Indian Forest Service Examination -2013

A–JGPT–M–ENQ–B

FORESTRY

Paper—II

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 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 chronological 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 answer book 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

Q.1. **Answer the following :** **8×5**

Q. 1(a) Differentiate between graphical method and regression equation method for preparation of general volume tables. 8

Q. 1(b) What are the main contributions of Dr. D. Brandis in Indian forestry ? Enumerate the various stages of working plan. What is the role of silvicultural system in the working plans ? 8

Q. 1(c) How would you view the Indian initiatives for sustainable forest management ? Discuss. 8

Q. 1(d) Differentiate between Hojer's formula and Behre's formula for tree form. 8

Q. 1(e) What is the yield regulation in forest management ? How can the yield regulation by Judeich method be used ? 8

Q. 2(a) Define the rotation and describe its various types used in Indian forestry. 20

Q. 2(b) Describe the compound interest and Schneider's formulae for calculation of increment percentage. 10

Q. 2(c) Differentiate between random sampling and non random sampling. Describe different methods of non random sampling that are used in forest inventories. 10

Q. 3(a) How is the knowledge of Forest Genetics essentially needed for the management of forest plantations ? Explain. 15

Q. 3(b) Define the 'Arches' used in construction. What are the different characteristics required in an arch ? 10

Q. 3(c) Describe all the five kinds of chains used in survey and advantages and disadvantages of the chain surveys. 8

Q. 3(d) Write down the chemical constituents of earth (chemical formulae and percentage range of contents) for manufacture of good quality of bricks. 7

Q. 4(a) Describe a stock map. Discuss the scheme of recording crop composition (including colouring pattern used) and crop density. 8

Q. 4(b) Describe constitution of JFM Network by MOEF, GOI with its terms of reference. 7

Q. 4(c) In stem analysis, diameters of 30^{th} ring (as computed on BH section) at different height sections was found as follows :

Ht. of section (m)	01.37	04.24	07.24	10.24	13.24	14.74
Diam. (cm)	29.5	25.2	21.0	16.00	10.40	06.60

The diameter curve of 30^{th} ring cuts the height axis at 18.24 m.

(The average seedling takes 10 years to reach 1.37 m)

Calculate the MAI at 40 years of age of the tree. 10

Q. 4(d) Find out the ***maximum and minimum pressures*** of a wall which is 60 ft long and 4.5 ft wide at the base of its footing, carrying loads at the following distances from the left hand side : 20 tons at 10 ft, 30 tons at 25 ft, 40 tons at 28 ft, 48 tons at 50 ft and 12 tons at 55 ft. 15

SECTION—B

Q. 5(a) Discuss the procedure for declaration of reserved forests in the backdrop of important sections of the Indian Forest Act, 1927. 8

Q. 5(b) Describe the different theories of Climax. Name different types of climax (plant community) that are observed. 8

Q. 5(c) Write about species diversity and centre of origin of Willows (*Salix* species). Describe its various uses under short rotation forestry. 8

Q. 5(d) Discuss about the different kinds of food chains in different habitats and ecosystems. 8

Q. 5(e) What are the factors responsible affecting forest policy ? Discuss. 8

Q. 6(a) What are advantages of wood seasoning ? Describe the various methods of wood seasoning and mention classification of timbers for seasoning. 15

Q. 6(b) Mention the salient features of National Forest Policy, 1988 and discuss its advantages over N.F.P. 1894. 10

Q. 6(c) Discuss different methods of disease control in forest nursery with examples. 8

Q. 6(d) Give the important features of demand and supply curves. What are the factors responsible for demand and supply of forest produce ? 7

Q. 7(a) Discuss the mechanism of drought resistance, drought tolerance and drought avoidance in plants. 10

Q. 7(b) Describe the salient features mentioned in new Draft Forest Bill, 1994. 10

Q. 7(c) What do you understand by wildlife census ? Write different methods of census in brief. 10

Q. 7(d) Write short notes on the following medicinal plants : 4×2.5

(i) *Aconitum heterophyllum*

(ii) *Orchis latifolia*

(iii) *Podophyllum emodii*

(iv) Morchella *esculanta*

Q. 8(a) Describe flora and distribution of group : Type 14/C_2 East Himalayan sub-alpine birch fir forests. 10

Q. 8(b) Write critical notes on any **FOUR** of the following :

(i) Plants of sacred groves with two examples well-known in the country

(ii) Importance of *Butea monosperma*

(iii) Siddha system of medicines

(iv) Drugs of alkaloids

(v) Biological evaluation of drugs. 10

Q. 8(c) Willow is the life line in dry temperate region (Lahaul-Spiti) but its large scale drying is causing great concern. Give your viewpoints. 8

Q. 8(d) Give the classification of timbers based on air dry weight with suitable examples. 7

Q. 8(e) Describe the qualitative characteristics of plant community. 5