

2022**M.Sc.****2nd Semester Examination****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 BIOSYSTEMETICS****1. Answer any two questions :** 2×2

(a) What is meant by 'Systemetics' and 'Taxon'? 1+1

(b) What is the full form of ICZN ? Give an example of a trinomial nomenclature. 1+1

(Turn Over)

(c) What are micro and macro taxonomy? 1+1

(d) Short note : Ring species.

2. Answer any *two* questions : 2×4

(a) Briefly describe about the Biological Species Concept.

(b) Differentiate taxonomy from systematics. What is meant by 'Holotype'? 3+1

(c) Write a short note on Cytotaxonomy.

(d) What do you mean by typological species concept? Why it is not acceptable? 2+2

3. Answer any *one* question : 1×8

(a) What are the differences between sympatric and allopatric speciation. Explain with examples. 6+2

6+2

(b) State the roles of taxonomy in applied science. Give an example of industrial melanism with a short description. 6+2

6+2

ZOO-201.2 ECOLOGICAL PRINCIPLES

4. Answer any *two* questions : 2×2
- (a) Differentiate biotic community from ecological guild.
 - (b) Mention different types of ecological succession.
 - (c) What is edge effect? Give one example.
 - (d) Define ecological equivalent with an example.
5. Answer any *two* questions : 2×4
- (a) Explain the main essence of Gaia hypothesis.
 - (b) With labelled diagram highlight different types of food webs.
 - (c) Elaborate the concept of resource partitioning mentioning its significance in ecosystem functioning.
 - (d) Briefly discuss the significance of Evolutionary Stable Strategy (ESS).

6. Answer any one question : 1×8

- (a) Define ecosystem. The functioning of ecosystem is considered as homoestatic system — Justify the statement. Explain resistance and resilience stabilities. 2+3+3
- (b) Enlist different factors responsible for population regulation. Mention the types and significance of survivorship curves with examples. Highlight the differences between species Diversity Index and Species Richness Index. 3+3+2
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