

This question paper contains 3 printed pages]

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S. No. of Question Paper : 1831

Unique Paper Code : 216453

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Name of the Paper : Biodiversity III : Plants (LSPT-408)

Name of the Course : B.Sc. (Prog.) Life Sciences

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any *five* questions in all.

Question No. 1 is compulsory.

Attempt all parts of a question together.

Draw well labelled diagrams wherever necessary.

1. (a) Define (any *five*) :

5×1=5

- (i) Sporophyll
- (ii) Dictyostele
- (iii) Raceme
- (iv) Columella
- (v) Transfusion tissue
- (vi) Peristome.

(b) Match the following :

5×1=5

- | | |
|-------------------------|-----------------|
| (i) Marchantia | (a) Equisetum |
| (ii) Capitulum | (b) Cycas |
| (iii) Horse tail | (c) Gemma cups |
| (iv) Source of sago | (d) Selaginella |
| (v) Resurrection plants | (e) Sunflower |

P.T.O.

- (c) Fill in the blanks : 5×1=5
- (i) Cotton belongs to family
 - (ii) Verticillaster inflorescence is characteristic feature of family
 - (iii) is an alkaloid obtained from *Rauwolfia serpentina*..
 - (iv) Rhizophore is found in
 - (v) Ligulate and appendiculate scales are found in
2. Write short notes on (any three) : 3×5=15
- (i) Land habit in Bryophytes
 - (ii) Sclerenchyma
 - (iii) Embryogeny in *Pinus*
 - (iv) Prothallus in *Pteris*.
3. Draw well labelled diagrams of : 5×3=15
- (i) T.S. monocot stem
 - (ii) T.S. rachis of *Pteris*
 - (iii) T.S. internode of *Equisetum*
 - (iv) V.S. thallus *Marchantia* passing through gemma cups
 - (v) T.S. *Cycas* leaflet.
4. (a) Describe the ecology of external and internal features of *Equisetum* stem. 5
- (b) Discuss the significance of heterospory with special reference to *Selaginella*. 5
- (c) Mention the botanical name and economic importance of jute. 5

5. (a) Discuss merits and demerits of Bentham and Hooker system of classification. 5
(b) Write the morphology of economically important part of black pepper and its uses. 5
(c) Explain briefly the stellar evolution in Pteridophytes. 5
6. Differentiate between : 5×3=15
- (i) Natural and phylogenetic system of classification
 - (ii) Sporophyte of *Marchantia* and *Funaria*
 - (iii) Protostele and siphonostele
 - (iv) Apogamy and Apospory
 - (v) True and false indusium in *Pteris*.