amoebiasis.

TERM – III

➤ **GROUP – C : Evolutionary Biology**

❖ **LONG ANSWER TYPE QUESTIONS :**

1. What do you mean by taxonomy, systematic and nomenclature?
2. Give an account of Biological Species Concept?
3. What are the alpha, beta and gamma taxonomy?
4. Explain the anatomical and physiological adaptations of Camel.

❖ **SHORT ANSWER TYPE QUESTIONS :**

1. What do you mean by Wallace line and Weber's line?
2. What are the sibling and polytypic species?
3. What is Hot dilute soup?
4. Give two characteristics of coacervates?
5. What was the result of Urey Miller's experiment?
6. What do you mean by cursorial adaptation?