

2007

FORESTRY

001746

Time : 3 hours

Maximum Marks : 200

- Note :
- (i) In all, attempt Five questions.
 - (ii) Question No. 1 is compulsory.
 - (iii) Of the remaining questions, attempt Any Four by selecting One Question from each section.
 - (iv) Numbers of optional questions up to the prescribed number in the order in which questions have been solved, will only be assessed and excess answers of the question/s will not be assessed.
 - (v) Candidate should not write roll number, any names (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he will be penalised.

1. Answer any four of the following : 10 x 4
- (a) Write about the main features of latest forest policy of India.
 - (b) Give the concept and types of sustained yield.
 - (c) What do you mean by provenance and seed source ? Describe the procedure for progeny testing.
 - (d) What are mangrove forests ? Describe their habitat and characteristics ?
 - (e) Describe in brief the determination of growing stock in silvicultural system.

Section - A

2. (a) Describe in brief : 5 x 3
- (i) Forest types of India and their distribution.
 - (ii) Artificial regeneration.
 - (iii) Micro-propagation in forest trees.
- (b) Describe group selection system. 15
- (c) Give distribution and silvicultural practices of sissoo. 10

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3. (a) Write in brief about : 5 x 3
- (i) Describe the techniques for afforestation in saline and alkaline soils.
 - (ii) Containerized seedlings.
 - (iii) Air layering method.
- (b) Differentiate between shelter wood coppice system and coppice with two rotation system. 15
- (c) Give general description, distribution and silvicultural practices of *Eucalyptus*. 10

Section - B

4. (a) (i) Suggest agro forestry systems for small land holdings. 7.5 x 2
- (ii) How social forestry is different from community and farm forestry ?
- (b) Describe the influence of forest on physico-chemical properties of soils. 15
- (c) Describe the role of trees/forests in environmental conservation. 10
5. (a) (i) What are the constraints of agro forestry systems in India ? 7.5 x 2
- (ii) Describe the economic benefits of social forestry to rural people.
- (b) Differentiate between fertility and productivity. What are the criteria of essentiality of a nutrient ? 15
- (c) Describe the sources of ozone (O₃) and sulphur dioxide (SO₂) air pollutants and their effects on tree health. 10

Section - C

6. (a) (i) Differentiate between Von Mantel's formula and Howard's formula. 10 x 2
- (ii) Describe the Brandis diameter class method.
- (b) Define the principles of remote sensing. Describe its advantages over conventional methods for monitoring forest cover and damage assessment. 10
- (c) Describe the characteristic features of a map and the methods to find the true North. 10

7. (a) (i) What is working circle ? Write about the division of a working circle into periodic blocks and allotments under each periodic block. 10 x 2
- (ii) Describe type of rotation.
- (b) Describe in brief : 5 x 2
- (i) Methods used to measure volume of trees and logs.
- (ii) Volume tables
- (c) Define plane table surveying and discuss its advantages and disadvantages. 10

Section - D

8. (a) How distribution of plants and animals are influenced by the abiotic and biotic factors ? 10
- (b) What is the scope of non-timber forest produce in India ? Describe the procedures of collecting gums in forest ? 10
- (c) (i) Describe symptoms and factors affecting the development of damping off disease in forest nurseries. 10
- (ii) Suggest integrated diseases control methods against root diseases in nurseries. 10
9. (a) Describe the ecological succession. 10
- (b) Write a short note on paper industries in India. 10
- (c) (i) Highlight the concept of integrated pest management and its role in reducing the losses due to insect pests in forest crops. 10
- (ii) Describe the losses caused by insect pest in agroforestry plantations. 10