



**UNIVERSITY OF JAFFNA, SRI LANKA**  
**FACULTY OF ALLIED HEALTH SCIENCES**  
**THIRD YEAR SECOND SEMESTER EXAMINATION IN BScHons (MLS)**  
**MLSCH 3235 – CLINICAL HISTOTECHNOLOGY**

**PAPER II**

**DATE: 17.02.2022**

**TIME: 2½ Hours**

**ANSWER ALL EIGHT QUESTIONS**

1.
  - 1.1 List the responsibilities of a technician in a histopathology laboratory. (20 marks)
  - 1.2 Name the three main groups of fixatives with their use. (30 marks)
  - 1.3 Write a note on the use of Ion exchange resins in decalcification. (50 marks)
  
2.
  - 2.1 Briefly describe the principle of tissue processing. (30 marks)
  - 2.2 Give a note on the factors influencing the rate of tissue processing. (50 marks)
  - 2.3 Enumerate two (02) advantages and two (02) limitations of lower melting point paraffin wax in embedding. (20 marks)
  
3.
  - 3.1 Classify the types of microtome knives based on their shape and mention the use of each type. (40 marks)
  - 3.2 Name three (03) advantages for each of the automation technique in the following:
    - 3.2.1 Tissue processing (15 marks)
    - 3.2.2 Embedding (15 marks)
    - 3.2.3 Knife sharpening (15 marks)
  - 3.3 Give a brief note on the use of 'glass knives' in microtomy. (15 marks)
  
4.
  - 4.1 Compare and contrast the direct and indirect staining methods and give an example for each. (20 marks)
  - 4.2 Distinguish between argentaffin and argyrophil silver impregnation. (25 marks)
  - 4.3 Write a note on periodic acid-Schiff (PAS) staining technique, uses and the expected results. (55 marks)

5.

5.1 List five (05) criteria of acceptable mounting media. (30 marks)

5.2 Describe the steps of mounting the stained slide. (25 marks)

5.3 Enumerate three (03) problems encountered in tissue embedding and state how you can prevent or overcome the above mentioned problems. (45 marks)

6.

6.1 Define the terms antibody and antigen. (20 marks)

6.2 Explain the term 'antigen retrieval'. (15 marks)

6.3 Briefly explain how you would achieve antigen retrieval in immunohistochemistry. (65 marks)

7. List the causes and remedies for the following problems encountered in tissue section preparation for microscopy.

7.1 Ribbon will not form (40 marks)

7.2 Horizontal or parallel lines across the sections (chatters) are seen (20 marks)

7.3 Sections crumble or tear (40 marks)

8.

8.1 Discuss four instances where carryovers occur in histopathology and its prevention. (50 marks)

8.2 Write a note on H & E staining. (50 marks)

