

**M.Sc. ENVIRONMENTAL SCIENCE
SECOND SEMESTER
SOIL AND FRESH WATER ECOLOGY
MEV-202**

Duration : 3 hrs.

Full Marks: 70

(PART-A: Objective)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1X20=20

- Pedogenesis is the process of
 - Transfer of nutrients
 - Loss of nutrients
 - Formation of soil
 - Loss of soil through erosion
- Which of the following soil particles has the highest water holding capacity
 - Sand
 - Silt
 - Loam
 - Clay
- Plant roots penetrate till which horizon of the soil profile
 - B
 - O
 - C
 - R
- Which one of the following earthworm have permanent burrows deep in the soil
 - Anecic
 - Endogenic
 - Epigeic
 - Mostogic
- Which of the following is not true for cover crop
 - Hold moisture
 - Fix nitrogen
 - Check soil erosion
 - None of these
- The process by which plants are able to thrive in stress condition by extending the root zone with the help of microorganisms is best explained by
 - Rhizobium
 - Zoosphere
 - Mycorrhizae
 - Rhizosphere
- Which of the following steps remove nitrogen from the soil
 - Nitrification
 - Mineralization
 - Denitrification
 - All of the above
- DDT is an example of which group of pesticides
 - Pyrethroid
 - Carbamates
 - Organophosphate
 - Organochlorine

9. In which of the following step, NH_4^+ is converted to Organic N
- Fixation
 - Uptake
 - Mineralization
 - Denitrification
10. With respect to Agro ecological region, LGP stand for
- Length of Growing Period
 - Local Grown Products
 - Least Grown Product
 - Lengthy Gross Profit
11. Protozoa and other minute animal life called as,
- Phytoplankton
 - Plankton
 - Zooplankton
 - None of the Above
12. Which form of wetland is dominated by tree and shrub?
- Marsh
 - Swamp
 - Bog
 - Pond
13. The portion of water body outlines the area that open water and consists of non rooted plants.
- Limnetic Zone
 - Littoral Zone
 - Both of the Above
 - None of the Above
14. Which is the Space alga?
- Nostoc
 - Volvox
 - Chlorella
 - Anabaena
15. watershed management programme is started in India in the year
- 1980-1982
 - 1982-1983
 - 1985-1986
 - 1983-1984
16. "Neeru Meeru" is development project of
- Soil
 - Forest
 - Water
 - All of the above
17. Mariculture is performed in the
- Fresh water
 - Saline water
 - High pH water
 - All of the above
18. No stratification of a lake observed during the seasons,
- Spring & Autumn
 - Spring & Summer
 - Summer & Autumn
 - Summer & Winter
19. Total number of Ramsar sites of NE India
- One
 - Two
 - Three
 - Four

20. Name of the largest freshwater lake of India and it located in
- a. Roop Kund, Himachal Pradesh
 - b. Wular Lake, Himachal Pradesh
 - c. Wular Lake, Jammu & Kashmir
 - d. Roop Kund, Jammu & Kashmir

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(PART-B : Descriptive)

Time: 2 HRS 40 MINS

Marks : 50

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

1. Define soil water. Describe the different types of soil water with suitable diagram whenever necessary. 2+8=10
2. What is soil Organic Matter? Describe its importance and the factors influencing soil organic matter. 2+4+4=10
3. What are agrochemicals? Describe the impact of chemical pesticides and fertilizers on the environment. 3+7=10
4. Define the term agro ecological regions. Explain the basis of classification and the parameters involved in classifying the area into different regions. 2+3+5=10
5. Define watershed and describe the watershed management. Write a short note on watershed management Programs and policies in India. 6+4=10
6. What is wetland and its types? Define lentic and lotic ecosystem with suitable example. 5+5=10
7. Write the differences between aquaculture and pisciculture. Write the different factors that affect freshwater ecosystem. 5+5=10
8. Describe the Stratification of lake with suitable diagram. Name three high altitude lakes in India. 7+3=10

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