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Total No. of Section : 03

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Code No. : 04/305(A)

Fourth Semester Examination, May. - 2018

M.Sc. ZOOLOGY

Paper - III

POPULATION ECOLOGY

Time : 3 Hrs.

Max.Marks : 80

Note :Section 'A', consists of 10 very short answer type questions, all of which are compulsory and should be attempted first. Section 'B' consists of four short answer type questions with internal options. Section 'C' consists of four long answer type questions with internal choice.

Section-'A'

Answer the following very short-answer-type questions in one or two sentences. (2x10=20)

- Q-1. What is Pearl-Verhulst equation?
- Q-2. Who said "Population is a self regulating system"?
- Q-3. Name the curves indicated in survivorship curves.
- Q-4. Define specific population growth rate.
- Q-5. What are the components of Age Pyramid?
- Q-6. What is the simplest definition of habitat and niche?
- Q-7. Who gave the mathematical formulation of Prey-Predator Relationships?
- Q-8. Give one example of Sexual Parasitism.
- Q-9. Give an example of facultative mutualism.
- Q-10. Name the ecological word used to indicate narrow and wide range of tolerance of salts.

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Section-'B'

Answer the following short-answer-type questions with word limit 200-250. (5×4=20)

Q-1. Define life table and its types. What are its significance?

OR

Differentiate the word fertility and fecundity. State its implication.

Q-2. What is meant by Environmental resistance? Write about its various ways and consequences, if not followed.

OR

Write about the population characteristics that regulate its size.

Q-3. Write a note on competition exclusion principle.

OR

Explain shelford's law of Tolerance with graphical representation.

Q-4. Explain commensalism and Amensalism in brief.

OR

What is the role of predation in nature? Explain with example.

Section-'C'

Answer the following long-answer-type questions with word limit 400-450. (10×4=40)

Q-1. Describe various Growth forms of Population with diagram and equations.

OR

What are the different kinds of population density?

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Describe different methods for determining population density in terrestrial organisms.

Q-2. Explain population dispersal and population distribution with examples.

OR

Give a detailed account of density independent mechanism of population regulation.

Q-3. State about the reproductive strategies that bring about balance in nature of an ecosystem.

OR

"Complete competitors can coexist"- Explain this statement with examples.

Q-4. Define the word symbiosis and Antibiosis. Explain the population interaction that benefit each other.

OR

"Parasitism in one way useful, but other ways harmful"- Explain with example to prove your points.

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