



TAMIL NADU OPEN UNIVERSITY
Chennai - 15
School of Science

ASSIGNMENT

Programme Code No : 284
Programme Name : M.Sc., Zoology
Course Code & Name : MZO11 Functional Morphology, Physiology, Phylogeny & Palaeontology of Invertebrate and Chordate
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

ASSIGNMENT - I

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Give an account of evolution of coelom.
- 2) Describe the significance of metamerism.
- 3) Explain the different types of excretory organs in invertebrates.
- 4) Write about the nervous system in coelenterates?

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each.

- 1) Explain the symmetry in animal organization in invertebrates.
- 2) Detail account of the respiration in arthropoda and mollusca.
- 3) Comment on the followings;
 - a) Endocrine glands in crustaceans and insects
 - b) Pheromones in invertebrates

ASSIGNMENT - II

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Write about the evolutionary trends and phylogenetic importance of trilobites and ammonoids.
- 2) Describe the organization and affinities of rotifera.
- 3) Explain the alimentary canal and associated glands in chordates.
- 4) Write about the origin of chordates?

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each.

- 1) Detail account of invertebrate larval forms and their phylogenetic significance.
- 2) Discuss the gill respiration and pulmonary respirations.
- 3) Explain the evolution of kidneys.

ASSIGNMENT - III

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Explain the origin of birds and mammals.
- 2) Describe the organization and affinities of chaetognatha.
- 3) Explain the origin and adaptive radiation of reptiles.
- 4) Describe the invertebrate fossils

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each.

- 1) Detail account of nervous system in chordates.
- 2) Discuss the reproductive system and accessory glands of mammals.
- 3) Explain the vertebrate fossils and its evolutionary significance.



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ASSIGNMENT

Programme Code No : 284
Programme Name : M.Sc. Zoology
Course Code & Name : MZO-12, Genetics
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

ASSIGNMENT I

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Give an account on the Experimental evidences for DNA as genetic material.
- 2) Describe the deviations from Mendel's findings with appropriate examples.
- 3) What do you know about molecular basis of spontaneous and induced mutations? Explain.
- 4) Elaborate on Genetic mapping and polygenic inheritance.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

- 1) Give a detailed account on semi conservative model of DNA and DNA damage repair mechanism.
- 2) Explain Mendelism. Describe on how the law of segregation and law of independent assortment came into existence.
- 3) Describe ABO Blood groups in man and its inheritance.

ASSIGNMENT II

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Write an account on Transduction in bacteria.
- 2) Define syndromes. Explain Turner's syndrome, Klinefelter's syndrome and Down's syndrome.
- 3) Describe the mapping of bacterial chromosome.
- 4) Describe genetic counselling. Explain how it helps in Eugenics.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

- 1) What is chromosomal aberration? Elaborate on the different types of chromosomal aberration.
- 2) Explain in detail about conjugation in bacteria and transformation in bacteria. Differentiate between conjugation and transformation.
- 3) Define inherited disorder. Give a detailed account on the causes, inheritance and consequences of sickle cell anaemia and Thalassaemia.

ASSIGNMENT III

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Explain in detail about Transposons and IS elements.
2. Describe the Rh factor and its impact on erythroblastosis foetalis.
3. What is karyotype study? Explain how it is useful in identification of diseases.
4. Give an account on sexduction in bacteria and its significance.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Give a detailed account on oncogenes and cancer.
2. Elaborate on the Genetics of Human metabolic disorders and diseases.
3. Describe one gene one enzyme theory and one gene one polypeptide theory.



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ASSIGNMENT

Programme Code No : 284
Programme Name : M.Sc. Zoology
Course Code & Name : MZO-13, Cell and Molecular Biology
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

ASSIGNMENT I

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Describe the structure and function of Golgi apparatus and lysosome.
2. Explain in detail about microfilaments and micro tubules.
3. What is membrane associated receptors. Explain.
4. Give an account on inter cellular functions.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Elaborate on the cellular and structural organization of prokaryotes and Eukaryotes.
2. Give a detailed account on the ultra structure and functions of plasma membrane.
3. Describe the structure and function of mitochondria, Endoplasmic Reticulum and ribosome.

