



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – June / July 2021

II Semester

Class : I UG
Major : Botany

Time : 3 Hours
Max. Marks : 100

18BBOC05 Gymnosperms and Paleobotany

Part A

10 x 1 = 10

Choose the Correct Answer

1. The phloem in Gymnosperms lacks
a. companion cells
b. sieve tubes
c. sclerenchyma
d. all of the above
CO1 K1
2. A Gymnosperm leaf has 16 chromosomes, its endosperm will have
a. 8
b. 24
c. 16
d. 12
CO1 K5
3. Pollination in Gymnosperms is mainly by
a. anemophilous
b. malacophilous
c. entomophilous
d. zoophilous
CO1 K4
4. The *Pinus* species whose seeds are edible is
a. *pinus roxburghii*
b. *p. geradiana*
c. *p. longifolia*
d. *p. sylvestris*
CO2 K1
5. Which Gymnosperm is supposed to have double fertilization?
a. *Ginkgo*
b. *Pinus*
c. *Cycas*
d. *Ephedra*
CO3 K5
6. The Ovule is apparently bitegmic in
a. *cycas*
b. *pinus*
c. *gnetum*
d. none of the above
CO3 K4
7. A thin dead leaves dispersed in an organic matrix is called
a. coal balls
b. paper coal
c. moulds
d. chemical fossils
CO3 K3
8. Paleopalynology deals with study of
a. whole fossil plants
b. fossil spores and pollen
c. parts of fossil stem
d. fossil leaves
CO3 K2
9. Extinct species of Gymnosperm is
a. *cycas*
b. *pinus*
c. *metroxylon*
d. *taxus*
CO3 K1
10. *Williamsonia seawardiana sahani* has been described from
a. jurrassic period
b. carboniferous period
c. devonion period
d. cambian period
CO3 K4

Part B
Answer ALL questions
Each answer should not exceed 400 words or two pages

5 x 6 = 30

- 11.a. Outline the classification of Gymnosperms proposed by Sporne in 1965. CO1 K3
(or)
- 11.b. Write a brief note on economic importance of Gymnosperms. CO1 K2
- 12.a. Give a comparative note on male gametophyte of *Cycas* and *Pinus*. CO2 K4
(or)
- 12.b. Write an illustrated note on internal structure of *Cycas* leaf. CO2 K2
- 13.a. Briefly analyze the pattern of secondary growth in *Gnetum* stem. CO2 K4
(or)
- 13.b. Discuss the structure of *Gnetum* male cone with neat diagram. CO2 K2
- 14.a. What are the types of plant fossils? CO2 K1
(or)
- 14.b. Write a note on Radio carbon dating. CO2 K2
- 15.a. Give a note on *Rhynia* reproduction. CO2 K2
(or)
- 15.b. Comment on morphology of *Williamsonia*. CO3 K2

Part C
Answer ALL questions
Each answer should not exceed 800 words or four pages

5 x 12 = 60

- 16.a. List out the general characteristics of Gymnosperms. CO1 K1
(or)
- 16.b. Give a comparative account of Gymnosperms and Angiosperms. CO1 K5
- 17.a. Explain the structure of female strobilus of *Cycas*. CO2 K2
(or)
- 17.b. Outline the life cycle of typical *Pine* with suitable diagram. CO2 K4
- 18.a. Write an explanatory note on megasporogenesis and female gametophyte of *Gnetum*. CO3 K2
(or)
- 18.b. Give an illustrated account on fertilization and development of embryo in *Gnetum*. CO2 K4
- 19.a. Critically analyze the Geological time scale. CO3 K4
(or)
- 19.b. Discuss the techniques involved in study of Fossils. CO2 K4
- 20.a. Summarize the characteristic features of Bennettiales with suitable example. CO3 K5
(or)
- 20.b. Describe in detail about the structure of *Lepidodendron*. CO3 K2
