M.Sc.

2016

2nd Semester Examination

ZOOLOGY

PAPER—ZOO-201

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer *all* questions of the following.

Group — A

(*Biosystematics*)

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

(a) Define Holotype be and state its significance.

(b) Differentiate phylogeny and systematics.

(c) Distinguish between α (Alpha) and β (Beta) taxonomy.

(d) State the objectives of systematics.

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

(a) State the stages of taxonomy. Explain gamma taxonomy.

(b) Discuss Sympatric and Allopatric species. Cite example.

(c) State the basic rules of Zoological Nomenclature.

(d) Elaborate, how ecological characters are used in biosystematics.

3. Write *one* question from the following : 1×8

(a) Define biochemical taxonomy. Discuss in details on the biochemical approaches to identify a species and tracing the animal evolution.

(b) Name two immunological techniques those are employed in phenetics.

Group — B

(*Ecology*)

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

(a) Mention the difference between Biosphere and Ecosphere.

(b) What is food web ? Mention the types of food web with examples.

(c) Draw the relationship between taxon, community and guilds.

(d) Differentiate between population ecology and habitat ecology with suitable examples.

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

(a) Mention the differences between Organismic and Individualistic concept of biotic community.

(b) Differentiate between Species Diversity Index from Species Dominance Index.

(c) What is meant by population interaction ? Briefly describe the predator-prey interactions with suitable examples.

(d) What do mean by ecotone and edge effect ? Explain the Leibig's low of tolerance.

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

(a) (i) Explain ESS mentioning its role in population ecology.

(ii) Briefly highlight niche breadth and niche overlap with examples. 4+4

(b) (i) How stability of on Ecosystem is maintained through feedback control ?

(ii) How do reduncy of components influence Ecosystem stability ? 4+4
