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( November )

BOTANY

( Major )

Course : 507

( **Plant Ecology, Phytogeography and Evolution** )

Full Marks : 48

Pass Marks : 19

Time : 2 hours

*The figures in the margin indicate full marks  
for the questions*

1. Write the correct answer of the following :

1×5=5

(a) R. Misra/ K. C. Misra/P. S. Ramakrishnan is known as the father of Indian ecology.

(b) Diagrammatic representation of the relationship between the trophic levels of a food chain is known as food web/ ecological pyramid/energy-flow model.

- (c) Interpretations of causes of plant distribution on the earth is called phytogeography/descriptive phytogeography/dynamic phytogeography.
- (d) Predation/Reproduction/Flood is a density-independent ecological factor.
- (e) Some of the examples of biologically important micromolecules are amino acids and fatty acids/nuclic acids and lipids/proteins.

2. Write briefly on the following : 2+3+2+2=9

- (a) Mechanism of ozone layer depletion
- (b) In situ biodiversity conservation
- (c) Static phytogeography
- (d) Chemical evolution

3. Explain briefly the physico-chemical properties of soil. Also illustrate and explain a general model of soil profile. 5+7=12

Or

Mention the characteristics of population and community. Explain three analytic characters and one synthetic character of a plant community other than Species Diversity Index (SDI). 5+7=12

4. Elaborate the concept of ecosystem productivity. Also discuss critically the polyclimax theory of plant succession. 5+7=12

Or

Do you think that global warming is an essential evil? Justify your opinion. In what way plants can be used to reduce environmental pollution? 2+4+6=12

5. Answer *either* [(a) and (b)] *or* [(c) and (d)] :

- (a) What are the broad vegetational belts of the earth? Give a brief description of the phytogeography of the Arctic Zone. 1+4=5
- (b) Discuss briefly the mechanism of evolution of protobionts and origin of life. 5
- (c) Outline the Lawrence's principles of dynamic phytogeography. 5
- (d) Give a brief account of the mechanism of organic evolution. 5

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