

UNIVERSITY OF JAFFNA, SRI LANKA

FACULTY OF ALLIED HEALTH SCIENCES

THIRD YEAR SECOND SEMESTER EXAMINATION IN BScHons (MLS) - 2021

MLSCH 3235 – CLINICAL HISTOTECHNOLOGY

PAPER II

DATE: 18.10.2023

TIME: 2½ Hours

ANSWER ALL EIGHT QUESTIONS

1.
  - 1.1. Briefly mention the use of the following three main groups of fixatives:
    - 1.1.1. Microanatomical fixatives (10 marks)
    - 1.1.2. Cytological fixatives (10 marks)
    - 1.1.3. Histochemical fixatives (10 marks)
  - 1.2. State the aims of fixation in histopathology. (30 marks)
  - 1.3. Mention eight (08) properties of an ideal fixative. (40 marks)
  
2.
  - 2.1. Briefly describe the principle of tissue processing. (20 marks)
  - 2.2. Explain the significance of the clearing step in tissue processing. (30 marks)
  - 2.3. Give a note on the factors influencing the rate of tissue processing. (50 marks)
  
3.
  - 3.1. Name four (04) embedding media used in histopathology. (20 marks)
  - 3.2. Name four (04) advantages of automation in tissue embedding. (30 marks)
  - 3.3. Write a note on the use of Ion exchange resins in decalcification. (50 marks)
  
4.
  - 4.1. Briefly discuss the uses and benefits of glass knives in microtomy. (40 marks)
  - 4.2. Briefly discuss the use of disposable knives in routine histology. (20 marks)
  - 4.3. Write a note on Rocking Microtomes. (40 marks)

5.

5.1. Name five (05) common enzymes used in Enzyme mediated Antigen retrieval. (25 marks)

5.2. Write a note on Polyclonal antibodies. (35 marks)

5.3. Discuss the disadvantages of using fluorescent labels in Immunohistochemistry. (40 marks)

6.

6.1. Name the three types of gynaecological samples received for cytopathology analysis. (20 marks)

6.2. State five (05) advantages of Fine Needle Aspiration Cytology. (30 marks)

6.3. Outline the advantages of cell block in cytology. (50 marks)

7.

7.1. Write a note on the basic properties, uses and preparation of Haematoxylin stain. (50 marks)

7.2. Write the principle of the following special stains used in histopathology:

7.2.1. Gomori's Reticulin Stain (15 marks)

7.2.2. Sudan black B (15 marks)

7.3. Briefly explain the 'chromophores' and 'auxochromes' in dye structure. (20 marks)

8. The following errors were identified in the tissues received for microscopical observation in a histopathology laboratory. Identify five (05) probable causes for each error mentioned below and give the steps to be taken to overcome them.

8.1. Ribbons split vertically or scratch lines appear (50 marks)

8.2. Thick and Thin sections (50 marks)