

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