

2019

BOTANY

(Major)

Paper : 3-1

(Ecology, Plant Geography and Evolution)

Full Marks : 60

Time : 3 hours

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

1. Choose the correct answer of the following :

1×7=7

(a) The upper stratum of a deep lake/pond which is exposed to solar radiations is called

(i) hypolimnion

(ii) epilimnion

(iii) metalimnion

(iv) thermocline

(b) The plants which can endure large changes of temperature are called

(i) stenothermal

(ii) megathermal

(iii) eurythermal

(iv) mesothermal

(2)

(c) Among sciophytes, some species can tolerate higher light intensities. They are known as

- (i) heliophytes
- (ii) facultative sciophytes
- (iii) facultative heliophytes
- (iv) obligate sciophytes

(d) The edge of the forest at high altitude beyond which no tree can grow is called

- (i) alpine meadow
- (ii) snow line
- (iii) tree line
- (iv) elfin scrub

(e) The humus develops over forest soils having pH well above 5 is known as

- (i) mull humus
- (ii) mor humus
- (iii) moder humus
- (iv) humus plant

(3)

(f) Which of the following is a quantitative pollutant?

- (i) CO_2
- (ii) Pesticides
- (iii) Bacteria
- (iv) PAN

(g) The taxon occurs throughout the tropical areas of the world is known as

- (i) cosmopolitan
- (ii) circumpolar
- (iii) pantropical
- (iv) circumboreal

2. Write short notes on the following : $2 \times 4 = 8$

- (a) Microclimate
- (b) Species diversity index
- (c) Eutrophication
- (d) Reciprocal symbiosis

3. Write on any *three* of the following : $5 \times 3 = 15$

- (a) Population growth curves
- (b) The effect of plants on the physical environment of a place

- (c) Feedback mechanism of ecosystems
- (d) The five different quantitative characteristics of plant communities
- (e) Remedial measures for noise pollution

4. Answer the following questions : 10×3=30

- (a) Describe the interaction between plants and animals. 10

Or

Name the types of hydrophytes. Describe their important ecological characters with examples from local flora. 2+8=10

- (b) Explain the types and causes of succession. 10

Or

Define pollutants. How does environment become polluted? 2+8=10

- (c) Define biome. Describe the different types of tropical forests of India with special reference to Assam. 2+8=10

Or

Explain the role of isolation in organic evolution. 10

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