

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.

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

Neat sketches may be drawn, wherever required.

SECTION A

Q1. Answer the following :

- (a) What are the key decision parameters in an uneven-aged forest management ? 8
- (b) Why should GIS be considered as a 'Pure Science' ? 8
- (c) How does collaborative forest management ensure community and household resilience ? 8
- (d) What are the recommended practices for strategic harvest planning ? 8
- (e) Construction and maintenance of forest roads can be considered as an essential investment of forest growth. Comment. 8
- Q2.** (a) What are the factors that affect a stand structure ? Describe in brief the DBH distribution in even, uneven and multi-aged normal forest stands. 15
- (b) What are the classical methods for determining the allowable cut ? 15
- (c) What are the factors that cause foundation failure during construction of a forest building ? 10
- Q3.** (a) What are the applications of remote sensing in forestry ? 15
- (b) What are the basic details of an engineering design of a timber bridge ? What steps should be taken to ensure its durability ? 15
- (c) What are the socio-ecological implications of modifying rotation lengths in forestry ? 10
- Q4.** (a) What are the objectives of forest surveying ? How does topographic survey aid in forest planning and management ? 15
- (b) A well-defined working plan is crucial for sustainable management of forests and biodiversity. Write your answer in brief in the light of National Working Plan Code 2014. 15
- (c) How does slope aspect impact forest stand characteristics and soil properties ? 10

SECTION B

Q5. Answer the following :

- (a) How does shifting cultivation support community livelihood and biodiversity conservation ? 8
- (b) What is the direct role of the Biological Diversity Act, 2002 in conservation of wildlife ? 8
- (c) How does inflation influence forest goods ? Briefly explain the types of inflation that directly influence the prices of forest goods. 8
- (d) What are the rules laid down for efficient felling ? Classify the timbers based on industrial use. 8
- (e) What is the significance of wildlife in today's perspective ? Discuss in brief about the components of wildlife ecology. 8

- Q6.**
- (a) Discuss the role of forest resources in the Indian economy. Suggest suitable storage methods for wood or other forest produce and their management strategies. 15
 - (b) What is the need to protect the forests ? Enumerate the major threats responsible for forest injuries. Suggest suitable preventive and protective measures to safeguard the forest wealth. 15
 - (c) Why is carbon cycle important ? How do human activities affect carbon cycle ? 10

- Q7.**
- (a) What is the significance of Afforestation and Reforestration to the ecosystem ? How are the National Afforestation Programme, Green India Mission and Forest Fire Prevention and Management Scheme helping in restoration of forests ? 15
 - (b) What are the structural and functional changes that occur in a forest ecosystem during succession ? 15
 - (c) What do you understand by forest valuation ? Discuss in brief. Describe various valuation techniques for forests. 10

- Q8.** (a) Describe the process of wood formation. Write in detail about the physical, chemical and mechanical properties of wood. 15
- (b) Write in detail about the historical background of forest policies in India and their aims. Describe in brief about the organization of forest sector in India. 15
- (c) How has the National Forest Policy of 1988 changed the national scenario ? Describe in brief. Highlight some major achievements in relation to the above policy. 10