

Roll No. :

Total No. of Questions : 16]

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SENV-312

M.Sc. (IIIrd Semester) Examination, 2021

ENVIRONMENTAL SCIENCE

Paper - ESCE-303 (A)

(Population and Community Ecology)

Time : 1½ Hours]

[Maximum Marks : 40

Section-A

(Marks : 1 × 10 = 10)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries 1 mark.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer any *five* questions by selecting at least *one* question from each Unit (Answer limit **200** words). Each question carries 3 marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions by selecting at least *one* question from each Unit (Answer limit **500** words). Each question carries 5 marks.

Section-A

1 each

1. Attempt all *ten* questions. Answer should not exceed **50** words in each question.

- (i) Define the term 'Ecosystem' and 'Biosphere'.
- (ii) What do you mean by Hibernation and Aestivation ?

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- (iii) How 'Mutualism' differ from the 'Commensalism' ?
- (iv) Define Population Ecology.
- (v) What do you mean by Notality and Mortality ?
- (vi) Define 'Parallelism' in population cycle.
- (vii) What do you mean by 'Ecological Niche' ?
- (viii) Define Community Dominance.
- (ix) What do you mean by Lunar Periodicity ?
- (x) What is Xerosere succession and how it differs from Hydrosere ?

Section-B

3 each

Note :- Answer any *five* questions in about **200** words, by selecting at least *one* question from each Unit. Each question carries **3** marks.

Unit-I

- 2. How the division of Biosphere contribute to the maintenance of living matter ?
- 3. Explain the role of biological process in remedial measures and restoration.
- 4. Write a note on impact of Environment at cellular level.

Unit-II

- 5. Distinguish between Emigration and Immigration.
- 6. Describe the various phases of a typical population growth curve.
- 7. Write a note on pattern dispersal and rate of change in population.

Unit-III

- 8. Explain the role of nutrients, water and energy in determining community.
- 9. Describe the predominant forces responsible for succession.
- 10. Write a note on distinguish between Autotrophic succession and Heterotrophic succession.

Section–C

5 each

Note :- Answer any *three* questions in this Section, by selecting *one* question from each Unit in about **500** words. Each question carries **5** marks.

Unit–I

11. Describe the ecophysiological adaptations in animals for stressed environment.
12. Write an essay on Anthropogenic impact on the biosphere and its life supports.

Unit–II

13. Describe the factors leading to the commonness, rarity and vulnerability of extinction of a species.
14. Write an essay on common approaches in population density measurement.

Unit–III

15. Discuss the ecological concept of community and the interdependence of plants and animals.
16. Write an essay on Ecological Succession, its development, climax and stability of ecosystem.