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R – 6263

Reg. No. :

Name :

First Semester M.Sc Degree Examination, May 2023

Botany

**BO213 : HISTOLOGY, REPRODUCTIVE BIOLOGY, MICROTECHNIQUE
AND HISTOCHEMISTRY**

(2019 Admission Onwards)

Time : 3 Hours

Max. Marks : 75

I. Answer the following questions.

1. Who invented the microtomes?
2. What is phellem?
3. Name the staining technique used to reveal proteins in tissues.
4. What do you mean by cytomixis?
5. Describe a mountant.
6. What is decussate phyllotaxy?
7. Name the reagent used to detect and localize alkaloids.
8. What is pollen count?
9. How do plant anatomy aid in species identification?
10. Explain supra vital staining.

(10 × 1 = 10 Marks)

P.T.O.

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

11. (a) Compare squash and smear techniques.

OR

(b) Write short notes Fluorescent dyes.

12. (a) What are the major reasons of anomalous secondary growth in plants?

OR

(b) Give an account of transfer cells.

13. (a) What are the different type of sectioning techniques used to study plant tissues?

OR

(b) Write short notes on maceration technique.

14. (a) Describe the term root-stem transition.

OR

(b) Explain the role of cambium in grafting.

15. (a) Describe pollen allergy and its consequences.

OR

(b) Compare androgenesis and gynogenesis.

(5 × 2 = 10 Marks)

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

16. (a) Give an account of Camera lucida.

OR

(b) Give an account of micrometers and its calibration.

17. (a) What is an apiary and how does it benefit crops?

OR

(b) Explain the devices found in flowering plants to enhance out breeding and prevent in breeding.

18. (a) Give an account of embryo rescue. Mention its uses.

OR

(b) Write an account on apomixes and its types.

19. (a) Explain PAS staining technique for carbohydrates

OR

(b) Distinguish between histochemistry and cytochemistry.

20. (a) Give an account of floral anatomy and its use in systematics.

OR

(b) Discuss the mechanism of healing of wounds found in higher plants.

21. (a) Compare softwood and hardwood.

OR

(b) Describe the organization of shoot apex and root apex.

22. (a) Compare *in vivo* and *in vitro* staining

OR

(b) Explain sample preparation techniques used in scanning electron microscopy.

(7 × 5 = 35 Marks)

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

23. (a) Describe monosporic, bisporic and tetrasporic embryosacs.

OR

(b) Give an account of different types of anomalous secondary growth found in plants.

24. (a) Why do we fix tissues? Describe the different types of simple fixing fluids used for chemical fixation.

OR

(b) Explain the methods used for the detection and localization of alkaloids and phenolics.

(2 × 10 = 20 Marks)
