

Government of Karnataka  
Forest Department

Recruitment Examination (main) for Range Forest Officer training 2007

**Optional paper: FORESTRY-I**

**5<sup>th</sup> November, 2007 (10.30 am to 1.30 pm)**

Max.Marks: 100

Time: 3 hours

**PART A – COMPULSORY**

**1. Fill in the blanks**

**(7 marks)**

1. Animal Day is celebrated on -----
2. Habitat Day is celebrated on -----
3. Central Ecological Research Institute is situated in -----
4. ----- is a plant that grows on wasteland, old fields, waysides, etc.
5. ----- is the developmental history of an individual organism over its whole life cycle.
6. ----- is annual flowering bamboo found in Nilagiris.
7. ----- are introduced from South Africa in Nilagiris in 1940s.
8. ----- is the species known as chocolate brown teak.
9. ----- is a Poaceae member missing the enchanting scenes of Mungaru Male in Jog Falls.
10. ----- are two lobed seeds exhibiting vivipary in tropical evergreen forests.
11. ----- (Sundri ) is the species after which the Sunderbans derive its name.
12. ----- is the Dipterocarp member endemic to Bhagavathi valley of Chickmagalur.
13. ----- is the species known as Woman's tongue tree used in urban forestry.
14. Casuarina trees have ----- flowers.

**2. Expand the acronyms given below:**

**(7 marks )**

- |            |            |
|------------|------------|
| 1. TRAFFIC | 7. CITES   |
| 2. CPPRI   | 8. BOBP    |
| 3. NBSSLP  | 9. GEF     |
| 4. IUFRO   | 10. ICIMOD |
| 5. ACEP    |            |
| 6. INBIO   | 11. NEAC   |

**3.State true or false:**

**(6 marks )**

1. Breaking the finer roots of nursery plants, without removing them from the soil by heaving the soil with a fork, or by partly lifting the plant and refirming is soil working.
2. Dry wood termite never inhabits wood and requires no moisture.
3. Thicket is a insect found exclusively in Shola forests.
4. Water present in a site, derived from sources other than direct precipitation on the site is inherent moisture.
5. Saprogen is an organism capable of producing decay in non-living organic material such as dead wood.
6. Most of the Shola species are predominantly serotinous.
7. Penning site is the low tide region where mangrove species germinate gregariously.
8. Bloom delay provides temporal isolation of pollen contamination.

**PART B**

**Section 1**

**4x5=20 marks**

1. Briefly describe about the ecological status of Shola grassland vegetation.
2. Discuss the relative merits of direct seeding and planting.
3. Discuss the environmental effects of clear-cutting and harvesting.
4. Explain thinning operation with respect to Teak plantation.
5. Describe the Indian irregular shelterwood system with examples of its application in tropical rain forests.
6. Describe the development of degraded eastern plains of Karnataka through Agroforestry.
7. Write critical notes on economical and ecological implications of plantation crops in Malnad region of Karnataka.
8. Short notes on –
  - VAM
  - Plugging of gully through tree planting.
9. Suggest practical methods for reclamation of mined sites and laterite soils.
10. Notes on importance and types of heritability .How it can be increased?
11. Notes on hybrid vigour and its utility in tree breeding.
12. Discuss economics of tree improvement programme.
13. Enumerate various steps in the creation of clonal seed orchards.

## SECTION 2

12x5= 60

1. Write various steps involved in formulation of village forest committees. How do these help in JFPM.?
2. Discuss different types of nutrient cycling which occur in tropical forest ecosystems.
3. What is plant succession? Write down the causes of primary succession and discuss the stages of succession on new sites of temperate Himalaya.
4. Explain about the effects of thinning on physiological and mensurational aspects of tree growth.
5. What are tidal swamp forests? List the different forest types found in them along with their species composition.
6. Describe the different variations of shelterwood method of regeneration of even-aged stand with two examples.
7. Discuss salient features, management and significance of Mangrove and Shola forests.
8. Give an account on the management of any two plantations --
  - Teak
  - Acacia
  - Sal
  - Deodar
9. Describe the silviculture of following species
  - Neem
  - Rosewood
  - Sandal
  - Bellary Jali
10. Enumerate different Agroforestry systems with models.
11. Discuss evolution of JFPM in Karnataka ? What are the bottlenecks in its effective implementation?
12. What are exotics? Briefly describe the advantages and problems associated with exotic forestry giving three examples.
13. Describe the types, sequences and time-scale of species trials. Give object and features for each phase.
14. Describe selection and breeding for insect resistance and adverse climate.

