

DHANAMANJURI UNIVERSITY, MANIPUR
B.Sc. 2nd Semester (Zoo Honours) Examination, 2021 (June)
CC-3ZT (Non-chordates II: Coelomates)
(Subject Code- CZO-105)

F.M. 50

Choose any five:

1. Enumerate on the evolution of coelom. **10**
 2. Give a detailed account on the different types of excretory organs found in phylum Annelida. **10**
 3. Elaborate on the classification of phylum Annelida, giving characters and common example of each group. **10**
 4. Comment on the distinctive features of phylum Arthropoda and its main subdivisions up to classes.
 5. Give general characteristics of phylum Onychophora giving examples. **10**
 6. Discuss the caste system found in social insects. **10**
 7. What is a pearl? How is it formed? **2+8**
 8. What is torsion? How does it affect the gastropods? **2+8**
 9. Discuss the water vascular system and its importance in Echinodermata. **10**
 10. Write short notes on: **2x5**
 - (i) Bipinnaria larva
 - (ii) Echinopluteus larva
 - (iii) Doliolaria larva
 - (iv) Madreporite larva
 - (v) Regeneration in Echinoderms
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DHANAMANJURI UNIVERSITY
JUNE-2021

Name of programme : B.Sc. Zoology Honours
Semester : Second
Subject code : CZO-107
Paper Title : CC-4ZT (Cell-Biology)
Full Marks: 50

*The figures in the margin indicate full marks for the questions.
Answer all questions.*

1. Describe the 'Fluid mosaic model' of the plasma membrane. On the basis of this model explain different functions of the plasma membrane. 10

Or

Write short notes on any two of the following

- a). Active transport 5X2=10
- b). Tight junction
- c). Desmosome

2. Describe the types, structure and functions of the endoplasmic reticulum 10

Or

Describe structure and various functions of Golgi apparatus in the cell 10

3. Explain why are the mitochondria considered as semiautonomous organelles 10

Or

Describe role of mitochondria in cellular respiration 10

4. Describe the structure and function of nuclear envelope. 10

Or

Write short notes on any two of the following

- a). Synthesis of rRNA 5X2=10
 - b). Euchromatin and Heterochromatin
 - c). Nucleosomes packaging of eukaryotic chromosomes (1st level of nucleosomes packaging).
5. What is cell cycle? Describe the process of cell cycle. 10

Or

Write short notes on any two of the following

- a). Comparative account of Mitosis and Meiosis stage I. 5X2=10
- b). Features of eukaryotic cells which are not found in prokaryotes.
- c). Role of cAMP in cell signaling.

DHANAMANJURI UNIVERSITY, MANIPUR

JUNE- 2021

Name of Programme : B. Sc. Zoology (Regular)
Semester : 2nd Semester
Paper Code : **DZO - 103**
Paper Title : Comparative Anatomy and Developmental Biology of
Vertebrates

Full marks: **50**

*The figures in the margin indicate full marks for the questions.
Answer any five questions of the following*

1. What is integument? Describe the integumentary derivatives in mammals with well labelled diagrams. (2+ 8 = 10)
2. Give a comparative account of respiratory organs in vertebrates you have studied. 10
3. Describe the evolution of male urinogenital ducts in vertebrates. 10
4. Give a comparative account of brain in reptiles and mammals. 10
5. What is vitellogenesis? Discuss briefly the vitellogenesis in birds. (2 + 8 = 10)
6. What is fertilization? Describe the process of fertilization in mammals. (2 + 8 = 10)
7. Describe the main type of cleavages, blastulation and gastrulation in amphibians. 10
8. What is placenta and its function in mammals? Give an illustrated account of different types of placenta on the basis of histology. (3 + 7 = 10)
9. What is metamorphosis? Enumerate the changes that occur during metamorphosis in frog? What is the role of thyroxine in the metamorphosis of frog? (1 + 7 +2 = 10)
10. What is differentiation? Give an account on the various types of cell differentiation occurred during embryonic development. (2 + 8 = 10)

DHANAMANJURI UNIVERSITY, MANIPUR

2021 (JUNE)

B.Sc. 2nd semester

ZOOLOGY (GENERIC ELECTIVE) – GEZ-003

(Applied Zoology)

THEORY

Full Marks : 50

The figures in the margin indicates full marks for the questions.

Answer the following questions

1. Give an account on the life history of *Trypanosoma gambiense* with diagrams and give a note on its pathogenicity. 7+3=10

Or,

Describe the life history of *Ascaris lumbricoides* with diagrams and write its pathogenicity.

7+3=10

2. Give an account on the life history and economic utility of mulberry silkworm.

7+3=10

Or,

Write short notes :

5+5=10

(i) Diseases of Silkworm

(ii) Economic utility of honey bees

3. What do you mean by induced breeding ? What are the procedures to be followed for induced breeding by hypophysation in fishery. 2+8=10

Or,

Why North –East India is regarded as potential ornamental fish centre in India ? Name any five ornamental fishes of Manipur. 5+5=10

4. Distinguish between extensive and intensive fish farming. If you wish to increase the fish production in Manipur , which type of method would you prefer and why ?

5+5=10

Or,

What is brood stock ? Give an account on the brood stock management in aquaculture.

1+9=10

5. Give an account on the artificial insemination techniques in cattle. 10

Or,

Describe the various steps of processing and preservation of poultry eggs.

10
