PG EVEN SEMESTER EXAMINATION, 2024

ECOLOGY AND ENVIRONMENTAL SCIENCE

2nd Semester

Course No. : ECGCC - 552

(Forest Ecology)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

(Answer any five questions, selecting one from each unit)

Unit - I

1. Define forest microclimate. How does forest types influence microclimate? Describe the role of environmental factors in determining forest structure. 2+5+7=14

2. Write short notes on : 7x2=14

   a) Stratification in tropical rainforest and its relevance

   b) Factors contributing to the development of secondary forests

Unit - II

3. Differentiate between high forest and a Coppice forest. Describe the process of natural regeneration of forests by seeds. State the aim of artificial regeneration in forest management. 2+9+3=14

4. Write short notes on : 7x2=14

   a) Adaptive characteristics of tropical trees

   b) Leafing pattern in tropical trees

Unit - III

5. What are forest disturbances? Add a note on the importance of studying forest disturbances. Describe how forest disturbances impact the ecosystem health. 3+5+6=14

6. Write short notes on : 7x2=14

   a) Nutrient cycling in forest ecosystem

   b) Nutrient conservation strategies of tropical trees.

Unit - IV

7. Describe the evolution of the concept of sustainable development. How is sustainable forest management measured? Tabulate the most common technique of measuring sustainable forest management with examples. 2+4+8=14

8. Write short notes on : 7x2=14

   a) Provision of land for compensatory afforestation and objectives of state CAMPA

   b) Functions of the National CAMPA Advisory Council

Unit - V

9. Discuss the working concept of remote sensing. What do you understand by spectral signature? With the help of diagrams elucidate the use of spectral signature to characterize the various elements of landuse/landcover. 4+2+8=14

10. Write short notes on : 7x2=14

   a) Application of remote sensing and GIS in forestry and agriculture

   b) Data types in GIS

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