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T – 5967

Reg. No. :

Name :

First Semester M.Sc. Degree Examination, May 2024

Botany

**BO 213 : MICROBIOLOGY, HISTOLOGY, MICROTECHNIQUE AND
HISTOCHEMISTRY**

(2006-2012 Admission)

Time : 3 Hours

Max. Marks : 75

I. Answer the following questions.

1. What is the advantage of serial sections?
2. Which are the different types of cells in vascular cambium?
3. What are vital stains?
4. What is the function of TCR?
5. What is prion?
6. What are viroids?
7. Define adjuvants.
8. What do you mean by SCP?
9. What are leaf traces?
10. What is infiltration in microtechnique?

(10 × 1 = 10 Marks)

P.T.O.



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

11. (a) Explain the features of the wood of *Tectona grandis*.

OR

(b) What is the use of DPX?

12. (a) Comment on the uses of mordants. Give examples.

OR

(b) What is the function of cork cambium?

13. (a) What is photomicrography?

OR

(b) What is the use of Gram staining?

14. (a) Describe the method of reproduction in bacteria.

OR

(b) Differentiate between innate immunity and acquired immunity.

15. (a) Explain the role of MHC proteins.

OR

(b) Explain the composition of FAA.

(5 × 2 = 10 Marks)

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

16. (a) Write an account of the common fixatives used to fix plant materials.

OR

(b) Explain the procedure and applications of maceration.



17. (a) Explain the working of a rotary microtome.

OR

(b) Describe the wood anatomy of *Alstonia scholaris* and *Artocarpus integrifolia*.

18. (a) Explain the structure of bacterial cell wall.

OR

(b) Briefly describe the different classes of antibodies.

19. (a) Explain the role of 16S rRNA sequencing in the classification and identification of Bacteria.

OR

(b) What are the distinguishing characters of viruses?

20. (a) Briefly describe the unique features of Mycoplasma.

OR

(b) Describe the major groups of Viruses based on nucleic acids.

21. (a) Explain the vascular anatomy of the flower.

OR

(b) Describe the type of secondary growth anomaly observed in the stem of *Dracaena*.

22. (a) Write an account on the parts and working of a Camera lucida.

OR

(b) How will you detect protein and lipids in plant materials?

(7 × 5 = 35 Marks)



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

23. (a) Write an essay on the different types of nodal anatomy found in plants, with examples.

OR

- (b) Describe the different types of Microtomes.

24. (a) Describe the anomalous cambial activity found in Bignonia and Aristolochia

OR

- (b) Explain the technique used for the large-scale production of monoclonal antibodies. Add a note on the uses of monoclonal antibodies.

(2 × 10 = 20 Marks)

