

B.Sc-III General Science Semester-VI Examination,

ZOOLOGY

Developmental Biology of Vertebrates (BZT-601)

Subject Code-17010

Question Bank

Instructions:- 1) *All questions are compulsory.*

2) *All questions are carry equal marks.*

3) *Draw neat well labeled diagram.*

Q. 1: Answer in one sentence.

- 1) Define morphogenetic movements.
- 2) What is fertilizin?
- 3) Define polyspermy.
- 4) Define foetal membrane.
- 5) Define zona pellucida.
- 6) Define blastocoels.
- 7) What are the types of egg based on the amount of yolk?
- 8) Define epiboly.
- 9) What is chorion?
- 10) What is antifertilizin?
- 11) Which hormone controlled the metamorphosis in frog?
- 12) What is amnion?
- 13) Define gametogenesis.
- 14) What are the types of eggs based on the distribution of yolk?
- 15) Define monospermy.

- 16) What is yolk sac?
- 17) Define allantois.
- 18) Define embryology.
- 19) Define discoidal cleavage.
- 20) Define mosaic egg.
- 21) What is cleidoic egg?
- 22) Define gametogenesis.
- 23) Give any two examples of deciduate placenta.
- 24) What is foetal membrane?
- 25) Define placenta.
- 26) What is the shape of 72hrs. of chick embryo?
- 27) How many somites are present in 48hrs of chick embryo?
- 28) What is the formula for calculating the age of chick embryo?
- 29) What is temperature for artificial incubation?
- 30) What are Somites?

Q. 2: Attempt the following questions.

- 1) Describe in details types of eggs.
- 2) What is embryology? Describe in detail development of chick up to 72 hrs.
- 3) What is fertilization? Give an account of the chemical factors involved in the process of fertilization.
- 4) Describe in details metamorphosis in frog.
- 5) What is embryology? Explain in brief foetal membranes in mammals.
- 6) Describe structure of mature egg and its membrane with the help of suitable diagram.
- 7) Explain in detail types of placenta (any two).

8) What is metamorphosis? Give an account of hormonal control of metamorphosis.

9) What is fertilization? Give an account of cytological factors involved in the process of fertilization.

10) What is morphogenic movement? Give a detail account of types of morphogenic movements in frog.

11) What is fertilization? Give an account of physical factors involved in the process of fertilization.

12) What is embryology? Describe in detail development of neural tube and brain up to 72 hrs of incubation.

13) What is embryology? Describe in detail development of gut up to 72 hrs of incubation.

14) What is embryology? Describe in detail development of blood and heart up to 72 hrs of incubation.

15) What is sperm? Describe structure of sperm with the help of suitable diagram.

Q. 3: Attempt the following questions.

1) Describe the types of cleavage.

2) Write a note on blastula and its fate map.

3) Write note on yolk sac.

4) Describe structure of sperm with suitable diagram.

5) Write a note on process of gastrulation.

6) Write a note on chorion.

7) Describe acrosome reaction of fertilization with suitable diagram.

8) Describe in detail holoblastic cleavage.

9) Write a note on telolecithal eggs.

10) Write a note on implantation of embryo in human being.

11) Describe 48 hrs chick embryo development.

- 12) Write a note on blastula and gastrula.
- 13) Give an account of tertiary membrane of egg.
- 14) Describe in detail meroblastic cleavage.
- 15) Write a note on types of eggs based on the distribution of yolk.
- 16) Write a note on blastula and gastrula.
- 17) Write a note on chorion.
- 18) Write a note on radial cleavage.
- 19) Describe physiological and biochemical changes during metamorphosis in frog.
- 20) Describe primary membrane of egg.
- 21) Write a note on spiral cleavage.
- 22) Write note on epitheliochorial placenta.
- 23) Describe haemoendothelial placenta.
- 24) Write note on fate of three germinal layers.
- 25) Write note on significance of placenta.
- 26) Describe cotyledonary placenta.
- 27) Write note on chemotaxis.
- 28) Structure of 48 hrs of chick embryo.
- 29) Structure of 33 hrs of chick embryo.
- 30) Structure of 72 hrs of chick embryo.

