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(CBCS)

(6th Semester)

BOTANY

NINTH PAPER

(Pteridophytes, Gymnosperm, Paleobotany, Palynology)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(*Marks : 25*)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks : 10*)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. *Calamites* belongs to the class

- (a) Lycopside ()
- (b) Sphenopsida ()
- (c) Pteropsida ()
- (d) Psilopsida ()

2. *Ophioglossum* belongs to the class

- (a) Pteropsida ()
- (b) Lycopside ()
- (c) Sphenopsida ()
- (d) Psilopsida ()

3. Gymnosperms do not have
- (a) fruits ()
 - (b) seeds ()
 - (c) leaves ()
 - (d) None of the above ()
4. Which one of the following is called living fossil?
- (a) *Ephedra* ()
 - (b) *Taxus* ()
 - (c) *Ginkgo* ()
 - (d) None of the above ()
5. All the members of gymnosperms are
- (a) heterosporous ()
 - (b) homosporous ()
 - (c) Both (a) and (b) ()
 - (d) None of the above ()
6. Which one of the following is fossil seed fern?
- (a) Cordaitales ()
 - (b) Cycadofilicales ()
 - (c) Gnetales ()
 - (d) Bennettitales ()
7. Paleobotany deals with
- (a) study of soil ()
 - (b) study of rock ()
 - (c) study of pollen ()
 - (d) study of fossil ()
8. In geological time scale, there are
- (a) 4 eras ()
 - (b) 5 eras ()
 - (c) 3 eras ()
 - (d) 6 eras ()

9. Pollens are produced from

- (a) leaves ()
- (b) ovules ()
- (c) stamens ()
- (d) pistils ()

10. Each pollen grain is covered by

- (a) oxine ()
- (b) exine ()
- (c) intine ()
- (d) both exine and intine ()

SECTION—B

(Marks : 15)

Write notes on the following :

3×5=15

1. Sporocarp of *Marsilea*

OR

Characteristics of *Rhynia*

2. Morphology of *Taxus*

OR

Classification of gymnosperms

3. Structure of ovule in gymnosperm

OR

Phylogenetic trends in gymnosperm

4. Characteristics of *Lyginopteris*

OR

Main characters of Pteridospermales

5. Pollen production

OR

Role of pollen in taxonomy

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. Write a note on the morphology and reproduction of *Ophioglossum*. 10

OR

Write short notes on the following : 5×2=10

(a) Characteristics and distribution of *Lepidodendron*

(b) Reproduction in *Marsilea*

2. Discuss the structure of male and female strobili of *Taxus*. 10

OR

Write notes on the following : 5×2=10

(a) Morphology of *Ephedra*

(b) Gametophyte of *Ginkgo*

3. Give an account on the distribution of living gymnosperms in India. 10

OR

Write notes on the following : 5×2=10

(a) Economic importance of gymnosperms

(b) General account of archegonia

4. Describe the formation and types of fossil. 10

OR

Write notes on the following : 5×2=10

(a) Gondwana flora

(b) Features of *Cordaites*

5. What is palynology? Describe the pollen morphology with suitable diagrams. 10

OR

Write notes on the following : 5×2=10

(a) Pollen allergy

(b) Pollen dispersal in time and space
