

COMBINED COMPETITIVE EXAMINATION (MAIN)

FORESTRY

Paper—II

Time : 3 hours

Full Marks : 200

- Note :** (1) The figures in the right-hand margin indicate full marks for the questions.
(2) Attempt **five** questions in all.
(3) Question No. 1 is compulsory.

1. Answer any *ten* of the following : 4×10=40
- (a) What are the additive and non-additive genetic variations in a tree population?
 - (b) Describe the type of lac crop harvested in India.
 - (c) What is a certified seed? How do the seeds get certified?
 - (d) How does social forestry differ from urban forestry?
 - (e) What are the principles of wildlife management?
 - (f) What is an eco-tourism? How is it different from mass tourism?
 - (g) What is the difference between Heartwood and Sapwood?
 - (h) What is an Incomplete Pedigree Mating design?
 - (i) What are the structural and functional aspects of a biosphere reserve?
 - (j) What are the different systems of sale of forest produce?
 - (k) How do seed banks and tissue culture help in conservation of species?
 - (l) What are the main characteristics of wood preservative?

2. (a) Write short notes on any *four* of the following : 5×4=20
- (i) Biodiversity hotspots in India
 - (ii) Role of forest policy in forest conservation
 - (iii) Wildlife Protection Act, 1972
 - (iv) Salient features of National Forest Policy, 1988
 - (v) Scheduled Tribes and Other Traditional Forest Dweller Act, 2006
- (b) Differentiate between any *four* of the following : 5×4=20
- (i) Mass selection and Clonal selection
 - (ii) Horizontal resistance and Vertical resistance
 - (iii) Gum and Resin
 - (iv) Qualitative and Quantitative traits in tree species
 - (v) Vermin and Game animals
3. Answer any *five* of the following : 8×5=40
- (a) Explain the general guidelines for selection of Plus trees from even-aged stands.
 - (b) What are the characteristics which are shared by the diverse tribal groups all over India?
 - (c) What should be the basis of choice of species under agroforestry system?
 - (d) Explain various factors that influence the demand of forest products.
 - (e) Explain the salient features of Biological Diversity Act, 2002.
 - (f) Describe various seasoning defects of woods.
4. Answer any *four* of the following : 10×4=40
- (a) Discuss the main factors causing loss of biodiversity of North-East India along with methods to conserve it.
 - (b) Discuss the Constitutional safeguards available to the forest officers for the protection of Indian Forests.

- (c) Give a detailed account of Wildlife Census techniques followed in India.
- (d) Briefly describe various methods of seasoning sawn timber.
- (e) Briefly describe the methods of forest valuation in India.

5. Answer any *two* of the following :

20×2=40

- (a) Write down the requisite qualities of woods with examples for the following end uses : 2½×8=20
 - (i) Boat and ship building
 - (ii) Packing cases
 - (iii) Pulp and paper
 - (iv) Pencil industry
 - (v) Match industry
 - (vi) Musical instrument
 - (vii) Agricultural implements
 - (viii) Railway line
- (b) How does Joint Forest Management (JFM) work? What are the general usufructs sharing under JFM? Discuss in detail the status and progress of JFM in North-East India. 20
- (c) What are the important considerations taken into account before adopting any method of transportation? Explain in detail the transportation of timber by waterways in the Himalayan region. 20

6. What are the major forest types in India? Explain various forest sub-types, their characteristic features along with associated species of the following regions : 10×4=40

- (a) North-East India
- (b) South India
- (c) Central India
- (d) Western Himalayas

7. Answer/Write on any *four* of the following : 10×4=40

- (a) Briefly describe the role of NTFPs in rural economy of Arunachal Pradesh.
- (b) Tangible and non-tangible benefits of forests
- (c) Role of ethnobotany in Indian system of medicine
- (d) Importance of cost-benefit analysis in forest plantations
- (e) Discuss how proper management of watershed would provide sustainable livelihood in rural areas.

8. Explain the distinguishing characters of the following families : 10×4=40

- (a) Casuarinaceae
- (b) Leguminosae
- (c) Theaceae
- (d) Combretaceae

9. Describe a brief account of the phenological characters, propagation techniques, growth behaviour, system of management and utilization of the following : 40

- (a) *Tectona grandis*
- (b) *Shorea robusta*
- (c) *Albizia lebbek*
- (d) *Gmelina arborea*

10. Why is soil and water conservation important for forestry practice? Discuss in detail various biological and engineering approaches to watershed management in North-East India. 40
