

**PC – 267 CV-19**  
**M.Sc. (Second Semester)**  
**BOTANY**  
**Examination June 2020**  
**Paper- II**  
**Biology & Diversity of Gymnosperm**

**Time : Three Hours]**

**[Maximum Marks : 80**  
**[Minimum Pass Marks : 29**

नोट : दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

**Section-A**

1. Answer the following questions:- [1x10=10]
- (a) Give occurrence of Gymnosperms.
  - (b) How do fertilization and seed formation occur in gymnosperms
  - (c) Give one difference between Gymnosperms and pteridophytes.
  - (d) Which plant is called living fossil.
  - (e) What is the nature of Gymnosperms?
  - (f) Name the type of pollination found in Gymnosperms.
  - (g) Write the one smallest Gymnosperm plant.
  - (h) Which type of root is present in Gymnosperms.
  - (i) Which type of arrangement of megaspore in a tetrad a Gymnosperms.
  - (j) Who is the father of paleobotany in India.
2. Answer the following question in short. [2x5=10]
- (a) What are coralloid root. Give their advantage to plant.
  - (b) What is the medicinal importance of Ephedra.
  - (c) Draw well labelled diagram of T 5 pinus needle.
  - (d) Draw well labelled diagram of male flower of Gnetum
  - (e) Which type of resin canal found in cortex and secondary xylem or the stem of Pinus.

**Section-B**

Answer the following questions in detail-

[15x4=60]

3. Describe the characteristic features of fossil Gymnosperm family Lygenopteridiaceae.
- Or**
- Write notes on the following-
- (a) Evolution of Gymnosperms.
  - (b) Development of Female Gametophyte.
4. Give a brief account and well developed diagram in order Cycadeodales.
- Or**
- Write notes on the following-
- (a) Medulosa stem T 5.
  - (b) Caytonia.
5. Describe the reproductive organs of Ephedrales.
- Or**
- Describe the male and female gametophytes of Ginkgoales.
6. Give a general account of Reproductive structure of Welwitschiales.
- Or**
- Write notes on the following-
- (a) Glossopteridaceae
  - (b) Classification of Gymnosperms