B.Sc. III General Science Semester- VI
Zoology Paper – Insect Vector & Histology (BZT 602)
Question Bank

Q. 1: Define following Term/Answer in one sentence.

1. Name the causative organism of plague.
2. What are the nephrons?
3. Define vector.
4. Name any two ectoparasite?
5. Name any two diseases transmitted by housefly?
6. Enlist any two diseases spread by mosquito.
7. Give the biological name of rat flea.
8. Define carrier.
9. Name the causative organism of filariasis.
10. What is bubo?
11. Which disease is transmitted by housefly?
12. Which vector transmitted the plague.
13. Define mechanical vector.
14. Define vector.
15. Name the causative organism of malaria.
16. Name any two ectoparasite?
17. Give the name of causative agent of Malaria.
18. What is the causative organism of typhus fever.
19. What is enamel?
20. What is bubonic plague?
21. What is glomerulus?
22. What are the taste buds?
23. What is pneumonic plague?
24. Which types of mouthparts are present in mosquitoes?
25. What is intermediate host?

Q.2 Long answer questions (10 marks)

1. With neat labelled diagram describe the histological structure of kidney.
2. Describe the mode of transmission of malaria. Give symptoms and control measures of malaria.

3. Explain the ticks and mites as a vector.
4. With neat labelled diagram describe the histological structure of liver.
5. Describe the mode of transmission of filariasis. Give symptoms and control measures of filariasis.
6. Explain the mode of transmission of typhus fever. Add a note on its control measures.
7. With neat labelled diagram describe the histological structure of tooth.
8. Describe the mode of transmission of Leshmaniasis. Give symptoms and control measures of Leshmaniasis.
9. Describe the mosquito born diseases in brief.
10. With neat labelled diagram describe the histological structure of Pancreas.
11. Describe the mode of transmission of chikungunya. Give symptoms and control measures of chikungunya.
12. Describe the mode of transmission of Virulencephalitis. Give symptoms and control measures of Virulencephalitis.
13. Explain the house fly as important mechanical vector. Add a note of transmission and control measures of disease Myiasis.
14. With neat labelled diagram describe in detail the histological structure of stomach.
15. Describe dipterans as important insect vectors. Add a note on diseases caused by sand fly.

Q.3 Short notes (5 marks)

1. Histological structure of pancreas.
2. Write a note on typhus fever.
3. Write a note on Bubonic plague.
4. Control measures of housefly.
5. Types of vectors.
6. symptoms of Filariasis.
7. Sketch and label histological structure of tongue.
8. Write a note life cycle of flea.
9. Write a note on pneumonic plague.
10. Control measures of ticks & mites.

11. sand fly as insect vector.
12. symptoms of dengue.
13. Histological structure of salivary gland.
14. Write a note on control measures of mosquitoes.
15. Write a note on septicemic plague.
16. T.S. of liver
17. Control measures of fleas.
18. Write a note on mites.
19. Housefly as insect vector.
20. symptoms of chikangunya.
21. Note on ticks.
22. Control measures of fleas.
23. Note on filariasis.
24. V.S. of tooth.
25. Sandfly as insect vector.

B.Sc. III General Science Semester- VI Examination
Zoology Paper – Immunology (BZT 603)
Subject Code: 17012
Question Bank

Q. 1: Define following Term/Answer in one sentence.

1. Define Innate Immunity.
2. Define Phagocytosis.
3. Define Hematopoiesis.
4. Define Stem Cells.
5. Define Epitope.
6. Define Immunity.
7. Define passive immunity.
8. Define unipotent cell.
9. Define erythropoiesis.
10. Define paratope.
11. Define chemotaxis.
12. Define antigen.
13. Define multipotent cell.
14. Define Granulopoiesis.
15. Define antibody.
16. Define stem cells.
17. Define totipotent cells.
18. Define chemotaxis.
19. Define interleukins.
20. Define GM-CSF.
21. What do you mean by pluripotent cells.
22. Define myeloid stem cell.
23. What do you mean by Immunoglobulin.
24. Define lymphopoiesis.
25. What do you mean by polymorphonucleocytes.
26. Define NK cells.
27. Define immunogens.
28. Define Tcell.
29. What do you mean by Bcell.
30. What do you mean by V region of immunoglobulin.
31. What do you mean by H region of immunoglobulin.

