M.Sc. ENVIRONMENTAL Sc.
SECOND SEMESTER
SOIL & FRESH WATER ECOLOGY
MEV – 202 [REPEAT]
[USE OMR FOR OBJECTIVE PART]

SET A

Duration : 3 hrs.

Full Marks : 70

(**Objective**)

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1 X 20 = 20

1. Limnology is the study of -
   a. Pond ecosystem
   b. Lake ecosystem
   c. River
   d. All of the above

2. Pagotrophs are -
   a. Marco consumers
   b. Micro consumers
   c. Decomposers
   d. None of the above

3. Algae and cyanobacteria are -
   a. Benthos
   b. Periphyton
   c. Nekton
   d. Neuston

4. Which of the following zone have sufficient photosynthesis as well as respiration?
   a. Littoral zone
   b. Limnetic zone
   c. Profundal zone
   d. None of the above

5. The size of pico planktons are usually -
   a. More than 5 μm
   b. 2 – 5 μm
   c. 0.2 – 2 μm
   d. 1 – 10 mm

6. Holoplankton and Meroplankton are type of planktons classified based on -
   a. Size
   b. Length of life
   c. Salinity
   d. Habitat

7. Gross primary productivity and Net primary productivity can be related as -
   a. GPP = NPP + R
   b. NPP = GPP – R
   c. Both a & b
   d. None of the above

8. In which of the following process inorganic nitrogen from soil convert into microbial protein -
   a. Assimilation
   b. Mineralization
   c. Immobilization
   d. None of the above

9. How much of minerals is found in an ideal soil -
   a. 6
   b. 25
   c. 44
   d. 60

10. E horizon consists of -
    a. Iron oxides
    b. Litter
    c. Decomposed matter
    d. None of the above

11. Physical weathering during soil formation by temperature involves -
    a. Accumulation
    b. Tension
    c. Rolling
    d. None of the above

12. Term " Pedon" is derived from ___ word.
    a. Latin
    b. Greek
    c. English
    d. French

13. During expansion, water exerts a pressure of about ___ t/ft^2.
    a. 150
    b. 90
    c. 9
    d. None of the above

14. Most of the earth's nitrogen is present in -
    a. Rock
    b. Soil
    c. Air
    d. None of the above

15. Resistant organic matter found in the soil is about -
    a. 2-12%
    b. 10-40%
    c. 40-60%
    d. None of the above

16. ___ horizon of soil is also called as the zone of extraction.
    a. C
    b. B
    c. A
    d. E

17. Which material is accumulated during gleization?
    a. Peat
    b. Organic matter
    c. Silicon
    d. All of the above

18. Which epigeic species is used in vermicomposting?
    a. *Eudrilus*
    b. *Lampito*
    c. *Drawida*
    d. None of the above

19. Salinity of fresh water bodies is about -
    a. 3.5%
    b. 1.8%
    c. 0.1%
    d. None of the above

20. Mangrove swamps are ___ type of wetland.
    a. Inland
    b. Marine & coastal
    c. Man-made
    d. None of the above

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(**Descriptive**)

Time : 2 hrs. 30 min.   Marks : 50

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

1. How soil can be considered as an ecosystem? Discuss the role of   4+6=10
   soil microorganisms in the process of decomposition with
   suitable examples.

2. Define limnology? What are different types of freshwater   2+3+5
   habitats? Classify planktons based on their nutrition and size.   =10

3. What is nutrient cycle? What are different types of organic   2+3+5
   inputs in freshwater ecosystem? Discuss the process of nutrient   =10
   cycling in freshwater ecosystem with special reference to
   nitrogen cycle?

4. Write short notes on *any two*   5+5=10
   a. Limiting factors of freshwater ecosystem
   b. Role of microorganisms in decomposition
   c. Net Primary Productivity and Gross Primary
       Productivity

5. Define soil. Discuss the factors affecting the soil formation.   1+9=10

6. What is green manure? State the criteria for selection of green   1+3+6
   manure. Mention the pros and cons of it.   =10

7. Define fresh water resource. Enumerate the characteristics of   1+9=10
   freshwater resources.

8. What is a watershed? Write the characteristics of watershed.   1+3+6
   Discuss the advantages and disadvantages of watershed   =10
   management.

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