

2017

M.Sc. Part-I Examination

ZOOLOGY

PAPER—III (Group—A)

Full Marks : 50

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.

Group—A

Answer any *four* questions taking *two* from each unit.

Unit—I

(Ecology)

1. Define ecosystem. State the components of ecosystem and their roles in regulating the ecosystem. Explain what do you mean by cybernetic nature of ecosystem.

2+2+4+4 $\frac{1}{2}$

(Turn Over)

2. Define biotic community. Discuss organismic and individualistic concept of community. Explain different types of dominance diversity curves. $2+5+5\frac{1}{2}$
3. 'Complete competitors can not coexist'. Elaborate the statement citing one experimental evidence and one evidence from nature. What are fundamental niche and realized niche ? $9+3\frac{1}{2}$
4. (a) Write short notes on *one* of the following : $1\times 4\frac{1}{2}$
- Ecological equivalent
 - Factor compensation and ecotypes.
- (b) Write short notes on any *two* of the following : 2×4
- Competitive exclusion
 - Ecological guilds
 - Multidimensional niche
 - Laws of limiting factors.

Unit—II

(Ethology)

5. Define taxis and kinesis. Explain egocentric behaviour with examples. Explain the term 'motivation'. $2+2+5+3\frac{1}{2}$
6. What is game theory? Explain game theory and state significance of said theory. Describe different types of mating strategies in animals. $2+5+5\frac{1}{2}$
7. Define territoriality and home range. State the significance of ensocial organisation in animals. Discuss the limiting effect of resource on habitat selection. $2+2+4\frac{1}{2}+4$
8. (a) Write short notes on any *two* of the following: 2×4
- Sexual dimorphism
 - Altruism ;
 - Insight imprinting ;
 - Parthenogenesis.

(b) Explain any *one* of the following : 1×4½

(i) Sign stimulus ;

(ii) Enemy recognition.
