

M.Sc. BOTANY
FOURTH SEMESTER
PLANT ECOLOGY
MSB - 403D

(Use Separate Answer Scripts for Objective & Descriptive)

Duration: 3 hrs.

Full Marks: 70

Time : 20 min.

(PART-A: Objective)

Marks : 20

Choose the correct answer from the following:

1X20=20

- Montreal protocol is related to the
 - Food security
 - Global warming
 - Sustainable development
 - Ozone layer depletion
- Following form(s) of oxygen is/are involved in ozone-oxygen cycle
 - Triatomic oxygen (O₃)
 - Diatomic oxygen (O₂)
 - Atomic oxygen (O)
 - All of these
- Main cause of ozone holes and its depletion is
 - Propellants
 - Foam-blowing agents
 - Halocarbon refrigerants
 - All of these
- Ginkgo biloba* is an example of
 - Neo endemics
 - Ancient endemics
 - Palaeo endemics
 - Pseudoendemics
- The mutant form of species which cannot compete with their parental species is known as
 - Pseudoendemics
 - Neo endemics
 - Ancient endemics
 - Palaeo endemics
- Many of the species that constitute natural communities are the products of
 - Coevolutionary processes
 - Discontinuous processes
 - Genetic and demographic processes
 - Both a and b
- A biodiversity action plan is an internationally recognized program addressing
 - Addressing exotic species
 - Addressing invasive species
 - Threatened species
 - Cosmopolitan species
- Alpine Zone is characterized by
 - Presence of tree
 - Absence of tree
 - Presence of only dicot
 - Presence of only monocot
- Phytogeographical region is defined as an
 - Area of uniform climatic condition
 - A distinct type of vegetation
 - Indistinct type of vegetation
 - Both a and b

10. According to Conservation International, a region must fulfill the following two criteria to qualify as a hotspot:
- The region should have at least 1500 species of vascular plants and must contain 30 % of its original habitat
 - The region should have at least 15000 species of vascular plants and must contain 30 % of its original habitat
 - The region should have at least 15000 species of vascular plants and must contain 35 % of its original habitat
 - The region should have at least 1500 species of vascular plants and must contain 35 % of its original habitat
11. Shifting cultivation mostly involves
- Plot rotation
 - Fallow period
 - Burning
 - All of the above
12. Decline in soil condition is
- Soil degradation
 - Soil erosion
 - Soil reclamation
 - Soil bioremediation
13. Natural resources are
- Renewable
 - Non-renewable
 - Both a & b
 - None of the above
14. SDGs stands for
- Sustainable Development Goals
 - Sustainable and Developmental Goals
 - Both a & b
 - None of the above
15. GIS stands for
- Geographic information system
 - Geography Intel System
 - Geographic information sonic
 - None of the above
16. The system that uses sun as a source of electromagnetic energy and records the naturally radiated and reflected energy from the object is called
- GIS
 - GPS
 - Passive Remote sensing
 - Active Remote sensing
17. GIS cannot be used for
- Studying relative motions of planets
 - Disaster and business planning
 - Deforestation
 - Public facilities development
18. Terracing is an effective method of soil conservation
- Plains
 - Hilly areas
 - Desert
 - Riverine
19. Soil conservation is best achieved by
- Wind screens
 - Low rainfall
 - Good plant covers
 - Restrict human activities
20. Major indicator of soil erosion is
- Ozone layer
 - Deforestation
 - Afforestation
 - Goat and grazing animals

-- -- --

(PART-B :Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

- | | |
|--|---------------|
| 1. What is Shifting cultivation? State its ecological implications and also the steps taken to mitigate the problem. | 2+4+4 = 10 |
| 2. What is conservation ecology? Write down the principle of conservation ecology. | 2+8=10 |
| 3. Write short note on a. Global warming and its consequences b. Acid rain | 5+5=10 |
| 4. Define Phytogeographical region? Write briefly on phytogeographical region of India. | 2+8=10 |
| 5. Write short note on a. Endemism b. Protected area network and their management | 5+5=10 |
| 6. What is GIS? Write a note on its application in environmental management. | 3+7=10 |
| 7. What is remote sensing? Write about the different components of remote sensing and also state its application? | 3+7=10 |
| 8. Write a note on a. Environmental problems of coal mining in Northeast India. b. Sustainable development | 5+5=10 |

== *** ==