2023

(CBCS)

(5th Semester)

BOTANY

EIGHTH PAPER

(Environmental Biology and Ethnobotany)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(*Marks* : 10)

Tick (✓) the correct answer in the brackets provided : 1×10=10

1. The natural reservoir of phosphorus is

(a) fossils ( )

(b) seawater ( )

(c) rocks ( )

(d) animal bones ( )

2. On the basis of long-term availability, resources are classified into

(a) conventional and non-conventional resources ( )

(b) renewable and non-renewable resources ( )

(c) primary and secondary resources ( )

(d) commercial and non-commercial resources ( )

3. The main contributors of acid rain are

(a) sulphur oxides and carbon oxides ( )

(b) nitrogen oxides and sulphur oxides ( )

(c) carbon dioxide and carbon monoxide ( )

(d) nitrogen oxides and carbon oxides ( )

4. Which of the following statements is true about the air quality index?

(a) It estimates air pollution mainly sulphur content in the air. ( )

(b) It predicts ozone levels in your area. ( )

(c) It determines the intensity of sound and sound pollution. ( )

(d) It indicates the colour of the air. ( )

5. To prevent wind and water erosion, the crop is sometimes harvested in such a way that a basal stub of the plant is left behind. This phenomenon is called

(a) ley farming ( )

(b) mulching ( )

(c) basin listing ( )

(d) strip cropping ( )

6. If a company develops a new technology that improves its main product then what type of IPR can be used for its protection?

(a) Patent ( )

(b) Copyright ( )

(c) Trademark ( )

(d) Geographical indication ( )

7. A biodiversity hotspot (region) must have at least _____ of its vascular plants as endemics.

(a) 0·5% or 1500 species ( )

(b) 0·1% or 300 species ( )

(c) 0·3% or 900 species ( )

(d) 0·7% or 2100 species ( )

8. Which one of the following is not a biodiversity hotspot of India?

(a) Himalaya ( )

(b) Western Ghats ( )

(c) Indo-Burma ( )

(d) Gangetic Plain ( )

9. The nitrogen-fixing bacterium forming a symbiotic relationship with members from Fabaceae family is

(a) *Nitrobacter* ( )

(b) *Azotobacter* ( )

(c) *Rhizobium* ( )

(d) *Lactobacillus* ( )

10. The term 'ethnobotany' was coined by

(a) Sir Alexander Fleming ( )

(b) John W. Harshberger ( )

(c) C. J. Alexopoulos ( )

(d) J. W. Webster ( )

(SECTION : B—SHORT ANSWERS)

(*Marks* : 15)

Write short notes on the following : 3×5=15

UNIT—I

1. Abiotic factors of environment

OR

2. Gaia hypothesis

UNIT—II

3. Greenhouse effect

OR

4. Radioactive waste management

UNIT—III

5. Conservation of water resources

OR

6. IPR

UNIT—IV

7. Three floristic/phytogeographic regions of India with one predominant plant species for each region

OR

8. Biodiversity hotspot

UNIT—V

9. Botanical names and families of three plants used as fiber by Mizo people

OR

10. Three medicinal plants and their uses

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer the following questions : 10×5=50

UNIT—I

1. What is biogeochemical cycle? Describe water cycle with neat diagram. 2+8=10

OR

2. Write an account on the following : 5+5=10

   (a) Non-renewable natural resources

   (b) Carbon cycle

UNIT—II

3. Elucidate the phenomena of ozone layer depletion. Mention its impact on the environment and also suggest control measures. 3+7=10

OR

4. Write brief notes on the following : 5+5=10

(a) Acid rain

(b) Greenhouse effect

UNIT—III

5. What is biodiversity loss? Write a comprehensive account on Environmental Laws and Acts. 2+8=10

OR

6. Write brief notes on the following : 5+5=10

(a) Patent

(b) *Ex situ* conservation

UNIT—IV

7. What is phytogeography? Describe the floristic regions of Eastern Himalayas and Assam/North-East India. 2+(4+4)=10

OR

8. Write notes on the following : 5+5=10

(a) Types of endemics and threat to endemic regions

(b) Grassland types of India

UNIT—V

9. Define ethnobotany. Elucidate its scope with reference to Indian context. 2+8=10

OR

10. Write an account on the following : 5+5=10

(a) Scientific names, families and uses of two plants used as fruit

(b) Scientific names, families and uses of two edible plants

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