

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.

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 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.

Answers must be written in ENGLISH only.

Neat sketches may be drawn, wherever necessary.

SECTION—A

1. Answer each of the following questions :
 - (a) How are the forests classified in India? Discuss its significance in forest management. 10
 - (b) What is Normal Growing Stock? Explain the determination of NGS in clear felling system with graphical illustration and numerical examples. 10
 - (c) Discuss the significance of stump analysis in forest mensuration. How does it help in understanding the past growth of trees? 10
 - (d) Define photogrammetry. Discuss in detail its application in forest management. 10
2.
 - (a) Differentiate Working Plan and Annual Plan of Operations. Suggest the changes needed in the working plan preparation for more effective application in forest management. 10
 - (b) How do you visualize the concept of 'Normal Forest' in Indian context? Describe the effect of silvicultural systems on Normality. 10
 - (c) What is increment percent? Discuss the relationship between CAI and MAI of a forest stand. 10
 - (d) Enumerate the methods of direct linear measurements. Discuss in brief the application of prismatic compass in forest survey. 10
3.
 - (a) Trace the history of Joint Forest Management in India. Narrate any one success story with details. 15
 - (b) Thermal Remote Sensing has specific application in forest management. Describe. 10
 - (c) Distinguish the Irish bridge, simple wooden bridge and suspension bridge with details and neat sketches. 15
4.
 - (a) Clonal forestry approach proved successful in meeting the industrial wood demand particularly pulpwood. Substantiate your view and perception in this regard. 10
 - (b) Explain the concept of rotation and its application in regular and irregular forests. 10
 - (c) Sampling has very important role in forest inventory. Discuss with the help of kinds of sampling. 10
 - (d) The recent developments in GIS and Digital Image Processing make forest cover assessment and mapping more easier and accurate. Explain your views. 10

SECTION—B

5. Answer each of the following questions :
- (a) Garg (1988) described the ecological pyramid as a graphic representation of relationship between the trophic levels of an ecosystem. Explain with the help of neat diagrams. 10
 - (b) The knowledge of Ethnobotany helps to identify viable medicinal plants for pharmaceutical industries. Explain. 10
 - (c) Dry deciduous forests are rich in Non-Timber Forest Products (NTFPs). Justify the statement with examples. 10
 - (d) Forest fire still remains a major threat to forest ecosystems across the globe. How do you address this issue? 10
6. (a) Compare and contrast the Indian Forest Act, 1927 and the Forest Conservation Act, 1980. 10
- (b) Explain the concept of demand with the help of demand curve and its application in forest trade. 10
 - (c) Give an account of mechanical properties of wood and suggest the standard tests for the same. 10
 - (d) Enumerate the classification of tropical dry deciduous forests given by Champion and Seth (1964). Mention two species for each forest type. 10
7. (a) Bamboos become the major raw material for many cottage as well as corporate industries. Explain. 10
- (b) What are the general principles and advantages of wood seasoning? Describe the solar kiln seasoning with neat sketches. 10
 - (c) Write critical notes on the following : 10
 - (i) Gums
 - (ii) Oilseeds
 - (iii) Katha
 - (iv) Bidi leaves

- (d) Describe the benefits and limitations of chemical and biological control of diseases in forest nurseries and plantations. 10
8. (a) Describe the role of Corporate Social Responsibility (CSR) towards sustainable forest production through Public-Private Partnership (PPP) approach. 10
- (b) Give an account of composite wood products and their utilities. 10
- (c) Explain the recent developments in mechanization of logging operations and their impact on the efficiency and wastage. 10
- (d) Define ecological amplitude. Describe the classification and characters of plant communities. 10
