

(6 pages)

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M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2024.

Fourth Semester

Botany – Core

PLANT ECOLOGY AND CONSERVATION BIOLOGY

(For those who joined in July 2021-2022 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Both hydrarch and xerarch successions lead to
- (a) Medium water conditions
 - (b) Xeric conditions
 - (c) Highly dry conditions
 - (d) Excessive wet conditions

2. Which one of the following is a characteristic feature of the cropland ecosystem?

- (a) Absence of weeds
- (b) Ecological succession
- (c) Absence of soil organisms
- (d) Least genetic diversity

3. Deserts, rainforests, tundra, etc, are examples of

- (a) community (b) biome
- (c) ecosystem (d) population

4. Which of the following is a non-renewable energy resource?

- (a) solar (b) methane
- (c) hydroelectric (d) coal

5. Biochemical Oxygen Demand (BOD) may not be a good index for pollution for water bodies receiving effluents from

- (a) Petroleum industry (b) Domestic sewage
- (c) Dairy industry (d) Sugar industry



6. A scrubber in the exhaust of a chemical industrial plant removes
- Gases like sulphur dioxide
 - Particulate matter of the size 5 micrometers or above
 - Gases like ozone and methane
 - Particulate matter of the size 2.5 micrometers or less
7. Continental drift hypothesis was given by
- Alfred Wegener
 - Alexander von Humboldt
 - David Tilman
 - Robert May
8. The diversity of organisms sharing the same habitat or community is termed as
- Alpha diversity
 - Beta diversity
 - Gamma diversity
 - Delta diversity
9. Organisation responsible for maintaining the red list is
- IUCN
 - WWF
 - CITES
 - IBWL

10. Pollen grains can be stored for several years in liquid nitrogen having a temperature of
- 120°C
 - 80°C
 - 196°C
 - 160°C

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Write a note on types of ecosystems.

Or

- (b) Illustrate hydrosere succession.

12. (a) Explain the forest resources of Tamil Nadu.

Or

- (b) Write notes on the wildlife resources of India.

13. (a) Define thermal pollution. Discuss its control methods.

Or

- (b) Explain the causes and preventive measures of landslides.



14. (a) Define biodiversity. constraints of biodiversity – explain.

Or

- (b) Who proposed the age and area hypothesis? Discuss the age and area hypothesis.
15. (a) Write a short note on the Chipko movement.

Or

- (b) Explain the role of NBPGR in biodiversity management.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) What is the method of studying plant community?

Or

- (b) Enumerate the freshwater ecosystem with reference to the trophic structures.

17. (a) Write a brief note on the environmental laws of India.

Or

- (b) Write notes on major biomes of the world.

18. (a) Define air pollution. Describe the causes, consequences and control measures of air pollution.

Or

- (b) Define soil erosion. Explain the causes of soil erosion. How to prevent soil erosion?

19. (a) What are the three levels of biodiversity? Why are they important?

Or

- (b) Discuss the theories of discontinuous distribution.

20. (a) Define *in situ* conservation. Explain national parks, sanctuaries and biosphere reserves as *in-situ* conservation.

Or

- (b) Briefly discuss the following *ex-situ* conservation methods.

(i) Gene Banks

(ii) Pollen Banks

