

Bs/BCC-M-5 (T)

2024

(FYUGP)

(5th Semester)

BOTANY

(Minor)

Paper Code : BCC-M-5 (T)

(Plant Ecology and Phytogeography)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 50)

**The figures in the margin indicate full marks
for the questions**

Answer one question from each Unit

UNIT—I

1. (a) Define homeostasis. Discuss briefly the origin, formation and composition of soil.

2+8=10

Or

- (b) Write notes on the following : $5 \times 2 = 10$
- (i) Atmospheric moisture
 - (ii) Hydrological cycle

UNIT—II

2. (a) Explain the different biotic interactions—symbiosis, commensalism, parasitism with respect to plants. 10

Or

- (b) Write on the following : $5 \times 2 = 10$
- (i) Temperature and light
 - (ii) Wind and fire

UNIT—III

3. (a) What do you understand by ecological speciation? Discuss the characteristics and dynamics of population ecology. $3 + 7 = 10$

Or

- (b) Write short notes on the following : $5 \times 2 = 10$
- (i) Ecotone and edge effect
 - (ii) Succession

UNIT—IV

4. (a) Define biogeochemical cycle. Discuss the cycling of nitrogen in the ecosystem.

2+8=10

Or

- (b) Write short notes on the following :

5×2=10

(i) Food chains and food webs

(ii) Ecological pyramids

UNIT—V

5. (a) What is phytogeography? Give brief description of major terrestrial biomes covering tropical and temperate region.

2+4+4=10

Or

- (b) Discuss on the following :

5×2=10

(i) Local vegetation

(ii) Endemism

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(Plant Ecology and Phytogeography)

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

SECTION—I

(Marks : 15)

Put a Tick (✓) mark against the correct answer in the brackets provided :

1×15=15

1. Which of the following is known as an edaphic abiotic factor?

(a) Light ()

(b) Soil ()

(c) Air ()

(d) Water ()

2. Which of the following is known as a topographic abiotic factor?

- (a) Earth's surface
- (b) Wind
- (c) Temperature
- (d) Humidity

3. Which one of the following is an abiotic factor?

- (a) Animal
- (b) Plant
- (c) Humidity
- (d) Fungus

4. What is the interaction between species in which the fitness of one overpowers the presence and fitness of another called?

- (a) Competition
- (b) Mutualism
- (c) Parasitism
- (d) Commensalism

5. What is the biological interaction between organisms of different species in which each individual receives benefit known?
- (a) Parasitism ()
 - (b) Competition ()
 - (c) Commensalism ()
 - (d) Mutualism ()
6. Which relationship does an orchid growing as an epiphyte on a tree describe?
- (a) Commensalism ()
 - (b) Mutualism ()
 - (c) Parasitism ()
 - (d) Amensalism ()
7. The natural place of an organism or community is known as
- (a) niche ()
 - (b) biome ()
 - (c) habitat ()
 - (d) habit ()
8. Which is not the characteristic of a population?
- (a) Natality ()
 - (b) Mortality ()
 - (c) Stratification ()
 - (d) Sex ratio ()

9. The collection of individuals which belong to the same species when live together in a region is known as
- (a) keystone species ()
 - (b) community ()
 - (c) guild ()
 - (d) population ()
10. Name the term which defines the study of the characteristics and parameters of the population.
- (a) Demography ()
 - (b) Population ecology ()
 - (c) Population density ()
 - (d) Mortality ()
11. Which of the following terms defines the ability of the individual in the population to produce new individuals?
- (a) Dispersion ()
 - (b) Mortality ()
 - (c) Natality ()
 - (d) Population dispersal ()
12. A population is a group of
- (a) individuals in a species ()
 - (b) species in a community ()
 - (c) communities in an ecosystem ()
 - (d) individuals in a family ()

13. What can be visualized as a functional unit of nature?

- (a) Humans ()
- (b) Ecosystem ()
- (c) Vehicles ()
- (d) Plants ()

14. Pyramid of energy is always

- (a) upright ()
- (b) inverted ()
- (c) Both (a) and (b) ()
- (d) down ()

15. What is the primary focus of phytogeography?

- (a) Plant anatomy ()
- (b) Plant distribution ()
- (c) Plant taxonomy ()
- (d) Plant physiology ()

SECTION—II

(Marks : 10)

Write on the following in few sentences :

2×5=10

1. Soil profile

(7)

2. Commensalism

3. Population ecology

((9))

4. Trophic organization

5. Theory of tolerance

(10)

5. Theory of tolerance

4. Trophic organization
