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(CBCS)

(6th Semester)

BOTANY

NINTH PAPER

(Pteridophytes, Gymnosperm, Paleobotany, Palynology)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(Marks : 10)

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

1×10=10

1. *Adiantum* belongs to the class

(a) Pteridopsida ()

(b) Lycopsidea ()

(c) Sphenopsida ()

(d) Psilopsida ()

2. Fertile spike is commonly found in
- (a) *Rhynia* ()
 - (b) *Adiantum* ()
 - (c) *Ophioglossum* ()
 - (d) *Marsilea* ()
3. The ovule in *Taxus* is characterized by
- (a) orthotropous and sessile ()
 - (b) orthotropous and stalked ()
 - (c) anatropous and stalked ()
 - (d) anatropous and sessile ()
4. Leaves of dichotomous venation is found in
- (a) *Cycas* ()
 - (b) *Taxus* ()
 - (c) *Ginkgo* ()
 - (d) *Ephedra* ()
5. Which one is known as fossil seed ferns?
- (a) Cycadofilicales ()
 - (b) Cordaitales ()
 - (c) Pteridospermales ()
 - (d) Bennettitales ()
6. Mormon tea is brewed from the species of
- (a) *Equisetum* ()
 - (b) *Ephedra* ()
 - (c) *Ectocarpus* ()
 - (d) *Pinus* ()

7. *Cordaites* belongs to the class

- (a) Coniferophyta ()
- (b) Phaeophyta ()
- (c) Charophyta ()
- (d) Cycadophyta ()

8. The name Gondwana was originally coined by

- (a) H. B. Medlicott ()
- (b) Rani Durgabati ()
- (c) Ottokar Feistmantel ()
- (d) Karkarbari ()

9. Pollens are produced from

- (a) ovary ()
- (b) ovule ()
- (c) pistil ()
- (d) stamen ()

10. Pollen grains have a hard coat in its exine made of

- (a) sporocyte ()
- (b) sporogeneous tissue ()
- (c) sporopollenin ()
- (d) sporophyte ()

(SECTION : B—SHORT ANSWER)

(Marks : 15)

Write short notes on the following :

3×5=15

UNIT—I

1. Sporocarp of *Marselia*

OR

2. Distribution of *Lepidodendron*

UNIT—II

3. Morphology of *Taxus*

OR

4. Classification of gymnosperms

UNIT—III

5. Gymnosperms as medicine

OR

6. Structure of ovule

UNIT—IV

7. Geological time scale

OR

8. Fossil formation

UNIT—V

9. Pollen production

OR

10. Role of pollen in taxonomy

(SECTION : C—DESCRIPTIVE)

(Marks : 50)

Answer the following questions :

10×5=50

UNIT—I

1. Discuss the characteristics and distribution of *Rhynia*.

10

OR

2. Write short notes on the following :

5+5=10

(a) Morphology of *Adiantum*

(b) Distribution of *Lepidodendron*

UNIT—II

3. Give an account of the structure of male and female strobilus of *Ginkgo*.

10

OR

4. Briefly mention the following :

5+5=10

(a) Morphology of *Taxus*

(b) Male strobilus of *Ephedra*

UNIT—III

5. Give an account of living gymnosperms in India.

10

OR

6. Write brief notes on the following :

5+5=10

(a) General account of archegonia

(b) Economic importance of gymnosperms

UNIT—IV

7. What are fossils? Give an account on various types of fossil. 10

OR

8. Briefly describe the following : 5+5=10

(a) Lower Gondwana

(b) Main characters of Pteridospermales

UNIT—V

9. Describe the pollen morphology with suitable diagram. 10

OR

10. Write short notes on the following : 5+5=10

(a) Dispersal of pollens in time and space

(b) Pollen allergy
