

No 002269

B-JGT-K-GPB

FORESTRY
Paper II

Time Allowed : Three Hours

Maximum Marks : 200

INSTRUCTIONS

Candidates should attempt questions 1 and 5 which are compulsory, and any THREE of the remaining questions, selecting at least ONE question from each Section.

*All questions carry equal marks.
Marks allotted to parts of a question are indicated against each.*

Answers must be written in ENGLISH only.

SECTION A

1. Answer any *five* parts from the following : 8×5=40
- (a) Discuss the significance of normality in sustained management of forest.
 - (b) What are the different regeneration categories that are observed and recorded during sal regeneration survey ?
 - (c) How is De Liocourt's principle utilised to ensure normality concept in selection forest ?
 - (d) How do variation in density and quality of a forest influence annual yield estimation ?
 - (e) How are yield table data used for assessment of normal growing stock ?

- (f) Describe methods of using prismatic compass in forest surveys.
2. (a) Comment on the comparative significance of calliper and tape for d.b.h. measurement. 8
- (b) What is working circle ? How is it decided in working plan exercise ? 8
- (c) Write down the methods for laying out sample plots for periodic recording of growth data. 8
- (d) Briefly discuss the relative importance of physical and silvicultural rotations in respect of existing forest resources of India. 8
- (e) Distinguish between Irish bridge, suspension bridge and cantilever bridge. 8
3. (a) What are the pictorial elements used for interpretation of aerial photographs ? 10
- (b) Describe the procedure for allotting different types of periodic blocks in a forest. 10
- (c) Explain the principle and use of Abney's Level. 10
- (d) Explain the components of compartment description. 10
4. (a) How is the soil expectation value helpful for deciding financial rotation ? 10
- (b) How does the flying height influence the scale of aerial photographs in hilly areas ? 10
- (c) Write principle of Christen hypsometer and its use. 10
- (d) What is intermediate yield ? How does it differ from final yield ? 10

SECTION B

5. Answer any *five* parts from the following : 8×5=40
- (a) What are the keys to identify timbers for construction purpose ?
 - (b) List five each of the important resident and migratory birds noticed in Indian forests.
 - (c) Name five important tree species used for axle and wheels of different carts. In which regions of the country is this sort of transportation more prevalent ? State the reasons.
 - (d) List merits of Bentham and Hooker system of plant classification used in Dendrology.
 - (e) Illustrate the succession of mangrove vegetation in sea coast.
 - (f) What are fire-prone areas ? How are these detected ? What precautionary measures need to be taken to overcome this problem ?
6. (a) What morphological, anatomical and physiological features are suited in xerophytic plants ? 10
- (b) How is damage due to teak defoliator and stem borer managed in the plantations ? 10
- (c) What are live fences ? Name five plant species most commonly used as live fences. How do these differ from other types of fences ? 10

- (d) How is Forest Certification done in developed countries ? Comment on its present status in India. 10
7. (a) How are ectomycorrhizal fungi beneficial in managing soil borne diseases of forest nurseries ? Give examples. 10
- (b) What are the different types of water soluble wood preservatives ? 10
- (c) How and why should cold desert forest ecosystem be conserved ? 10
- (d) What are the functions of "Indian Board for Wildlife" with regard to conservation of wildlife ? 10
8. (a) Write causal pathogens of important diseases of Poplar and *Gmelina arborea*. Write integrated management of any one disease in each species. 10
- (b) How are different parameters used in System Ecology ? 10
- (c) Name five aromatic grasses with their uses and methods of extraction. 10
- (d) "There is no replacement for rattans in forest based industry." Justify this statement and list five important species reported from different parts of the country. 10