

2022**M.Sc.****2nd Semester Examination (CCAЕ)****ZOOLOGY****PAPER—ZOO-201***Full Marks : 40**Time : 2 Hours**The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.***ZOO-201.1 BIOSYSTEMATICS****1. Answer any two questions : 2×2**

- (a) What do you mean by Intraspecies and Superspecies ?
- (b) How Karyological study helps you for taxonomic identification ?

(Turn Over)

(c) What is Linnaean hierarchy? Mention the seven steps of Linnaean hierarchy.

(d) List the different stages of taxonomy.

2. Answer any *two* questions : 2×4

(a) Write a note on taxonomic characters.

(b) State about Taxonomic Barcoding and its importance.

(c) How taxonomy is applied in agriculture and public health management?

(d) State how Embryological and biochemical approach helps in identification.

3. Answer any *one* question : 1×8

(a) Enlist different species concepts. Give an account on the more acceptable species concept. 3+5

(b) What do you mean by molecular systematics? Discuss different molecular techniques used for taxonomic study. 2+6

ZOO-201.2 ECOLOGICAL PRINCIPLES

4. Answer any *two* questions : 2×2

(a) State the difference between Biosphere and Stratosphere.

(b) What is linkage density ?

(c) What is Ecotone ? Give an example.

(d) State the difference between Keystone species and Foundation species with example.

5. Answer any *two* questions : 2×4

(a) Write a note on Gaia hypothesis.

(b) State the difference between r- & k- strategies.

(c) Write a short note on "Bet- Hedging strategies".

(d) State the difference between connectance and connectedness.

6. Answer any *one* question : 1×8

(a) What do you mean by predator prey interaction ?

Describe Lotka-volterra model of competition.

3+5

(b) What is inclusive fitness ? State the difference between resistance & resilience stability of an ecosystem. Write a short note on cybernetic nature of ecosystem. 2+3+3
