2009

M.Sc. Part–II Examination

BOTANY

PAPER—IX

Full Marks : 80

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Write the answer question of each half in separate books.

First Half (*Ecology*)

[Marks : 50]

Answer Q. No. *1* and any *two* from the rest.

1. Write short notes on (any *five*) : 4×5

(a) World Environment Day ;
(b) Primary succession ;
(c) Food Web ;
(d) Chipko protest ;
(e) Ramsar site ;
(f) Anatomical adaption of aquatic plants ;
(g) Mangroves ;
(h) Climax concept.

2. Discuss shifting cultivation. Write the environmental debates on *Eucalyptus* plantation and dams. 5+(5+5)

3. What is ozone hole ? Enumerate the factors responsible for ozone hole formation. Discuss the adverse effects of ozone deplection on human health. 3+5+7

4. Define biodiversity. Write the reasons for biodiversity loss. Discuss the major trends in biodiversity conservation in India. Name two hotspots of India. 3+4+6+2

Second Half *(Forest Pathology)*

[Marks : 30]

Answer *all* questions.

5. Discuss the role of enzyme in pathogenesis. 8

Or

Briefly discuss the biochemical defence mechanism in plants.

6. Write the causal organism, symptoms and the control of root rot of Sal. 1+3+4

Or

Give an account of the Pink disease of *Eucalyptus* and its control. 6+2

7. (i) What are the reasons of depletion of mycorrhizal propagules in soil? 4+2+2

(ii) How can you ascertain wheather a given root sample is ectomycorrhizal or Va-mycorrhizal. 4

Or

(i) Explain how mycorrhiza is called 'Biofertilizer'. 4

(ii) Write the names of : 1+1+1+1

(a) two plants which do not form mycorrhiza ;
(b) two plants which form only ectomycorrhiza ;
(c) two vam genera which do not form vesicles and
(d) two fungi which form ectomycorrhiza.

8. Write short notes on any *two* of the following : 3×2

(a) Pre-existing defence in plants ;
(b) Koch's rule ;
(c) Any non-pathogenic disease of tree ; and
(d) Mycorrhiza and disease control.
