

B.Sc. (Part-I) (With Credits)-Regular-Semester 2012 (Old / CBCS Pattern) Sem I
02-P-II - Environmental Science Paper-II : Ecology (Old Course) /
USENVT02 - Environmental Science Paper-II : Ecology (New Course)

P. Pages : 3

Time : Three Hours



GUG/S/18/3310

Max. Marks : 50

- Notes : 1. All questions are compulsory and carry equal marks.
2. Illustrate the answers with suitable diagrams and examples.

02-P-II - Environmental Science Paper-II : Ecology (Old Course)

1. Discuss any two positive interactions among organisms with examples. **10**

OR

Describe process of ecological succession. Give the types of ecological succession.

2. Define productivity. Explain the terms: GPP, NPP and NCP. **10**

OR

Explain hydrophytic and xerophytic adaptations in plants with suitable examples.

3. a) Explain Shelford's law of tolerance. **2½x4=10**
b) Describe growth of population by s type curve.
c) With a neat sketch explain oxygen cycle.
d) Give the biological significance of colour.

OR

- e) Define ecology with its concept. **2½x4=10**
f) Describe ecotone and age effect as a characteristics of community.
g) Explain ecological pyramid w. r. t. number.
h) Give protective mimicry with examples.
4. a) Explain Liebig's law of minimum. **2½x4=10**
b) Discuss the concept of carrying capacity.
c) Explain light and dark bottle method for productivity measurement.
d) State the causes of mimicry.

OR

- e) Explain competition as one of the negative interaction. 2½x4=10
- f) What are ecotypes? State its significance.
- g) Describe forest as an ecosystem.
- h) What are the different causes of coloration?

5. Answer in 2-3 lines **any ten.** **1x10=10**

- a) Define environmental factor.
- b) What is microclimate?
- c) State the modern branches of ecology.
- d) Define natality of population.
- e) Give the examples of major community.
- f) What is migration of the population?
- g) What is grazing food chain?
- h) Define biogeochemical cycle
- i) Give the classification of biogeochemical cycle.
- j) What is Batesian mimicry?
- k) Give the importance of colouration in animals.
- l) What is camouflage?

USENVT02 - Environmental Science Paper-II : Ecology (New Course)

1. What are environmental factors? Describe temperature as an environmental factor. **10**

OR

- a) Discuss objectives of ecology. Highlight scope of ecology. **5**
- b) Briefly discuss positive interaction. **5**

2. Describe characteristics of community ecology. **10**

OR

- a) State types of ecological succession. How ecological succession in a water body took place? **5**

- b) Discuss biotic potential and environmental resistance. Elaborate the concept of carrying capacity. **5**
3. Define biogeochemical cycle. Give its classification with a sketch explain nitrogen cycle. **10**

OR

- a) Discuss structure and function of an ecosystem. **5**
- b) What is primary and secondary productivity? Describe oxygen method for measurement of productivity. **5**
4. How colours are produced? State biological significance of colours. Discuss causes and importance of colouration. **10**

OR

- a) State types of adaptations. Discuss adaptations in aquatic animals. **5**
- b) What are causes of mimicry? Write a note on Batesian and Mullerian mimicry. **5**
5. Answer in 2-3 lines **any ten:** **1x10=10**
- a) Name any two modern branches of ecology
- b) State Liebig's law of minimum.
- c) Give types of exploitation.
- d) Define dispersion.
- e) What are key stone species.
- f) Define ecological succession.
- g) Give types of food chain.
- h) Define productivity.
- i) Which type of biogeochemical cycle phosphorous cycle is?
- j) State examples of xerophytes.
- k) What is camouflage?
- l) Give examples of bio-mimicry.
