

L.C.

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
THIRD YEAR SECOND SEMESTER EXAMINATION – MARCH 2019
MLSCH 3235 CLINICAL HISTOTECHNOLOGY

PAPER II

Date: 16.03.2019

Time: 2 ½ Hours

ANSWER ALL EIGHT QUESTIONS

1.
 - 1.1. What is meant by tissue fixation in histopathology? (15Marks)
 - 1.2. List three (03) major categories of chemical fixatives based on their mode of action. (10 Marks)
 - 1.3. Briefly describe the properties of each category of chemical fixative you have mentioned in 1.2 and giving one example for each category. (55 Marks)
 - 1.4. List four (04) properties of an ideal fixative. (20 Marks)

2.
 - 2.1. Write the importance of tissue processing in histopathology. (20 Marks)
 - 2.2. List four (04) factors which influence the rate of tissue processing. (20 Marks)
 - 2.3. Briefly describe how the factors you mentioned in 2.2 influence the rate of tissue processing. (60 Marks)

3.
 - 3.1. Briefly describe the steps involved in the embedding of a cross section of an artery by using paraffin wax. (60 Marks)
 - 3.2. List three (03) advantages of using paraffin wax as an embedding medium. (15 marks)
 - 3.3. Give five (05) precautions you would take during the embedding procedure. (25 Marks)

4.
 - 4.1. Give two (02) advantages and two (02) disadvantages of using the followings.
 - 4.1.1. Rotary microtome (20 Marks)
 - 4.1.2. Cryostat (20 Marks)

- 4.2. Draw and label the different types of knife profiles used in microtomes. (40 Marks)
- 4.3. Give one (01) usage of each knife profile you have mentioned in 4.2. (20 Marks)
- 5.
- 5.1. Define cell block preparation. (15 Marks)
- 5.2. Briefly describe the cell block preparation by plasma thrombin method. (60 Marks)
- 5.3. List five (05) advantages of cell block preparations. (25 Marks)
- 6.
- 6.1. Write the principles of the following staining methods.
- 6.1.1. Haematoxylin & Eosin (H & E) staining. (20 Marks)
- 6.1.2. Periodic acid schiff (PAS) staining. (20 Marks)
- 6.2. Compare and contrast the followings and giving example for each.
- 6.2.1. Natural oxidation of haematoxylin (30 Marks)
- 6.2.2. Artificial oxidation of haematoxylin (30 Marks)
- 7.
- 7.1. What is meant by ergonomic hazard? (10 Marks)
- 7.2. Briefly describe how you would minimize the ergonomic hazard in the following specific tasks in a histopathology laboratory.
- 7.2.1. Changing the solutions in the tissue processor (10 Marks)
- 7.2.2. Manual microtomy (20 Marks)
- 7.2.3. Slide labeling (20 Marks)
- 7.2.4. Manual cover slipping (20 Marks)
- 7.2.5. Microscopy (20 Marks)
8. Write short notes on
- 8.1. Staining methods in immunohistochemistry (50 Marks)
- 8.2. Papanicolaou Staining (50 Marks)