

2020

SERICULTURE**Paper: Course-02 (Gr. A & B)****(Principles of Soil Science & Ecosystem Dynamics)**

Full Marks : 60

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP-A****(Marks: 30)****(Principles of Soil Science)**

1. Answer any **five** questions: $1 \times 5 = 5$
- Define soil porosity.
 - Name any one nitrogen fixing bacterium.
 - Mention the distribution of laterite soil in India.
 - What is leaching?
 - What is the effect of soil erosion?

- Mention one main factor for soil formation.
 - What is Regur?
2. Answer any **three** of the following: $5 \times 3 = 15$
- What are the cation and anion exchangers? What happens in Ion exchange?
 - What is the role of organic matter in the soil? State the sources of soil organic matter.
 - Differentiate between black and red soil.
 - State the role of micro and macro nutrients for growth of mulberry plants.
 - How water holding capacity of soil is determined? State the importance of cation exchange capacity in soil fertility.
3. Answer any **one** of the following: $10 \times 1 = 10$
- Enumerate the importance of soil chemical properties. How it affects on growth of mulberry.
 - Write short notes on:
 - Alluvial soil
 - Prevention of soil pollution.

GROUP-B

(Marks: 30)

(Ecosystem Dynamics)

4. Answer any **five** questions: $1 \times 5 = 5$
- a) What is the role of ecosystem dynamics?
 - b) Name one denitrifying bacterium.
 - c) What is ecological energetic?
 - d) What is fixed energy?
 - e) What is biota?
 - f) Give an example of ecological succession.
 - g) Why nitrogen cycle is important ?
5. Answer any **three** of the following: $5 \times 3 = 15$
- a) Briefly describe the law of limiting factor.
 - b) What is energy flow? Explain the phenomenon with a suitable diagram.
 - c) Differentiate between Fundamental and Realized niche.
 - d) Write a brief note on life table.
 - e) What is sustainable development? Explain in brief.

6. Answer any **one** of the following : $10 \times 1 = 10$
- a) Write in brief on the importance of an environmental impact assessment of a project.
 - b) Write short notes on:
 - i) Law of limiting factors.
 - ii) Ecological Niche.
- _____

Date of Examination:

17.7.2021, Time: 12:00 Noon – 02:30 PM