

IV Semester B.Sc. Examination, May/June 2018  
(CBCS) (Fresh + Repeaters) (2015-16 and Onwards)  
BOTANY (Paper – IV)

Gymnosperms and Embryology of Angiosperms



Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) Answer *all* questions.  
2) Draw diagrams *wherever* necessary.

PART – A

A. Explain/Define **any ten** of the following in **two** or **three** sentences : (10×2=20)

- 1) What is coenomegaspore ?
- 2) What is Pollen Kit ?
- 3) What is transfusion tissue ?
- 4) What is an amphitropous ovule ?
- 5) What is Pollen Chamber ? Give an example.
- 6) What is NEMEC Phenomenon ?
- 7) What is Palynogram ?
- 8) What are Pollinia ? Give an example.
- 9) What is Parthenocarpy ? Mention the types.
- 10) Draw a neat labelled diagram of Pinus megasporophyll.
- 11) Name the types of Pollen tetrads.
- 12) Name the two cells in a mature Angiosperm Pollen grain.

PART – B

B. Write critical notes on **any four** of the following : (4×5=20)

- 13) Functions of tapetum.
- 14) Internal structure of coralloid root of cycas.
- 15) Mellissopalynology.
- 16) Cleavage Polyembryony.
- 17) Male cone of Gnetum.
- 18) What is placentation ? Explain the types.



## PART – C

C. Give a comprehensive account of **any three** of the following : **(3×10=30)**

- 19) Cellular and Helobial type of endosperm development.
  - 20) Economic importance of Gymnosperms.
  - 21) Explain microsporogenesis and add a note on anther wall layers.
  - 22) Describe the process of fertilization in Angiosperms.
  - 23) Explain the development and structure of Dicot embryo.
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