

Exam Code - 225001

Paper Code: 1230

Programme: Master of Science (Zoology) Semester- I

Course Title- Functional Organization of Animals - I

Course code - MZOL-1481 ✓

Time Allowed: 3 Hours

Max Marks: 70

Note: Attempt five questions in all, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 14 marks. Draw neat and well labelled diagrams wherever required.

Section – A

- Q1. Explain filter feeding in detail. Support your answer with suitable examples 14
- Q2. Give regulation of digestive secretions in chordates. 14

Section – B

- Q3. Explain in detail different types of circulatory systems. 14
- Q4. Give evolution of heart in vertebrates. 14

Section – C

- Q5. Describe aquatic respiratory organs in invertebrates. 14
- Q6. Write a note on the following:
- a. Aerial respiratory organs
 - b. Respiratory pigments

2X7=14

Section – D

- Q7. Discuss in detail pattern of reproduction in non-chordates and their larval forms. 14
- Q8. Write detailed note on following
- (a) Malpighian tubules
 - (b) Green glands

2X7=14

Exam Code: 225001

Paper Code: 1231

Programme: Master of Science (Zoology) Semester- I

Course Title: Animal Ecology

Course Code: MZOL-1482 ✓

Time Allowed: 3 Hours

Max Marks: 70

Note: Attempt five questions in all, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 14 marks. Draw neat and well labelled diagrams wherever required.

Section A

1. What do you mean by terrestrial biomes? Describe the characteristics along with distribution of animals and plants present in these biomes. 14
2. Discuss the role of light and Fire as an important Ecological factor by giving suitable examples. 14

Section B

3. What is ecological succession? Describe in detail. 14
4. What do you understand by Antagonism? Discuss its different types with suitable examples. 14

Section C

5. Give an account of structural features showing arboreal adaptations along with examples. 14
6. Write a note on following
 - a) Methods of sampling 7
 - b) Population growth curves 7

Section D

7. Give an account on sustainable development of ecosystems. 14
8. Describe following
 - a) Oriental Realm 7
 - b) Ethiopian Realm 7

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Paper Code: 1232

Programme: Master of Science (Zoology) Semester – I

Course Title: Cell Biology

Course Code: MZOL-1483 ✓

Time Allowed: 3 Hours

Max Marks: 70

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 14 marks.

Section A

- Q1 a) Write in detail about the Actin and Myosin filament. 7
 b) Write a note on rRNA processing. 7
 Q2. a) Explain Singer and Nicholson model of Plasma membrane with well labelled Diagram. 10
 b) Write in brief about the Nuclear Pore complex. 4

Section B

- Q3. a) Explain the structure, its type and function of endoplasmic reticulum. 10
 b) Write a note on prokaryotic and Eukaryotic ribosomes. 4
 Q4. a) Write in brief about the Golgi-endoplasmic reticulum-lysosome network. 6
 b) Explain the mechanism of destruction of misfolding protein. 8

Section C

- Q5. Explain the structure and function of Mitochondria with well labelled diagram. 14
 Q6. a) Write a note on
 i) Lysosomal acid hydrolases ii) Lysosome formation. 5+5
 b) Write a note on Glyoxylate pathway. 4

Section D

- Q7. a) Explain the various check point in cell cycle. 7
 b) Explain the function of cell surface receptors. 7
 Q8. a) Explain the pathway of intracellular signal transduction. 7
 b) Explain the regulation of CDK-cyclin activity. 7

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Paper Code: 1233

Programme: Master of Science (Zoology) Semester- I

Course Title: Concepts of Biotechnology

Course Code: MZOL-1484

Time Allowed: 3 Hours

Max. Marks: 70

Note: Attempt five questions in all, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 14 marks. Draw neat and well labelled diagrams wherever required.

Section – A

- Q1. Give any three protocols for cell viability. (14)
Q2. Give detailed account of embryonic stem cells. (14)

Section – B

- Q3. Write what you know about RAPD markers. (14)
Q4. Give detailed account of Sanger method of DNA sequencing. (14)

Section – C

- Q5. Write principle, theory and applications of DNA foot printing. (14)
Q6. Give stepwise procedure of Polyacrylamide Gel Electrophoresis. (14)

Section – D

- Q7. Define monoclonal antibodies? Discuss procedure for detection of monoclonal antibodies. (14)
Q8. Give applications of cytokines in detail. (14)

Exam Code: 225001

Paper Code: 1234

Program: Master of Science (Zoology) Semester – I

**Course Title: Computer Programming and Data
Processing**

Course Code: MZOM-1135

Time: 3Hours

Max. Marks: 40

Note: Attempt five questions in all, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 8 marks.

SECTION-A

1. What are hardware and software concepts? Explain the components of computer.
2. What is an Operating System? What are the functions of Operating System.

SECTION-B

3. What do you mean by Power Point? Explain the features of Power Point?
4. What are the various formatting options available in Ms-Excel? Explain.

SECTION-C

5. What is Identifier? How is user defined identifier different from a standard identifier?
6. What is an operator and explain the various types of operators in C?

SECTION-D

7. What are the various types of if statements available in C? Explain it.
8. Discuss the need of array. How the individual members of array are accessed?