

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