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(May)

BOTANY

(Major)

Course : 201

(Plant Pathology and Bryophytes)

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 : $1 \times 4 = 4$

(i) Any visible deviation on the host plant from the normal in structure and function is called _____.

(Fill in the blank)

(ii) Multiseptate conidia are found in *Claviceps* / *Collectotrichum* / *Pestalotia* / *Phytophthora*.

(Choose the correct option)

(iii) The disc of antheridiophore of *Marchantia* is commonly _____ lobed.

(Fill in the blank)

(2)

(iv) _____ is commonly called 'bog moss'.

(Fill in the blank)

(b) Write short notes on the following :

$2\frac{1}{2} \times 4 = 10$

(i) Hypoplasia and hypertrophy

(ii) Endemic and epidemic diseases

(iii) Columella of *Anthoceros* and its evolutionary significance

(iv) Apophysis of *Polytrichum* and its function

2. Answer either (a) and (b) or (c) and (d) of the following :

(a) What are enzymes? Name the various enzymes responsible for degradation of cellular components of the hosts and their roles in pathogenesis. $1+4=5$

(b) Give an account of the classification of Bryophyta. 5

(c) Describe briefly the various regulatory and cultural methods of plant disease management. $2\frac{1}{2}+2\frac{1}{2}=5$

(d) Draw and describe the sporophyte of *Marchantia* and state its mechanism of spore dispersal. $3+2=5$

(3)

3. Mention the symptoms, name of the causal organism, disease cycle and control measures of the following diseases (any two) :

$(1+1+2+2) \times 2 = 12$

(a) Late blight of potato

(b) Loose smut of wheat

(c) Red rot of sugarcane

(d) Citrus canker

4. Give a comparative account of the gametophytes of *Riccia*, *Marchantia* and *Polytrichum* with neat labelled diagrams.

$9+3=12$

Or

Describe briefly the gametophyte of *Sphagnum* and state its ecological and economic importances.

$7+3+2=12$
