

5m/BOT-302 (Th) Syllabus-2023

2 0 2 5

(Nov-Dec)

FYUP : 5th Semester Examination

MINOR

BOTANY

(Angiosperm Taxonomy,
Ecology and Economic Botany)

BOT-302

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer Question No. **1** Which is compulsory and any
four questions, selecting **one** from each section

1. Write short notes on the following : 4×4=16

- (a) Artificial system of classification
- (b) Wood characteristics and uses of teak
- (c) Food chain
- (d) Pollinium in Orchidaceae

26D/781

(Turn Over)

(2)

SECTION—I

2. Give an account of Bentham and Hooker's system of classification of plants. 10
3. Describe the salient features of the family Poaceae and write the botanical names of three economically important plants of the family. 7+3=10

SECTION—II

4. Write a note on ecological pyramid. 10
5. Define ecological succession. Give an account of the general process of ecological succession in an ecosystem. 2+8=10

SECTION—III

6. Write a note on the cultivation and processing of rubber. 5+5=10
7. Discuss in detail the centre of origin of plants according to Vavilov. 10

SECTION—IV

8. What is botanical nomenclature? Explain the term 'ICN' and state the principles of botanical nomenclature as per the ICN. 2+(2+6)=10

(3)

9. Give the scientific names, families, parts used and uses of five economically important plants. 10

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5/BOT-300 (Th) Syllabus-2023

2025

(Nov-Dec)

FYUP : 5th Semester Examination

MAJOR

BOTANY

(Plant Physiology)

BOT-300

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

**Answer Question No. 1 which is compulsory and
four questions, selecting one from each Section**

1. Write notes on the following : 4×4=16

- (a) Doannan equilibrium and its role in ion uptake in plant cells**
- (b) Evolution of oxygen during photo-synthesis**

26D/674

(Turn Over)

(2)

- (c) Cryptochrome and its role in plants
- (d) Role of proton gradient in secondary active transport of solutes

SECTION—I

- 2. Define criteria of essentiality of mineral nutrients. Discuss the symptoms observed in plants due to deficiency of N, Mg, Mn and Mo. 2+8=10
- 3. Considering that pure water has $\psi = 0$; discuss the role of water potential in regulating the movement of water in a living cell. 10

SECTION—II

- 4. Discuss the mechanism of biological nitrogen fixation in root nodules of plants highlighting the role of nitrogenase enzyme. 10
- 5. Discuss how aerobic respiration yields 38 molecules of ATP from 1 molecule of glucose. 10

SECTION—III

- 6. Describe the following in brief : 5×2=10
 - (a) ABC model of flower development
 - (b) Concept of florigen

(3)

7. Discuss the physiological effects of auxins and cytokinins in plants. 5+5=10

SECTION—IV

8. Discuss the following : 5×2=10
- (a) Proton transport theory of stomatal movement
 - (b) Blackman's law of limiting factors
9. Discuss the role of activated phytochrome in regulating flowering in photoperiodic plants. 10
