

Roll No.

E-776

**M. Sc. (Third Semester)
EXAMINATION, Dec.-Jan., 2020-21**

BOTANY

Paper Second

(Plant Ecology—I)

(Ecosystem and Vegetation Ecology)

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt all Sections as directed.

Section—A

1 each

(Objective/Multiple Choice Questions)

Note : Attempt all questions.

Choose the correct answer :

1. Who is the author of 'Ecology in India' ?

- (a) Odum
- (b) R. Misra
- (c) Theophrastus
- (d) Louis Pasteur

P. T. O.

2. How much proportion carbon dioxide is in the atmosphere ?
 - (a) 0.0354
 - (b) 0.0318
 - (c) 0.330
 - (d) 0.039
3. Biogeochemical cycle are also known as :
 - (a) Material cycle
 - (b) Gaseous cycle
 - (c) Sedimentary cycle
 - (d) None of the above
4. In a food chain, green plants form :
 - (a) First trophic level
 - (b) Second trophic level
 - (c) Third trophic level
 - (d) Complete food chain
5. Ecosystem is smallest unit of :
 - (a) Mesosphere
 - (b) Lithosphere
 - (c) Ionosphere
 - (d) Biosphere
6. A set of ecosystem is called :
 - (a) Biome
 - (b) Climate
 - (c) Subsystem
 - (d) Structure

7. MAB stands for :
- (a) Man and Biosphere
 - (b) Man Antibiotic and Bacteria
 - (c) Man and Biotic Community
 - (d) Mayer, Anderson and Prisby
8. Which plants has high antibiotic and antibacterial proper ?
- (a) Sarpagandha
 - (b) Kachnar
 - (c) Neem
 - (d) Babool
9. In which of the following part of India evergreen forest are found ?
- (a) Assam
 - (b) Orissa
 - (c) Rajasthan
 - (d) Uttar Pradesh
10. In India, grassland occurs in area of :
- (a) 5%
 - (b) 13%
 - (c) 18%
 - (d) 23%

11. Which of the following is an abiotic factor in ecosystem ?

- (a) Bird
- (b) Rock
- (c) Tree
- (d) Deer

12. Denitrification is a process of :

- (a) Oxidation
- (b) Reduction
- (c) Hydration
- (d) None of the above

13. The ecological footprint is an tools for ecological resources :

- (a) Accounting
- (b) Management
- (c) Decision-making
- (d) Financial

14. Energy flow in ecosystem is :

- (a) Unidirectional
- (b) Bidirectional
- (c) Multidirectional
- (d) None of the above

15. Ecosystem managed by man are called :
- (a) Natural ecosystem
 - (b) Artificial ecosystem
 - (c) Disturbed ecosystem
 - (d) Undisturbed ecosystem
16. The last community in a succession is called :
- (a) Ecosystem
 - (b) Final community
 - (c) Climax community
 - (d) Serial community
17. Upper part of sea/aquatic ecosystem contains :
- (a) Plankton
 - (b) Nekton
 - (c) Plankton and Nekton
 - (d) None of the above
18. Sustainable development focus on more use of :
- (a) Renewable resources
 - (b) Abiotic resources
 - (c) Agriculture resources
 - (d) Natural resources
19. Which statement is/are true for Nitrogen cycle ?
- (a) N_2 fixing bacteria convert N_2 gas in comp.

- (b) Nitrifying bacteria convert N_2 comp. into NH_4 .
- (c) Denitrifying bacteria convert NH_4 comp. into NH_2 .
- (d) All of the above

20. The pyramid of energy is :

- (a) always upright
- (b) always inverted
- (c) either upright or inverted
- (d) None of the above

Section—B

2 each

(Very Short Answer Type Questions)

Note : Attempt all questions in 2-3 lines.

1. Define Ecosystem.
2. Define energy flow.
3. What is climatic factor ?
4. What is plant indicator ?
5. Name green house gases.
6. Define sustainable development.
7. What is meant by plant community ?
8. What is plant succession ?

Section—C

3 each

(Short Answer Type Questions)

Note : Attempt all questions in 75 words.

1. Explain sulphur cycle.

2. Explain litter fall and decomposition.
3. Write about plant invasion.
4. Explain ecosystem restoration.
5. Explain concept of ecological niche.
6. Explain community coefficients.
7. Explain inhibition models.
8. Write a note on Analytic character of community.

Section—D

5 each

(Long Answer Type Questions)

Note : Answer any *four* questions in 150 words.

1. Describe energy flow in ecosystem.
2. Describe the productivity of ecosystem. Discuss its types and also give methods for measurement of productivity.
3. Describe the environmental impact assessment.
4. Describe the qualitative and synthetic characters of community.
5. Describe Temporal changes during vegetation development and discuss cyclic and non-cyclic changes.
6. What is Hydrosere ? Describe structural and functional changes occurring during Hydrosere succession.
7. Describe ecological niche.