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S – 6322

Reg. No. : .....

Name : .....

First Semester M.Sc. Degree Examination, April 2024

Botany

BO 213 : HISTOLOGY, REPRODUCTIVE BIOLOGY MICROTECHNIQUE  
AND HISTOCHEMISTRY

(2019 Admission onwards)

Time : 3 Hours

Max. Marks : 75

Draw diagrams wherever necessary.

I. Answer the following questions :

1. Which is the common staining technique used for the histochemical localization of proteins?
2. How can you localize alkaloids histochemically?
3. What is maceration in histology?
4. What is the function of transfer cells?
5. Write short notes on pollen allergy.
6. Enumerate the derivatives of Vascular cambium.
7. What is the significance of paleopalynology?
8. How do you store pollen?
9. Name a flurochrome.
10. What is the composition of acetolysis mixture?

(10 × 1 = 10 Marks)

P.T.O.



II. Answer the following questions in not more than 50 words.

11. (a) Distinguish between squash and smear.

OR

(b) Compare primary and secondary attractants of pollination.

12. (a) Describe a stage micrometer and its use.

OR

(b) Write an account on phyllotaxy and its various types.

13. (a) Describe the uses of bark products.

OR

(b) Explain the role of apiaries in crop improvement.

14. (a) Explain the significance of floral anatomy in taxonomy.

OR

(b) Describe pollen-pistil interactions and its advantages.

15. (a) What is polyembryony and its significance?

OR

(b) Give an account of camera lucida.

(5 × 2 = 10 Marks)

III. Answer the following questions in not more than 150 words.

16. (a) Describe the tissue processing techniques for permanent slide preparation of specimens.

OR

(b) Give an account of the mounting media used in histology.

17. (a) Describe the basic types of tissues found in plants.

OR

(b) Describe the procedure for PAS staining.

18. (a) Give an account on the root – stem transition in plants.

OR

(b) Discuss the role of cambium in wound healing and grafting.

19. (a) Describe the importance of anatomical characters of plants in taxonomy.

OR

(b) Explain the techniques used for tissue dehydration, infiltration and embedding in tissue processing.

20. (a) Compare microsporogenesis and microgametogenesis.

OR

(b) Give an account of the common types of apomixis.

21. (a) Distinguish between the various types of embryosacs.

OR

(b) Describe the various types of parthenocarpy.

22. (a) Describe the anatomical features that provide mechanical strength to the branch attachment regions.

OR

(b) Describe the tissue processing techniques for electron microscopy.

**(7 × 5 = 35 Marks)**

IV. Answer the following questions in not more than **250** words.

23. (a) Describe the various classes of stains and their uses. Add notes on vital staining.

OR

(b) Discuss the anomalous cambial activities in plants. Explain cambial reactivation and its role in plants.

24. (a) Describe the methods used to overcome self incompatibility in plants.

OR

(b) Compare the different types of microtomes. Add notes on ultratome.

**(2 × 10 = 20 Marks)**

