

B.Sc.(Part-I) (With Credits)-Regular-Semester 2012 Sem I
**02-P-II - Environmental Science: Paper-II : Ecology (New Course) /
Biotic Environment and Ecology (Old Course)**

P. Pages : 4

Time : Three Hours



GUG/W/16/3310

Max. Marks : 50

Ecology (New Course)

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

1. Give types of environmental factors. Discuss temperature as an abiotic environmental factor. **10**

OR

Define community ecology. Describe characteristics of community.

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

OR

How colours are produced ? State biological significance and importance of colouration.

3. a) State modern branches of ecology. **2½**

b) Describe age structure of population. **2½**

c) Explain ecological pyramid w.r.t. number. **2½**

d) What are causes of mimicry ? **2½**

OR

e) Discuss scope of ecology. **2½**

f) Write a note on biotic potential and environmental resistance. **2½**

g) With a neat sketch explain phosphorous cycle. **2½**

h) Describe ecological adaptations in xerophytes. **2½**

4. a) Elaborate on wind as an environmental factor. **2½**

b) Describe general process of succession. **2½**

c) Explain light and dark bottle method for productivity measurement. **2½**

d) Describe Batesian and Mullerian mimicry. **2½**

OR

- e) What is biotic interactions ? Describe mutualism and protocooperation. 2½
- f) Give an account on community interdependence. 2½
- g) Describe forest as an ecosystem. 2½
- h) Discuss adaptations in desent animals. 2½

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

- a) Give sub division of ecology.
- b) State Shelford's law of Tolerance.
- c) Name the instrument used for measurement of humidity.
- d) What is mortality ?
- e) Define ecological niche.
- f) What are key stone species?
- g) What is trophic level ?
- h) Define biochemical cycle.
- i) Give classification of biogeochemical cycle.
- j) What is camouflage ?
- k) Give examples of hydrophytes.
- l) State causes of colouration.

Biotic Environment and Ecology (Old Course)

Time : Three Hours

Max. Marks : 50

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

1. What is ecology ? Discuss the concept and principle's of ecology. 10

OR

Define population ecology ? Discuss the characteristics of population. 10

2. Define ecosystem, Describe the structure and function of an ecosystem. 10

OR

Discuss the major forest types in India. State the importance of forest. 10

3. a) Explain commensalism with examples.
b) What is ecotone and edge effect ?
c) Explain GPP. and NPP.
d) Describe the contribution of JFM for conservation of forest.

OR

- e) Discuss effects of temperature on organisms.
f) Write a note on ecological niche.
g) Explain Phosphorus cycle.
h) Describe the causes of deforestation
4. a) What is parasitism ?
b) Explain the process of ecological succession.
c) Discuss fundamental aspects of productivity.
d) Write a note on forest fire.

OR

- e) Discuss branches of ecology.

- f) Write a note on environmental resistance.
- g) Describe types of an ecosystem.
- h) Explain the significance of wildlife.

5. Answer in 2-3 lines **any ten.**

10

- a) What is predation ?
- b) State types of competition.
- c) What is mutualism ?
- d) What is ecological succession ?
- e) Define community ecology.
- f) Define community dominance.
- g) Define food web.
- h) Name the methods for measurement of productivity.
- i) Define biogeochemical cycle.
- j) What is afforestation ?
- k) What is In-situ conservation of wild life ?
- l) What is biodiversity ?
