

**3 SEM TDC BOT M 1**

**2018**

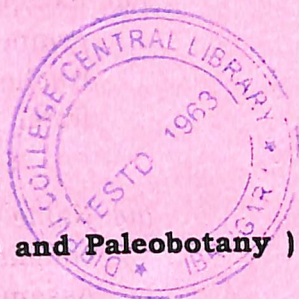
( November )

Qup 1994 A (172)  
05/02/2019

**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) Answer the following as directed :  $1 \times 5 = 5$

- (i) In eusporangiate ferns, a row or group of superficial cells divide to form an outer and inner layer of cells; the outer giving rise to the wall of the sporangium and the inner to the \_\_\_\_\_ tissue.

( Fill in the blank )



( 2 )

- (ii) The type of alternation of generation in which the prothallus and the sporophytic rhizome being some what similar in appearance.

( Express in 1 word )

- (iii) Except in gnetales, the xylem of gymnosperms lacks tracheids/tracheae/xylem parenchyma/wood fibre.

( Choose the correct answer )

- (iv) Name the species of *Cycas* which is commonly found in the forests of Assam.

- (v) Coal balls and silicified wood are the best examples of \_\_\_\_.

( Fill in the blank )

- (b) Write short notes on the following (draw diagrams where necessary) :

4+2+2=8

(i) Sporocarp of *Marsilea*

(ii) Suspensor tier of *Pinus* embryology

(iii) Columella of *Hornea*

2. (a) Give an illustrated account of the evolution of sporophytes in pteridophytes. Which one of them is highly evolved and why?

5+1+1=7

( Continued )

( 3 )

Or

With suitable diagrams, describe the various types of stele found in *Lycopodium*.

3+4=7

- (b) Give an account of the affinities of pteridophytes with other group of plants.

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Or

Give a comparative account of the sporangiferous spike of *Selaginella* and *Equisetum* with sketches.

4+3=7

3. Answer/Write explanatory notes on any two of the following (draw diagrams where necessary) :

6×2=12

- (a) "Ginkgoales were decendant from Cordaitales." Justify the statement.

- (b) Resemblance of *Gnetum* with angiosperms

- (c) Development of male gametophyte of *Cycas*

- (d) Morphological nature of the ovuliferous scale of *Pinus*

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( Turn Over )



4. Write short notes on the following (draw diagrams where necessary) : 3×3=9

- (a) Vegetation of Mesozoic Era
- (b) Fructification of *Sphenophyllum*
- (c) Internal structure of *Psilophyton* stem

Or

What are fossils? Give an account of the processes of fossilization. 2+7=9

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