Exam Code: 221201 **Paper Code: 1237**
(20)

Programme: Master of Science (Zoology)
Semester-I

Course Title: Functional Organization of Animals – I

Course Code: MZOL-1481

Time Allowed: 3 Hours **Max Marks: 80**

Attempt five questions in all. Select at least one question from each section (A to D) respectively. Fifth question may be attempted from any section (A-D). Write legibly and Draw well labeled diagrams wherever necessary.

Section-A

1. Discuss the mechanism of digestion of food and regulation of digestive secretions among mammals. (16)
2. Explain briefly:
   (a) Ingestive mechanisms in invertebrates
   (b) Symbiotic Nutrition (8+8)

Section-B

3. (a) Compare and Contrast between Chambered, Tubular and Ampullary Hearts.

(b) Explain the evolution of Cardio-Vascular system among vertebrates. (8+8)

4. Discuss the mechanism of circulation of external medium of transport within the body of sponges and cnidarians. (16)

Section-C

5. Discuss the respiratory organs in aquatic animals and physiology of aquatic respiration. (16)
6. Give the distribution and brief chemistry of respiratory pigments and their function in non- chordates and chordates. (16)

Section-D

7. Write short notes on:
   (a) Malphigian tubules
   (b) Coelomic ducts (8+8)
8. Explain the evolution of Urino-genital system in chordates with special emphasis on separation of two systems. (16)

Exam Code: 221201 **Paper Code: 1238**
(20)

Programme: Master of Science (Zoology) Semester-I

Course Title: Animal Ecology

Course Code: MZOL-1482

Time Allowed: 3 Hours **Max Marks: 80**

Note: Attempt five questions in all, selecting one question from each section (A to D). Fifth question can be attempted from any section. Draw diagrams wherever necessary.

Section A

1. Give an account of Terrestrial major ecosystem of the world. 16
2. Discuss Temperature and moisture as environmental factor by giving suitable examples. 16

Section B

3. Discuss ecological succession. Describe various patterns of succession. 16
4. What do you understand by symbiosis? Discuss it with examples. 16

Section C

5. Write an account of arboreal adaptations with the help of suitable examples. 16
6. Write a note on following
   a) Methods of sampling 8
   b) Population growth curves 8

Section D

7. Describe anthropogenic interferences resulting in climate change. 16
8. Write a note on Zoo-geographical distribution of animals. 16

12/12/23

Exam Code: 221201 **Paper Code: 1239**
(20)

Programme: Master of Science (Zoology) Semester-I

Course Title: Cell Biology

Course Code: MZOL-1483

Time Allowed: 3 Hours **Max Marks: 80**

Note: Attempt 5 questions selecting at leastone question from each section and fifth question from any section. Each question carries equal marks. Draw neat and well labelled diagrams wherever required.

Section A

1. Differentiate between prokaryotic and eukaryotic cells.
2. Write a detailed note on the following (16)
   (a) Nuclear envelope
   (b) Internal organization of Nucleus (8+8=16)

Section B

3. What is GERL concept? Explain the structure and functions of golgi complex. 16
4. Describe the various components of endoplasmic reticulum and mention their functions. 16

Section C

5. Explain the following:
   (a) Glyoxylate pathway
   (b) Peroxisome assembly (8+8= 16)
6. Give structure and function of Mitochondria. 16

Section D

7. Explain various stages of meiosis with well labelled diagrams. 16
8. Write what you know about signalling molecules. 16

Exam Code: 221201 **Paper Code: 1240**
(20)

Programme: Master of Science (Zoology) Semester-I

Course Title: Concepts of Biotechnology

Course Code: MZOL-1484

Time Allowed: 3 Hours **Max Marks: 80**

Note: Attempt five questions in all selecting at least one question from each section and fifth question from any section. Each question carries equal marks. Draw neat and well labelled diagrams wherever required.

Section -- A

1. Give applications of cell culture. (16)
2. Write what you know about Restrictases. (16)

Section — B

3. Write What you know about plasmid vectors. (16)
4. Give applications of Gene cloning. (16)

Section — C

5. Write principle, theory and applications of DNA foot printing. (16)
6. Define PAGE. Give stepwise procedure and suitable diagrams (16)

Section — D

7. What are monoclonal antibodies? Discuss procedure for detection of monoclonal antibodies. (16)
8. Give applications of cytokines in detail. (16)

Exam Code: 221201 **Paper Code: 1241**

Programme: Master of Science (Zoology) Semester: I

Course Title: Computer Programming and Data Processing

Course Code: MZOM-1135

Time Allowed: 3 Hours **Max Marks: 40**

Note: Attempt five questions in all, selecting atleast one question from each section. The fifth question may be attempted from any Section. Each question carries 8 marks.

Section A

Q1 Write in detail the classifications of computer. (8)

Q2 a) Explain various components of computer. (6)

b) Differentiate between system software and application software. (2)

Section B

Q3 Write features of Word processing software. (8)

Q4 With the help of examples perform the operations

a) Create a workbook b) Print a presentation. (8)

Section C

Q5 a) What do you mean by identifier in C? Write various rules for naming it. (4)

b) Write arithmetic and relational operators in C. (4)

Q6: Explain input and output statements in C with examples. (8)

Section D

Q7: Write a program in C to depict the use of Switch statement. (8)

Q8: Explain the following (4*2 = 8)

a) Initialization of array
b) While loop Vs Do while loop
c) For loop
d) Applications of array