

2019

(November)

BOTANY

(Major)

Course : 301

(Pteridophytes, Gymnosperms and Paleobotany)

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

The figures in the margin indicate full marks for the questions

1. (a) Choose the correct answer : $1 \times 3 = 3$

(i) Common name of *Equisetum* is spikemoss/clubmoss/horsetail.

(ii) Ovulate strobili of *Ginkgo* are developed on long/spur shoots.

(iii) Bennettitales were flourished very luxuriantly in Jurassic/Cretaceous/Triassic period.

(2)

(b) Fill in the blanks : 1×2=2

- (i) Trabeculae are found in the stem of
_____.
- (ii) In *Cycas* archegonia, _____ cell is
always absent.

2. Write short notes on the following :

- (a) Rhizophore of *Selaginella* 2
- (b) Elaters of *Equisetum* 2
- (c) Coralloid roots of *Cycas* 3
- (d) Sporangiphore of *Sphenophyllum* 2

3. (a) Discuss the morphological nature of
synangium of *Psilotum*. 7

Or

With suitable sketches, describe
different types of prothallus found in
Lycopodium. 3+4=7

(b) What do you mean by heterospory? How
heterospory in pteridophytes can be
correlated to the origin of seed habit?

2+5=7

Or

“Siphonosteles are modified forms of
protostele.” With suitable sketches,
justify the statement. 7

4. Write explanatory notes on any two of the following (Give sketches where necessary) : $5\frac{1}{2}\times 2=11$
- (a) Economic importance of Gymnosperms
 - (b) Polyembryony of *Pinus*
 - (c) Comparison of L.S. of ovules of *Cycas* and *Gnetum*
 - (d) Male reproductive structure of *Ginkgo*
5. Explain what you know about the process of fossilization. Why is paleobotanical study important for us? $7+2=9$

Or

Write short notes on any three of the following : $3\times 3=9$

- (a) Bennettitales
- (b) Female strobilus of *Cordaites*
- (c) L.S. of *Rhynia* capsule
- (d) Form genera
