JHARKHAND Rai University
RANCHI

PRACTICE SET
End Semester Examination, May 2026

Program: BMLT
Semester: IV
Subject: Histopathology & Histotechniques
Subject Code: 42ABMT403

Course Outcome:
On the completion of the Course, the students will be able to:

Course Outcomes	Description
CO1	Penetrate the theoretical prospects of cytology, about cell growth, cell injury, aging, inflammation, and wounds to cell death.
CO2	Understand the basics of histopathology and their techniques including; tissue preparation, fixation, dehydration, clearing, embedding, routine & special staining and microscopy.
CO3	Perceive the applications of microtome and their types, applications of microscope and electron microscopy in histopathological studies.
CO4	Understand the essentiality of decalcification, method of decalcification and their advantage and disadvantages.
CO5	Know the applications of biopsy, method of biopsy including their advantages for pathological studies.

1. **Section A: 10 Marks Question covering All units (Total No. of questions 30)**
2. **Section B: 20 Marks Question covering All units (Total No. of questions 10)**

UNIT I
Section A (10 marks)

1. Explain the cell growth and also mention its regulation. (CO1, Understand, LOT)
2. Define the cell injury and its type? (CO1, Remember, LOT)
3. Classify the cell adaptation. (CO1, Understand, LOT)
4. Explain the intracellular accumulation. (CO1, Understand, LOT)

5. Differentiate acute and chronic inflammation. (CO1, Analyze, HOT)
6. Evaluate the wound healing process. (CO1, Evaluate, HOT)

Section B (20 marks)

7. Analyze the cell injury, adaptation, and intracellular accumulation in detail. (CO1, Analyze, HOT)
8. Evaluate the wound healing process and its clinical significance. (CO1, Evaluate, HOT)

UNIT II

Section A (10 marks)

9. Define the histopathology in details. (CO2, Remember, LOT)
10. Explain the tissue preparation. (CO2, Understand, LOT)
11. Define the fixation. (CO2, Remember, LOT)
12. Explain the dehydration process. (CO2, Understand, LOT)
13. Differentiate routine and special staining. (CO2, Analyze, HOT)
14. Analyze the stained tissue briefly. (CO2, Analyze, HOT)

Section B (20 marks)

15. Simplify the steps of tissue processing in histopathology. (CO2, Analyze, HOT)
16. Create the fixation, dehydration, clearing, and embedding in detail. (CO2, Create, HOT)

UNIT III

Section A (10 marks)

17. Define the microtome with figure. (CO3, Remember, LOT)
18. List types of microtomes and also mention the principle of each microtome. (CO3, Remember, LOT)
19. Explain the cryotome and also write its principle. (CO3, Understand, LOT)
20. Define the electron microscope with its principle. (CO3, Remember, LOT)
21. Compare the light and electron microscope. (CO3, Analyze, HOT)
22. Analyze the different types of applications of microtome. (CO3, Analyze, HOT)

Section B (20 marks)

23. Analyze the types and applications of microtome in detail. (CO3, Analyze, HOT)
24. Compare the light and electron microscopy with applications. (CO3, Analyze, HOT)

UNIT IV

Section A (10 marks)

25. Define the decalcification. (CO4, Remember, LOT)
26. Explain the need of decalcification. (CO4, Understand, LOT)
27. List the methods of decalcification. (CO4, Remember, LOT)
28. Compare the different decalcification methods. (CO4, Analyze, HOT)
29. Review the advantages of decalcification. (CO4, Apply, HOT)
30. Simplify the disadvantages of improper decalcification. (CO4, Analyze, HOT)

Section B (20 marks)

31. Analyze the factors affecting rate of decalcification in details. (CO4, Analyze, HOT)
32. Evaluate the different methods for determining end point of decalcification. (CO4, Evaluate, HOT)

UNIT V

Section A (10 marks)

33. Define the biopsy and its type. (CO5, Remember, LOT)
34. Describe the applications of biopsy in diagnosis. (CO5, Remember, LOT)
35. Explain the needle biopsy in details. (CO5, Understand, LOT)
36. Explain the different advantages of biopsy. (CO5, Understand, LOT)
37. List the different types of biopsy risks. (CO5, Remember, LOT)
38. Analyze the different biopsy techniques. (CO5, Analyze, HOT)

Section B (20 marks)

39. Evaluate the applications and limitations of biopsy in details. (CO5, Evaluate, HOT)
40. Review the different types of risks, complications, and safety measures in biopsy. (CO5, Evaluate, HOT)

Summary Sheet

CO Wise

CO	Q. No	Marks
CO1	1,2,3,4,5,6,7,8	100
CO2	9,10,11,12,13,14,15,16	100
CO3	17,18,19,20,21,22,23,24	100
CO4	25,26,27,28,29,30,31,32	100
CO5	33,34,35,36,37,38,39,40	100
Total		**500**

Unit Wise

Unit	Q. No	Marks
Unit 1	1,2,3,4,5,6,7,8	100
Unit 2	9,10,11,12,13,14,15,16	100
Unit 3	17,18,19,20,21,22,23,24	100
Unit 4	25,26,27,28,29,30,31,32	100
Unit 5	33,34,35,36,37,38,39,40	100
Total		**500**

Blooms Taxonomy Level (BTL) Wise

BTL	Q. No	Marks
LOT	1,2,3,4,9,10,11,12,17,18,19,20,25,26,27,33,34,35,36	190
HOT	5,6,7,8,13,14,15,16,21,22,23,24,28,29,30,31,32,37,38,39, 40	310
Total		**500**

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Disclaimer: -This is a Practice set. The Question in End term examination will differ from the Practice set. This Practice set is meant for practice only.