

(i) Printed Pages: 3

Roll No.

(ii) Questions : 9

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B.A./B.Sc. (General) 3rd Semester
(2122)

BOTANY

(Diversity of Seed Plants & their Systematic—I)

Paper-A

Time Allowed : Three Hours] [Maximum Marks : 36

Note :—Attempt five questions in all. Question No. 1 is compulsory. Select one question from each Unit.

1. (A) Select the right answer (MCQ) :

(i) Ovules in Gymnosperms are :

- (a) Anatropous and Bitegmic
- (b) Orthotropous and Unitegmic
- (c) Anatropous and Unitegmic
- (d) Orthotropous and Bitegmic

(ii) How many leaf traces enter in each cycas leaf ?

- (a) 2
- (b) 4
- (c) 6
- (d) 8

(iii) Ovuliferous and Bract scale are part of :

- (a) Megasporophyll of *Pinus*
- (b) Megasporophyll of *Ephedra*
- (c) Male flower in *Ephedra*
- (d) All

(iv) Archegonia neck is longest in :

(a) *Cycas*

(b) *Pinus*

(c) *Ephedra*

(d) *Zamia* 4×1=4

(B) Fill in the blanks :

(i) Which Era is called Age of Gymnosperms _____.

(ii) Siphonogamy and Zoodiogamy both are found in _____.

(iii) Winged Seeds are found in _____.

(iv) Common name of *Ephedra* is _____. 4×1=4

UNIT-I

2. (a) Explain economic importance of Gymnosperms with respect to wood, medicines and food.

(b) Write differences between Manoxylic and Pycnoxylic wood. 5+2

3. (a) What are general characteristics of Gymnosperms (write 8) ?

(b) Draw graphic life cycle of Gymnosperms. 4+3

UNIT-II

4. (a) What are fossils ? Explain any two types.

(b) Write a note on periods of Mesozoic Era and type of plants present. 4+3

5. Describe external structure of stem, internal structure of stem and reproduction in *Lyginopteris*. 7

UNIT-III

6. (a) Describe the morphology of *Cycas*.
(b) Explain the structure of male cone in *Cycas*. 4+3
7. (a) Explain the development of male Gametophyte in *Cycas*.
(b) Name the 3 generations found in *Cycas* seed. 5+2

UNIT-IV

8. (a) Explain the process of Embryo formation in *Pinus* after fertilization.
(b) Write a note on Pollen grain of *Pinus*. 5+2
9. (a) Write a note on external morphology of *Ephedra*.
(b) Write a note on *Archegonia* in *Ephedra*. 4+3