

FORESTRY

PAPER—I

(CONVENTIONAL)

Time Allowed : Three Hours

Maximum Marks : 200

QUESTION PAPER SPECIFIC INSTRUCTIONS

**Please read each of the following instructions carefully
before attempting questions**

There are EIGHT questions in all out of which FIVE are to be attempted.

Question Nos. 1 and 5 are compulsory. Out of the remaining SIX questions, THREE are to be attempted selecting at least ONE question from each of the two Sections A and B.

Attempts of questions shall be counted in chronological order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

All questions carry equal marks. The number of marks carried by a question/part is indicated against it.

Answers must be written in ENGLISH only.

Neat sketches may be drawn, wherever required.

SECTION—A

1. Answer the following : 8×5=40
- (a) Enumerate the factors which decide the choice of species for plantation. 8
 - (b) "Configuration of the land surface has an impact on local climatic conditions and wind movement, which in turn have a bearing on forest." Comment. 8
 - (c) Explain the evolution of the concept of plant succession. 8
 - (d) Explain the following mangrove habitats : 8
 - (i) Deltaic mangrove habitat
 - (ii) Coastal mangrove habitat (both east and west coast)
 - (e) Explain the factors which affect the length of regeneration period in a Periodic Block. What is the effect of regeneration period on the form of crop? 8
2. (a) What are the specific problems of the following wastelands? Suggest at least three species for planting in each of them : 5×4=20
- (i) Hot desert
 - (ii) Saline and alkaline soils
 - (iii) Wetlands
 - (iv) Cold desert
- (b) Explain the role of thinning in forestry. What are the different methods of thinning followed in regular crops? Discuss in detail crown thinning. 20
3. (a) How is allotment of areas made in Permanent and Floating Periodic Blocks? 10
- (b) Describe the method followed to introduce the uniform Shelterwood System in a forest where *Cedrus deodara* is mixed with *Pinus wallichiana* 10
- (c) Write about the impact of felling height and felling intensity on the sustainability of bamboo's clump. 10
- (d) Large-scale mortality has been noticed in *Dalbergia sissoo* and *Acacia nilotica*. What could be the possible reasons for this mortality? 10
4. (a) Explain various factors affecting the choice between artificial and natural regeneration with reasoning. 10
- (b) What are the sources and nature of elements considered as essential plant nutrients? 10
- (c) What are the traditional practices and recent advances in tropical silvicultural research? 10
- (d) Based on the objectives, what are the different classifications of the 'Forestry'? 10

SECTION—B

5. Answer the following : 8×5=40
- (a) What are the unique requirements of tree improvement in agroforestry? 8
 - (b) Give the fundamental characteristics of tribal economy in India. 8
 - (c) Elaborate upon the multipurpose tree species ideotype selection criteria. 8
 - (d) What entry point activities are recommended in joint forest management? 8
 - (e) Describe tree-crop allelopathy in agroforestry. 8
6. (a) What is global warming? Discuss how it disturbs the ecological balance of nature, and suggest suitable remedies. 20
- (b) Explain the following : 2½×4=10
- (i) Criteria Pollutants
 - (ii) Pollutant Standards Index
 - (iii) Severance Tax
 - (iv) Smog
- (c) Write a note on 'role of microorganism and Rhizobium in amelioration of forest soils'. 10
7. (a) Describe the anthropogenic causes of forest destruction. How can these be checked? 10
- (b) What are the fundamental bases of classification of agroforestry systems? 10
- (c) Briefly describe the national legislation on biodiversity. Name the activities for which States can seek funds from the Central Government. 10
- (d) What is genetic drift? State and discuss Hardy-Weinberg law with its significance. 10
8. (a) Describe the scope and objectives of forest management. What is the impact of restrictions laid down by Hon'ble Supreme Court on green felling in forests? 10
- (b) Write a note on 'pollen dilution zones in seed orchards'. Discuss various factors affecting their effectiveness. What are the options available in lieu of pollen dilution zones? 10
- (c) Describe the operational use of vegetative propagation in tree improvement. 10
- (d) What is watershed management? Explain its objectives and role in rural development. 10

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