

**Second Year B.Sc., Degree Examinations****August/September 2011****Directorate of Distance Education****Botany****Paper II : Gymnosperms, Paleobotany, Anatomy Embryology and Ecology**

Time: 3 hrs.]

[Max.Marks:75/85

**Instructions to the Candidates :**

1. Students who have attended 25 Marks IA Scheme will have to answer for total of 75 Marks.
2. Students who have attended 15 Marks IA Scheme will have to answer for total of 85 Marks.
3. One mark questions should be answered in first two pages of the answer book.
4. Draw labelled diagrams wherever necessary.
5. Question no V is compulsory for 85 marks scheme.

**I. Simple answer questions :****10 X 1= 10Marks***Answer in a word, or a phrase or a sentence.*

1. Define nucellus.
2. What is phelloderm ?
3. Define compressions.
4. What is meant by a closed vascular bundle ?
5. Name the living component of xylem.
6. What is meant by herbivore ?
7. Name the secondary wall material in xylem vessels.
8. What is meant by pollen embryo sac ?
9. What is meant by dwarf shoot in pinus ?
10. What are coralloid roots ?

**II. Short answer Questionns.***Write any FIVE of the following.***5X 3= 15Marks**

11. Draw labelled diagram of megasporophyll of cycas.
12. Explain pyramid of energy.
13. Describe maristem based on their position.
14. What are the advantages of self pollination ?

**Contd...2**

15. Describe the types of sclereids.
16. Describe energy flow in an ecosystem.
17. Draw a labelled diagram of T.S. of young anther.

**III. Medium answer questions.**

*Answer any FIVE of the following.*

**5X6= 30Marks**

18. Explain T.S. of Cycas leaflet.
19. Describe Lepidodendron.
20. Explain the T.S. of stem in Dracaena.
21. Describe the T.S. of Dicot leaf with labelled diagram.
22. Explain the adaptations for cross pollination in Angiosperms.
23. Enumerate the characteristics of Xerophytes.

**IV. Long answer questions :**

**2X10=20 Marks**

*Answer any TWO of the following.*

24. Explain the role of climatic factors in vegetation.
25. Describe male cone, female cone and L.S. of ovule in Gnthem.
26. Describe pond ecosystem with labelled diagram.
27. Describe the following
  - a) Types of endosperm
  - b) Structure of male gametophyte in Angiosperms.

**V. (Compulsory question for 85 Marks Scheme only)**

*Long answer questions :*

**1X10=10 Marks**

*Answer any ONE of the following questions.*

28. Explain dermal tissue system.
29. Describe the male and female cone of Pinus.

\*\*\*\*\*