

B.Sc. Semester - 5 (CBCS) Examination**July-2025 (Old Course)****ECOLOGY (CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Que.1(A) Answer in detail (Any 1 out of 2) (07)**
- 1) Describe the Y-shaped energy flow model.
 - 2) Explain the concept and types of ecological pyramids.
- Que.1(B) Answer in brief (Any 1 out of 2) (04)**
- 1) Discuss the grassland ecosystems.
 - 2) Briefly explain the factors affecting primary productivity of an ecosystem.
- Que.1(C) Answer in very short (Any 3 out of 5): (03)**
- 1) What is an ecosystem?
 - 2) Define the gross primary productivity (GPP).
 - 3) Identify any four abiotic components of an ecosystem.
 - 4) True or False: Pyramid of Energy is always upright.
 - 5) What is the primary source of energy for most ecosystems?
- Que.2(A) Answer in detail (Any 1 out of 2) (07)**
- 1) Describe the qualitative characters of plant communities.
 - 2) Discuss the various methods used in ecological studies.
- Que.2(B) Answer in brief (Any 1 out of 2) (04)**
- 1) Explain the Producers, Consumers and Decomposer in context to community structures.
 - 2) Discuss any three types of quadrats.
- Que.2(C) Answer in very short (Any 3 out of 5): (03)**
- 1) What does "Dominance" refer to in community structure?
 - 2) Mention any two methods of plant community studies.
 - 3) What term describes the diversity of species within a community?
 - 4) What is Chart quadrat?
 - 5) What is the primary criterion used by Raunkiaer to classify plant life forms?
- Que.3(A) Answer in detail (Any 1 out of 2) (07)**
- 1) Describe the processes of plant succession.
 - 2) Explain with appropriate diagrams: (i) Pyramid of Number (ii) Pyramid of Biomass (iii) Pyramid of Energy.
- Que.3(B) Answer in brief (Any 1 out of 2) (04)**
- 1) Explain the trends in plant succession.
 - 2) List the stages of hydrosere in their correct order (names only), along with two examples of plant species found at each stage.

- Que.3(C) Answer in very short (Any 3 out of 5): (03)**
- 1) What is ecological succession?
 - 2) Define ecological niche.
 - 3) Mention any two causes of succession.
 - 4) Draw the Urn-shaped age pyramid with appropriate labeling.
 - 5) What are the stages before and after the “Moss stage” in a Xerosere succession?
- Que.4(A) Answer in detail (Any 1 out of 2) (07)**
- 1) Explain the Liebig’s law of the minimum.
 - 2) Discuss the ecological factors affecting ecosystems.
- Que.4(B) Answer in brief (Any 1 out of 2) (04)**
- 1) Discuss the role of climatic factors in ecology.
 - 2) Briefly explain Shelford’s law of tolerance.
- Que.4(C) Answer in very short (Any 3 out of 5): (03)**
- 1) Define ecology.
 - 2) What are biological clocks?
 - 3) State Liebig’s law of the minimum.
 - 4) Give any two examples of symbiosis.
 - 5) What is Principle of limiting factors?
- Que.5(A) Answer in detail (Any 1 out of 2) (07)**
- 1) Analyze the impact of environmental organizations on local and global environmental policies.
 - 2) Describe the applications of the Global Positioning System (GPS) in environmental monitoring and management.
- Que.5(B) Answer in brief (Any 1 out of 2) (04)**
- 1) Explain the concept of "Environmental Impact Assessment" (EIA).
 - 2) Describe the role of non-governmental organizations (NGOs) in environmental conservation.
- Que.5(C) Answer in very short (Any 3 out of 5): (03)**
- 1) Provide the full form of IUCN.
 - 2) How many satellites are typically involved in a GPS system to provide precise location data?
 - 3) What does the term “Sustainable development” refer to?
 - 4) What is the purpose of the Clean Air Act?
 - 5) What is the role of a GPS receiver?
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