I.F.S. EXAM-(M) 2018

FSI–P–FSTY

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.

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.

Neat sketches may be drawn, wherever required.

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

SECTION—A

1. *(a)* Justify that the study of silvics is essential for successful afforestation programme in India. 8

(b) Explain different kinds of thinning and its application in forest. 8

(c) What is sustained yield? Explain how it is achieved in practice. 8

(d) Define the characteristics of mangrove forests. 8

(e) Discuss the physiology of root parasitism in sandal tree. 8

2. *(a)* Explain the ecophysiological factors that are more concerned to silviculturist. 15

(b) Enlist the classification of silvicultural systems on the basis of mode of regeneration and pattern of felling. 15

(c) How is the rotation of any particular species at any particular locality practically decided? 10

3. *(a)* What is a mother tree? How is a plant prepared through vegetative propagation different from a plant raised through seed? 15

(b) *(i)* Write the phenology of the following :

(1) *Tectona grandis*

(2) *Melia dubia*

(3) *Shorea robusta*

(4) *Cedrus deodara*

(ii) Can climate-change change the period of phenology? Share with examples. 10

(c) Write the problems and prospects of exotic tree species in India with suitable examples. 15

4. *(a)* What is conversion? Discuss the need of conversion of one silvicultural system to another. 15

(b) Give the silvicultural characteristics and economic importance of the following : 10

(i) *Azadirachta indica*

(ii) *Acacia catechu*

(c) *(i)* Enlist different types of nurseries and write different types of nursery beds used in a nursery.

(ii) Enlist different types of containers used in a forest nursery and explain different methods of seed sowing followed in a nursery. 15

SECTION—B

5. *(a)* Write in brief on the criteria of selection of tree for resistance to adverse environments for high quality timber production. 8

(b) What are the measures to be taken into consideration during preparation of earthen check dam in the forest areas? 8

(c) Write in detail about the influence of parent rock in the distribution of tree species. 8

(d) Explain the environmental and economic role of community forestry in India. 8

(e) Write the salient features of the Solid Waste Management Act, 2000 and 2016. What new initiatives have been taken in the Solid Waste Management Rules, 2016? 8

6. *(a)* Write about the diagnostic and design survey of agroforestry. Can it help the farmers in the integration of tree with crops to enhance the crop productivity in agroforestry system? Justify. 10

(b) Write about the pre- and post-Environmental Impact Assessment (EIA) of any mining area of India. Does GIS help in EIA? Write the name of the software used in Environmental Impact Assessment for the mining areas. 10

(c) Explain seed production and certification system in Indian forestry. 10

(d) What is the importance of heritability and how can genetic gain be estimated in tree improvement programme? 10

7. *(a)* Write the soil-water relationship of any forest area. Describe the influence of water table in the growth and development of tree species. 10

(b) Describe incomplete mating designs used in tree improvement. 10

(c) What are the causes of forest fire? What measures are taken to protect forests against damage by fire? 10

(d) What are the different selection methods used by the tree breeders? 10

8. *(a)* What is hydrology? Describe the role of hydrology in planning and management of watershed development. Does tree species improve the infiltration rate, soil temperature, water level and hydrological cycle? Justify with few examples. 10

(b) What is sustainable development? Write about the criteria and indicator of sustainability fulfilling the needs and demands of growing population of India. 10

(c) What is farm forestry? Write about the objectives, difficulties and financial return from the farm forestry. 10

(d) How would you develop tree improvement programmes for raising productivity in forestry? 10

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