Indian Forest Service (Main)
Examination, 2024

JBNV-U-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.*

*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.

Neat sketches may be drawn, wherever required.

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

SECTION A

Q1. (a) Elucidate the phenology, silvicultural characters and artificial regeneration of Bamboos. *8*

(b) Briefly summarize the characteristic features of cold arid forest vegetation. Discuss their mechanism of survival under extreme cold temperatures. *8*

(c) Give four examples of tree species for each of the following methods by which their flowers are pollinated : *8*

(i) Anemophily

(ii) Zoophily

(iii) Entomophily

(iv) Hydrophily

(d) Write in detail the distribution and importance of *Prosopis juliflora* and *Emblica officinalis.* *8*

(e) What is conversion in silvicultural systems ? Explain with two examples. *8*

Q2. (a) Describe the following : *15*

(i) Regeneration Felling

(ii) Felling Series

(iii) Seedling Felling

(iv) Secondary Felling

(v) Felling Cycle

(b) Write in brief on the current scenario of the growth pattern of cold desert areas in India. Describe in detail, the causes of desertification in cold areas. Suggest suitable restoration plan. *15*

(c) "Pruning is an important tending operation in plantation forestry for the improvement of the tree or its timber." Justify. *10*

Q3. (a) Write the economic importance of the following tree species : *15*

(i) *Salmalia malabarica*

(ii) *Acacia nilotica*

(iii) *Largerstroemia lanceolata*

(iv) *Pterocarpus marsupium*

(v) *Chukrasia tabularis*

(b) Give a detailed account of Indian Irregular Shelterwood System and its applications. *15*

(c) Enumerate the standard tree classification adopted in Indian Forestry. *10*

Q4. (a) What is the status of mangrove forests in India ? How are they associated with the sustainability of coastal areas ? Enumerate the list of challenges faced by mangroves. *15*

(b) What is silvics ? Explain its practical application. Discuss in brief the objects of study of silviculture. *15*

(c) Discuss the distribution and regeneration of *Cedrus deodara* and *Pinus roxburghii*. *10*

SECTION B

Q5. (a) What do you mean by urban forestry ? Discuss the choice of species for environmental conservation in these areas. *8*

(b) Briefly describe the current scenario of the saline and alkaline soils in India. Draw a management plan using suitable plant species. *8*

(c) How is shifting cultivation related with tribal society ? Is it a good practice or bad, under present situation ? Justify your claim. *8*

(d) Compare the clonal seed orchard and seedling seed orchard. Which one is preferred to get increased genetic gain ? *8*

(e) What is the greenhouse effect ? Define it. Describe in detail, accounts of its causes, sources and environmental impact. *8*

Q6. (a) What do you mean by mating design ? Describe the complete pedigree designs with their utilities. *15*

(b) What is the role of watershed development plan in India ? Describe its guidelines framed for better implementation. Briefly write on the watershed mission project. *10*

(c) Explain the concept of sustainable development of forests. How is it associated with the biodiversity, forest ecosystem conservation and forest ecosystem health ? *15*

Q7. (a) What is agroforestry ? Elucidate the scope, importance and role of agroforestry in climate amelioration. *15*

(b) Critically analyse the impact of mining, construction projects and human population on environmental degradation. Analyse comparatively the management practices followed in India and China. *15*

(c) Elucidate the impact of Joint Forest Management on the conservation of natural forests and improvement of rural environment. *10*

Q8. (a) Explain the genetics of disease resistance. Describe the methods of breeding for disease resistance in tree crops. *15*

(b) Describe in brief the types of forest soils existing under diverse ecological zones. Suggest suitable techniques for the conservation measures followed under ravines, water logged, hot deserts and coastal areas. *10*

(c) Explain the concept of soil biological fertility. Suggest a suitable plan for the restoration of soil biological fertility through the use of eco-friendly sources. *15*