

FORESTRY**Paper – II****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.*

*Questions no. 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 sequential 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.

Neat sketches may be drawn, wherever required.

*Answers must be written in **ENGLISH** only.*

SECTION A

- Q1.** (a) What is the purpose of classifying forests ? How are the forests classified for silvicultural management ? 8
- (b) Describe the graphical method of preparation of volume table. 8
- (c) Describe the major considerations of road alignment in the plains. Explain the terms (i) Gradient, (ii) Camber, and (iii) Drainage related to roads in the hills. 8
- (d) "Success of commercial forest plantations depends on site-specific and strategic planning." Justify the statement. 8
- (e) Explain (i) Artificial Form Factor, (ii) Absolute Form Factor, (iii) Normal Form Factor, and (iv) Form Quotient. 8
- Q2.** (a) Define Forest Management and write its objectives. Discuss in brief the major activities related to forest management. 15
- (b) Write the general principles of surveying. Describe (i) direct methods of chaining on sloping grounds, and (ii) chaining when vision is obstructed, but chaining is free. 15
- (c) "Maps play a significant role in working plan preparation." Explain. 10
- Q3.** (a) Describe the outline and the components of the Preliminary Working Plan Report. 15
- (b) Explain the Single-Line and Double-Line Field Books with neat sketches. Mention the steps followed in the field work of Chain Survey. 15
- (c) "Working Plan is a document to enforce systematic, obligatory and mandatory regulations for continuous management of a given forest." Discuss. 10
- Q4.** (a) "Application of Remote Sensing and GIS helps in continuous forest cover monitoring and efficient forest management activities." Explain with examples. 15
- (b) Describe the tangent method used to calculate height of trees on (i) Level ground, and (ii) Sloping ground. 15
- (c) "Participatory Forest Management is a success." Illustrate with examples. 10

SECTION B

- Q5.** (a) What are biotic and abiotic stresses on trees ? Explain the responses of trees to these stresses. 8
- (b) Mention any eight specialized uses of wood with examples. 8
- (c) Explain the role of renewable energy sources like solar energy in wood seasoning. 8
- (d) Describe the principles of Ayurvedic system of treatment. Write scientific names of five common tree species used in Ayurveda. 8
- (e) Write the provisions of the Indian Forest Act, 1927, applied to declare village forests and protected forests. 8
- Q6.** (a) Trace the history of logging in India. Explain how mechanization in harvesting and extraction helps in reducing the wastage and improving efficacy of logging. 15
- (b) Discuss the components of a desert ecosystem. Write steps to control shifting of sand dunes. 15
- (c) Explain the salvage operations for plantation trees after natural disasters. 10
- Q7.** (a) What do you understand by human – wildlife conflict ? Explain with examples. 15
- (b) Write the salient features of India's National Forest Policy, 1988. Justify the statement "India needs a revision of Forest Policy." 15
- (c) "Increasing usage of composite woods necessitates the need for increased raw material from plantations of short rotation trees." Explain. 10
- Q8.** (a) Describe the provisions of the Forest (Conservation) Act, 1980 on (i) restriction on the de-reservation of forest land for non-forest purpose, and (ii) diversion of forest land for regularization of encroachment. 15
- (b) Describe the adverse climatic factors causing damage to forests. 15
- (c) What are Commensalism, Amensalism, Mutualism and Symbiosis ? Write the functions of an ecosystem. 10

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