M.Sc.

2nd Semester Examination - 2019

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.

Group - A

(Biosystematics)

1. Answer any *two* questions of the following : 2×2=4

   (a) What is taxonomy and systematics ?

   (b) What is the 'law of priority' ?

   (c) Define Holotype and mention its significance.

   (d) Short note on Trinomial nomenclature.

[Turn Over]

2. Answer any *two* questions of the following : 2×4=8

(a) Discuss about the sympatric and allopatric speciation with suitable examples.

(b) Write short notes on the Zoological Nomenclature.

(c) Briefly describe the biological species concept.

3. Answer any *one* of the following : 1×8=8

(a) What is biochemical taxonomy ? Discuss in brief about the biochemical approaches to identify and characterise any species in light of Animal evolution.

(b) How systematics impact on wild life and public health management.

Group - B

(Ecological Principles)

4. Answer any *two* questions of the following : 2×2=4

(a) Differentiate Ecology from the Ecosystem.

(b) Differentiate fundamental niche from realized one.

(c) Differentiate k-strategy from r-strategy.

(d) Differentiate organismic community concept from individualistic ones.

5. Answer any *two* questions of the following : 2×4=8

(a) Explain the concept of Gaia Hypothesis.

(b) Draw the relationships among taxon, community and ecological guild.

(c) Briefly discuss major approaches for explaining evolutionary stable strategy (ESS).

(d) Mention different types of food webs highlighting the significance of linkage density.

6. Answer any *one* question of the following : 1×8=8

(a) (i) Give a brief classificatory scheme mentioning different branches of ecology. 3

(ii) Highlight with brief explanation of species diversity index, dominance index and species richness index in biotic community analysis. 2+2+1

(b) (i) "Species with similar requirement can not live together" — Explain with an example.

(ii) Enlist different mode of interactions among population mentioning their outcomes.

(iii) State the essence of Leibig's law of tolerance. 2+3+3