

**2024**  
**M.Sc.**  
**Fourth Semester**  
**CORE – 12**  
**ZOOLOGY**  
*Course Code: MZOC 4.21*  
(Animal Behaviour & Chronobiology)

*Total Mark: 70*  
*Time: 3 hours*

*Pass Mark: 28*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. Define reflex. Discuss the characteristics of the different types of reflexes and their significance in animal behaviour. 2+8+4=14
2. Write notes on the following: 7+7=14
  - (a) Types of taxis
  - (b) Orthokinesis and klinokinesis

**UNIT-II**

3. Discuss the different types of learning prevalent in animals. Explain the mechanisms involved in learning by giving suitable examples. 6+8=14
4. What are the different types of communication techniques used by fishes during their migration? Do infrasound communication aide in fish migration? Justify your answer. 7+7=14

**UNIT-III**

5. Describe some important prenatal and postnatal behaviours in animals. Add a note on the monogamous and polygamous sexual conflict giving suitable examples. 9+5=14

6. Write notes on the following: 7+7=14  
(a) Significance of mate guarding as a reproductive strategy  
(b) Parent offspring conflict in animals

#### UNIT-IV

7. Elucidate the adaptive significance of biological clocks. How does it impact animal behaviour? 10+4=14
8. Describe the role of pineal and optic lobes in the regulation of animal behaviour. Explain with the help of appropriate diagrams. 9+5=14

#### UNIT-V

9. What are the key factors affecting sleep? Describe the different types of sleep disorders found in human beings. Suggest some mitigation methods. 4+8+2=14
10. Explain how human circadian rhythm is entrained to environmental factors? Elucidate how jetlag can affect Human Circadian Rhythm. Add a note on re-entrainment. 4+7+3=14
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