ASSIGNMENT II

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Explain the mechanism of chromosome formation.
2. Describe the steps involved in Respiratory chain and oxidative phosphorylation.
3. Write an account on the structure and function of chromatin. Differentiate Euchromatin from Heterochromatin.
4. What do you mean by synchronization of cell division? Differentiate mitosis from meiosis.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Elaborate on the steps involved in Glycolysis and write down its significance.
2. Give a detailed account on the membrane, biochemical, nuclear and chromosomal changes in cancer cells.
3. Explain in detail about cell cycle and its components.

ASSIGNMENT III

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Write down the difference between a) cilia and flagella b) Normal and cancer cells.
- 2) Give an account on DNA Transcription and Genetic code.
- 3) What do you know about chromosome movements and spindle organization? Explain.
- 4) What are the types of DNA and RNA? Explain.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

- 1) Elaborate on the DNA Structure and function with emphasis on Watson and crick model and DNA replication.
- 2) Give a detailed account on Protein synthesis.
- 3) Describe the steps involved in kreb's cycle and its significance.



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ASSIGNMENT

Programme Code No : 284
Programme Name : M.Sc. Zoology
Course Code & Name : MZO-14, Animal Physiology and Biochemistry
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

ASSIGNMENT - I

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Explain the neurosecretions in insects, molluscs and crustaceans.
2. Give an account on osmoregulation in fishes, birds and terrestrial animals.
3. Describe the endocrine glands in vertebrates.
4. Write an account on Osmoregulation in Crustaceans and insects.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Give a detailed account on transmission of nerve impulse and reflex action.
2. Elaborate on the mechanism of endocrine secretion and functions.
3. Describe the molecular structure and chemical composition of muscle fibre and physiology of muscle contraction.

ASSIGNMENT II

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Give an account on temperature regulation in poikilotherms, homeotherms and heterotherms.
2. Write about the structure of Ear and mechanism of hearing.
3. Describe the structure, classification and functions of amino acids.
4. Describe high aptitude physiology and physiology of diving.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Give a detailed account on physiology of vision in man.
2. Describe Migration in birds and fishes.
3. Elaborate on the structure, properties and functions of carbohydrates and proteins.

ASSIGNMENT III

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Explain the classes, functions and pharmacological uses of prostaglandins.
2. Give an account on chromatophores and Bioluminescence.
3. Explain Nucleotides, flavoproteins and cytochromes.
4. Describe hibernation, aestivation and diapause.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Classify the enzymes, write down their properties and describe the mechanism of enzyme action.
2. Give a detailed account on classification, structure, properties and functions of Lipids.
3. Explain Biological oxidation, Redox potential and oxidative phosphorylation.



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ASSIGNMENT

Programme Code No : 284
Programme Name : M.Sc. Zoology
Course Code & Name : MZO-15, Economic Zoology
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

ASSIGNMENT I

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Give an account on Exotic fishes – Their merits and demerits.
2. Describe any one pest of sugarcane, oil seed and rice.
3. Write an account on culture of prawn.
4. Describe any two insect vectors of human diseases.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Give a detailed account on Aquaculture, its principle and scope.
2. Elaborate on beneficial and harmful insects.
3. Explain the basic principles of different aquaculture system with special emphasis on polyculture and integrated farming.

ASSIGNMENT II

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Explain the modern methods of apiary management.
2. Write down the problems and prospects involved in apiculture.
3. Give an account on diseases of *Bombyx mori* and control measures.
4. Describe the types of honey bees, the product obtained from them and their uses.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Give a detailed account on Apiculture.
2. Elaborate on the life history and rearing of *Bombyx mori*.
3. Give a detailed account on extraction of silk from silk worm.

ASSIGNMENT III

Part – A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

1. Write an account on construction of poultry house.
2. Describe the types of native breeds of poultry found in India.
3. Explain the types of exotic breeds of poultry.
4. What are the advantages and disadvantages of i) Native breeds and ii) Exotic breeds in poultry.

Part – B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Give a detailed account on poultry farming.
2. Elaborate on the rearing and disease management of poultry farming.
3. Describe pearl culture. Explain how artificial pearls are made.