

I.F.S. EXAM-(M)2017**FORESTRY****Paper – I****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.

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

Neat sketches may be drawn, wherever required.

SECTION A

- Q1. Answer the following :** **8×5=40**
- (a) Give four examples of uses of Pollarding in Indian forestry. 8
 - (b) Enlist four groups of forest types under the moist tropical forest as per the Champion and Seth classification of forest types. 8
 - (c) Name the method of thinning that best promotes genetic improvement of the regular stand besides controlling density. Give reasons in support of your answer. 8
 - (d) Enlist six genera of mangroves. Name two States and one Union territory with the largest area under mangrove forests. 8
 - (e) Calculate the number of seeds required to raise a 20 hectare plantation with 4 m × 4 m spacing and an extra plant in the centre of each square. Plant percent of the species is 75%. 8
- Q2.**
- (a) Describe the natural distribution of
 - (i) *Shorea robusta*, and
 - (ii) *Azadirachta indica*. 10
 - (b) Write silvicultural characters of
 - (i) *Casuarina equisetifolia*, and
 - (ii) *Abies pindrow*. 10
 - (c) Some rural communities are opposed to chir pine and advocate removal of chir pine and its replacement with broadleaved multipurpose trees. What is your reaction in this matter ? 10
 - (d) Regulation of solar radiation gives a powerful tool to the forester. Justify. 10
- Q3.**
- (a) Where are cold deserts found in India ? Explain site characteristics encountered in a cold desert and steps suggested to overcome problems in their afforestation. 10
 - (b) Describe the technique of Sand Dune Fixation in the Thar Desert. Also mention the choice of species for planting. 15
 - (c) Enlist the general rules governing the felling of bamboo in forests. What are the consequences of gregarious flowering of bamboo ? What special measures would you take in the event of gregarious flowering ? 15

- Q4.** (a) Describe the unique characteristics of mangrove forest vegetation. 10
- (b) A soil can be wet, yet physiologically dry. How ? What steps are suggested to correct the problem ? 10
- (c) What is Sub-climax ? Explain its importance in the context of Indian forestry. 10
- (d) Enlist the advantages and disadvantages of vegetative propagation. What future do you foresee for it in forestry ? 10

SECTION B

- Q5. Answer the following :** **8×5=40**
- (a) Write in brief on advanced generation tree improvement. 8
 - (b) Discuss in detail, the kinds of soil mycorrhizae and the benefits derived by plants from them. 8
 - (c) Explain General Combining Ability (GCA), Specific Combining Ability (SCA) and their utility. 8
 - (d) Comment on the possible impact of greenhouse gases on the global environment. 8
 - (e) Discuss the impact of agroforestry practices on the environment in general and on soil properties in particular, with a suitable example. 8
- Q6.**
- (a) Discuss the term Biodiversity. Explain the levels in which it can be studied. What are the different measures employed to measure biological diversity ? Elaborate. 20
 - (b) Explain the scope and aims of Urban forestry. Discuss the need of urban forestry in the improvement of city environment. 20
- Q7.**
- (a) What are Seed Production Areas (SPA) ? Explain the purpose of establishing them. Briefly highlight the advantages and disadvantages of SPA. List the steps involved in establishing SPA. 20
 - (b) What are the various methods adopted to conserve the soil on sloping areas ? Explain in brief. 10
 - (c) Differentiate between Windbreaks and Shelterbelts. Discuss in brief, their impact on the environment. 10
- Q8.**
- (a) What is Water harvesting ? List the different methods of water harvesting and suggest various practices for efficient use of conserved water. 20
 - (b) Explain various types of Succession. Describe the major theories explaining succession. 10
 - (c) List the different components of Phenotypic variation. How are they important for tree breeders ? 10