

2025

M.Sc. 3rd Semester Examination

BOTANY

Paper : BOT - 302

(Old Syllabus)

Full Marks : 25

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Paper : BOT - 302.1

(Plant Physiology)

Group - A

Answer any *two* questions : $2 \times 2 = 4$

1. What is progressive senescence?
2. What is double dormancy?
3. What is difference between channel and carrier proteins?
4. Name exclusive functions of gibberellin and ethylene.

Group - B

Write short notes on any *two* : $4 \times 2 = 8$

5. Glyoxylate cycle
6. Polar transport of IAA

P.T.O.

(2)

7. Genes involved in senescence
8. Types and functions of ion transporters

Group - C

Answer any *one* question : $8 \times 1 = 8$

9. What is the difference between dormancy and quiescence? Briefly discuss about the causes of endogenous and exogenous dormancy. Mention two possible methods of breaking seed dormancy. $2+4+2$
10. Describe the pathway of photorespiratory pathway. Write a note on Cryptochromes. $5+3$

Internal Assessment : 5 marks

(3)

Paper : BOT - 302.2

(Biochemistry and Molecular Biology)

Group - A

Answer any *two* questions : $2 \times 2 = 4$

1. Explain optical isomerism citing one example.
2. What is isoelectric point?
3. Write down the source and functions of codeine and caffeine.
4. What is nod factor?

Group - B

Write short notes on any *two* : $4 \times 2 = 8$

5. Process of nodulation in symbiotic nitrogen fixation
6. Tannin and pseudotannins.
7. Types of enzyme inhibition
8. Conjugated proteins

Group - C

Answer any *one* question : $8 \times 1 = 8$

9. Briefly discuss about the monosaccharide derivatives of biological importance. Write a note on degradation process of starch mentioning the enzymes involved. 5+3

P.T.O.

(4)

10. Describe the types of amino acids on the basis of polarity. Discuss about the different stages of organisation of protein structure. 3+5

Internal Assessment : 5 marks
