

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.*

*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) Describe the criteria and indicators of sustainable forest management. 8
- (b) "Forestry enterprise is peculiar compared to other enterprises." Justify. 8
- (c) "Working plan is a basic prerequisite for management of forest division." Discuss. 8
- (d) Differentiate Stand density and Canopy density. Mention Canopy density classification as per Forest Survey of India. 8
- (e) Explain the terms (i) True meridian, (ii) Magnetic meridian, (iii) Reduced bearing, and (iv) Fore and back bearing. 8
- Q2.** (a) Define Geoinformatics. What are its elements ? Explain its role in management and monitoring of forest resources. 15
- (b) What are the advantages and disadvantages of Plane table surveying ? Describe Radiation, Intersection, Traversing and Resection methods of Plane table surveying. 15
- (c) Define Working Circle. Mention different types of working circles generally constituted in India. Explain Biodiversity working circle. 10
- Q3.** (a) Explain French method (1883) of yield regulation in irregular forests. What are its advantages and disadvantages ? 15
- (b) What is Site Quality Index ? How does it differ from fractional site quality ? Explain any one method used for developing site quality classes with the help of neat diagram. 15
- (c) What is forest regeneration survey map ? How is it useful in management of natural forests ? 10
- Q4.** (a) Define rotation of maximum volume production. Explain the method for fixing up of rotation of maximum volume production with the help of neat diagram. 15
- (b) Briefly explain the steps involved in preparation of working plan according to National Working Plan Code, 2014. 15
- (c) Describe structure of Suspension Bridge and Cantilever Bridge. 10

SECTION B

- Q5.** (a) Explain the terms : 8
- (i) Cation Exchange Capacity
 - (ii) Salinity and Alkalinity
- (b) What is meant by climax in ecological succession ? Give an example and describe types of ecological succession. 8
- (c) What is REDD+ ? How does clean development mechanism help in sustainable management of forests ? 8
- (d) Unscientific harvesting of NTFPs has led to depletion of NTFP resources. Discuss. 8
- (e) Mention different methods of valuation of intangible services from forest ecosystem and explain any one. 8
- Q6.** (a) Write the general principles of wood seasoning. How is electrical kiln seasoning advantageous over air seasoning ? 15
- (b) Write the provisions of Sections 35, 37 and 38 under the Indian Forest Act, 1927, applied to control over forests and land not being the property of the Government. 15
- (c) Justify the statement "Wild animals are one of the biotic components of the forest ecosystem." How do they help in forest regeneration ? 10
- Q7.** (a) Write the scientific names of ten medicinal plants and their uses. 15
- (b) Describe the provisions of Sections (3 – 27) of the Indian Forest Act, 1927 applied to declare any forest land or wasteland as a Reserve Forest over which the Government has proprietary rights. 15
- (c) What is the role of forest plantations in carbon sequestration ? 10
- Q8.** (a) What are gums, resins, oleoresins and gum resins ? Classify and give at least two examples under each group. 15
- (b) What are holotype, neotype, lectotype and syntype of plant specimens ? Describe the role of arboreta and clonal parks in conservation of biodiversity. 15
- (c) What is controlled burning ? How does it help in improving forest regeneration ? 10

