

BOTANY Paper-A

(Diversity of Seed Plants and their Systematics-I)

Time Allowed : 3 Hours

Maximum Marks : 36

Note : (i) Attempt five questions in all, selecting one question from each unit.
(ii) Question No. 1 is compulsory. (iii) Draw diagrams where necessary.

1. (A) Multiple Choice Questions. Pick up correct choice.

(i) Winged Pollen grains are present in :

- (a) Cycas
- (b) Pinus
- (c) Ephedra
- (d) Gnetum

(ii) How many concentric rings of vascular cambium are formed in *Cycas Pectinata* ?

- (a) 10
- (b) 12
- (c) 14
- (d) 16

(iii) In *Ephedra*, both male and female strobili are :

- (a) Simple
- (b) Compound
- (c) Open
- (d) Absent

(iv) Who is known as "Father of Indian Paleobotany" ?

- (a) Williamson
- (b) Potonie
- (c) Binney
- (d) Birbal Sahni

(v) Vessels are present in which gymnosperm ?

- (a) Gnetum
- (b) Cycas
- (c) Pinus
- (d) Ephedra

(vi) Strongest coniferous wood used for railway sleepers obtained from :

- (a) Pinus
- (b) Cedrus
- (c) Ginkgo
- (d) Taxus.

6×1=6

(B) Fill in the blanks :

- (i) Cycas yields a starch called _____.
- (ii) Pollen bearing organ of Lyginopteris was given the name _____.
- (iii) Inverted omega like vascular bundles are present in _____.
- (iv) Leaves of *Pinus* are _____.
- (v) 'Jointed Fir' is the common name of _____.
- (vi) Neck canal cells are _____ in gymnosperms. 6×1=6

UNIT-I

- 2. Differentiate between gymnosperms and angiosperms. 6
- 3. Differentiate between manoxylic and pycnoxylic wood. 6

UNIT-II

- 4. What are fossils ? Explain various types. 6
- 5. Describe external morphology and reproductive organs of *Williamsonia*. 6

UNIT-III

- 6. Describe male cone of *Cycas*. 6
- 7. Describe structure (internal) of *Cycas* leaflet with diagram (Cellular)/ 6

UNIT-IV

- 8. Describe external morphology of *Pinus*. 6
- 9. Describe female cone of *Ephedra*. 6