



Seat No. : _____

NF-132

November-2025

M.Sc., Sem.-III

501 : Botany

(Anatomy, Embryology and Histochemical Techniques)

Time : 2:30 Hours]

[Max. Marks : 70

- Instructions :** (1) All questions carry equal marks.
(2) Attempt **all** questions.

1. Give an account on wood development and environmental factors affecting it. **14**

OR

1. (A) Differentiate between heartwood and sapwood. **7**

1. (B) Give an account on p proteins and its functions. **7**

2. Explain the ABC model of flower development, role of A, B and C class of genes in determining flower architecture. **14**

OR

2. (A) Describe structure of Anther. **7**

2. (B) Explain pollen-pistil interaction with labelled diagram. **7**

3. Define Apomixes, explain its types and applications. **14**

OR

3. (A) Describe Pollen biotechnology in Agriculture. **7**

3. (B) Explain Forensic Palynology. **7**

4. Explain staining for DNA, RNA and protein. **14**

OR

4. (A) Describe staining and mounting for temporary preparation. **7**

4. (B) Explain study of live cell and unstained preparation. **7**

5. Attempt any 7 out of 12 MCQ's / Short question (One-or Two line answer) /

Fill in the blanks / True or False etc. : **14**

(1) Define stomata. Name its types.

(2) Name the elements of xylem and phloem.

(3) What is the fundamental role of cambium ?

(4) Give any two types of Embryo Sacs.

(5) Difference between Egg and Synergids.

(6) Define sexual incompatibility and its significant plant reproduction.

(7) What is LO analysis ?

(8) Explain sexual incompatibility.

(9) What is ESMS? Give its types.

(10) What is embedding ?

(11) What is the function of Canada Balsam in slide preparation ?

(12) Which microscopes are commonly used for photographing stained plant tissues ?