

FORESTRY

Paper—I

Time : Three Hours

Full Marks : 300

*Candidates should attempt Question No. 1 from Section-A and Question No. 5 from Section-B which are compulsory, and any **THREE** of the remaining questions, selecting at least **ONE** from each Section. All questions carry equal marks.*

SECTION—A

1. Answer any **THREE** of the following :—

- (a) What are the factors that favour the natural regeneration of tree species ? 20
- (b) Give extent and characteristic features of Mangroves of Orissa. 20
- (c) Why artificial regeneration is preferred over natural regeneration ? Give reasons. 20
- (d) Give the application of vegetative propagation technique using in-vitro (tissue culture) technology in forestry. 20

2. (a) Give a detailed account of 'Selection System' as practiced in India with respect to pattern of felling and mode of regeneration. How this system is applied to Sal forests of India ? 30
- (b) Forests of India can be classified into 16 major groups. Name them and explain the location and vegetation of any of the two major groups. 30
3. (a) Describe crown thinning and the different grades. How crown thinning is different from ordinary thinning ? 30
- (b) Name the methods of determining tree growth with annual rings. Describe any one method in detail giving the objective, field observations to be recorded and the analysis. 30
4. Describe the silviculture of the following species :—
- (a) *Eucalyptus* species
- (b) *Casuarina equisetifolia*
- (c) *Shorea robusta*
- (d) *Dendrocalamus strictus*. 15×4

SECTION—B

5. Answer any **THREE** of the following :—
- (a) What are different systems of forest management ? Discuss uniform system. 20

- (b) Describe concept of sustained yield and its relation with normal forest. 20
- (c) What is rotational grazing ? How it is implemented in a forest ? 20
- (d) What is succession ? Discuss different types of succession. 20
- 6. (a) Describe the methodology of shifting cultivation and mention the states where it is practised. 30
- (b) Discuss general felling rules of Bamboo. 30
- 7. (a) Describe different types of frost and list some of the tree species on the basis of their frost tolerance ability. 30
- (b) Discuss role of greenhouse gases for the degradation of the environment. 30
- 8. Write notes on the following :—
 - (a) Rotation for Maximum Volume Production. 20
 - (b) Damping off disease and its control. 20
 - (c) Biodiversity and its conservation. 20