32. Define antiseptic paint.

Q.2 Long Answer questions (10 Marks)

- a) Describe cell mediated immunity.
- b) Describe different types of immunoglobulins.
- c) Describe haematopoietic growth factors.
- d) Describe in brief process of phagocytosis.
- e) Describe attenuated vaccine.
- f) Describe formation of blood cells.
- g) Describe different types of immunoglobulins.
- h) Describe in brief process of phagocytosis.
- i) Define epitope. Describe B-cell & T-cell epitopes.
- j) Describe antigen- antibody reactions.
- k) Describe biosynthesis of antibody.
- l) Describe in brief hybridoma technology for monoclonal antibody.
- m) Describe immunoglobulin model proposed by Rodney Porter.
- n) Describe structure of IgA immunoglobulin& add a note on biological properties.
- o) Describe structure of IgE immunoglobulin& add a note on biological properties.
- p) Describe structure of IgD immunoglobulin& add a note on biological properties.
- q) Describe structure of IgG immunoglobulin& add a note on biological properties.
- r) Describe various biochemical factors involved in innate immunity.

Q.3 Short Notes (5 Marks)

1. Occurrence of haematopoiesis.
2. Totipotent stem cells.
3. Granulopoiesis.
4. Properties of B-cell epitopes.
5. Basic structure of immunoglobulin.
6. Applications of hybridoma technology.
7. Anatomy of Haematopoiesis.
8. Multipotent stem cells.
9. Erythropoiesis.
10. Functions of B-cell and T-cell

11. Biological properties of IgG.
12. Biological properties of IgM.
13. Cellular pathway of haematopoiesis.
14. Blast and their progeny.
15. Megakaryopoiesis.
16. Mature effector cell
17. Biological properties of IgM.
18. Functions of immunoglobulin.
19. Active immunity
20. Innate immunity.
21. Biological properties of IgE.
22. Biological properties of IgA.
23. Biological properties of IgD.
24. Passive immunity.
25. Properties of B-cell epitope.
26. Biological properties of IgG.
27. Binding forces of antigen & antibody.
28. Binding site of antigen & antibody.
29. Physical factors in innate immunity.
30. Genetic factors in innate immunity.
31. Cellular factors involved in natural immunity.

Question Bank

Paper 604 Applied Zoology II

Q.1. Define/ Answer in one sentence.

1. Define Apiculture.
2. What are the types of honey bee?
3. What are the names of indigenous breeds of cattle.
4. Define Pearl culture.
5. Define Aquaculture.
6. Write the name of prawn species used for prawn culture.
7. Write the names of pearl producing Oyster species.
8. What is Hypophysation?
9. What are the casts of honey bee.
10. Major honey producing bees in India.
11. What are the names of exotic breeds of cattle.
12. What are the duties of honey bees?
13. What is the common name of *Apis dorsata*?
14. What is common name of *Apis florea*?
15. What is common name of *Apis indica*?
16. What is the phylum of Honey bee?

17. What is the class of Honey bee?
18. Write the methods of prawn harvesting.
19. What are the uses of class C category of pearls.
20. Who is the father of Pearl culture?
21. What is the food of prawn larva.
22. Write the name of Giant prawn.
23. Write the types of pearls.
24. Write the nutritional value of honey.
25. Write the names of bee keeping equipments.

Q.2. Long answers.

1. Describe the cast of honey bees.
2. Describe preservation and artificial insemination in cattles.
3. Describe synchronization estrus in cattles.
4. Describe commercial importance of dairy farming.
5. Describe Langstroth frame hive.
6. Describe natural pearl formation.
7. Describe life cycle of Prawn.
8. Describe induced breeding in fishes.
9. Describe fish seed transportation.

10. Describe pearl producing mollusc.
11. Describe the newton's model.
12. Describe the medicinal value of honey .
13. Describe the induction of early puberty.
14. Describe the production of milk products.
15. Describe the marketing of milk products.

Q.3. Short note

1. Economic importance of pearl.
2. Life cycle of prawn.
3. Honey comb.
4. Queen excluder.
5. Exotic breeds of cattles.
6. Medicinal value of honey.
7. Newton hive.
8. Indigenous breeds of cattle.
9. Exotic breeds of cattle.
10. Extraction of Honey.
11. Smoker and bee hive.

12. Queen bee .
13. Artificial insemination.
14. Rearing tank.
15. Nursery tank for postlarva.
16. Worker bee.
17. Drone bee.
18. *Apis indica*
19. *Apis dorsata*.
20. *Apis mellifera*.
21. *Apis florea*.
22. Condensed milk.
23. Marketing and distribution.
24. Food of Prawn.
25. Species of prawn (any five).
26. Pearl producing sites in India?
27. Preparation of graft.
28. Draw the stages of pearl formation.
29. Advantages of induced breeding.
30. Prawn harvesting.