2023
M.Sc.
Fourth Semester
CORE – 12
ZOOLOGY
Course Code: MZOC 4.21
(Animal Behaviour & Chronobiology)

Total Mark: 70   *Pass Mark: 28*
Time: 3 hours

Answer <u>five</u> *questions, taking* <u>one</u> *from each unit.*

UNIT–I

1. What do you mean by orientation? Discuss the different types of
   orientation prevalent in animals.   4+10=14

2. Write a short note on the following: 7×2=14
   (a) Complex animal behaviour
   (b) Difference between kinesis and taxis

UNIT–II

3. Write a note on the following: 7×2=14
   (a) Sonar-navigation
   (b) Echolocation

4. Explain the concept of infra-sound communication in elephants. Add a
   note on migration in birds using different communication signals.   14

UNIT–III

5. Elucidate the concept of intra and inter-sexual selection in animals giving
   suitable examples.   14

6. What is parental care? Discuss the different types of parental care in
   animals and their role in population regulation.   3+11=14

UNIT–IV

7. What are biological rhythms? Discuss the different types of biological rhythms and their influence on animal behaviour.   4+10=14

8. (a) Describe the various factors that control biological rhythms.   7
   (b) Write a note on supra-chiasmatic nuclei.   7

UNIT–V

9. Write a note on the following: $7\times2=14$
   (a) Molecular basis on biological clock in mammals
   (b) Importance of chronopharmacology and chronotherapy

10. What is phase-shift? How is phase response curve plotted? Explain their role in understanding biological clock.   3+11=14

————————————