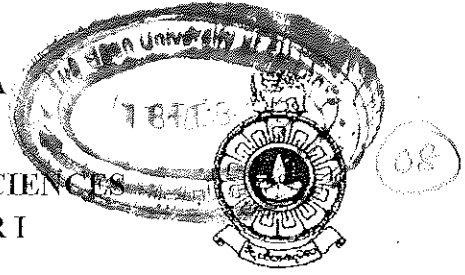


THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2019/2020 – SEMESTER I



BACHELOR OF MEDICAL LABORATORY SCIENCE HONOURS
MDU4406 – HISTOPATHOLOGY
NO BOOK TEST 1

DURATION: 1 1/2 HOUR

DATE: 18th FEBRUARY 2020

TIME: 9.00 AM – 10.30 AM

REGISTRATION NO:

IMPORTANT INSTRUCTIONS/ INFORMATIONS TO CANDIDATES

- This question paper consists of 13 pages with 10 Multiple Choice Questions (Part A) and 04 Structured Essay Questions (Part B) and 01 Essay Question (Part C).
- Write your Registration Number in the space provided.
- Answer ALL questions.
- **Multiple Choice Questions (Part A):** Indicate answers in the answer sheet provided by placing a cross (X) in INK in the relevant cage. (answers in pencil will NOT be marked)
- **Structured Essay Questions (Part B):** Write answers within the space provided.
- **Essay Question (Part C):** Write the answer on the provided papers.
- Do not remove any page/part of this question paper from the examination hall.
- Mobile phones and any other electronic equipment are NOT allowed. Leave them outside.

Name:

Address:

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Part A: Multiple Choice Questions (10 marks)

1. Once you have observed that the bed head ticket (BHT) number written in the request form and the specimen container is different by one digit, the most appropriate step to be taken is
 - a) Inform a nursing officer/ doctor to come to the laboratory to correct the error
 - b) Inform the pathologist
 - c) Phone and ask for the correct BHT number and correct the error
 - d) Return the request form and the specimen to the ward

2. Which one of the following is most consistent with flammable liquid storage?
 - a) Flammable liquids should be stored in ventilated containers made of combustible materials
 - b) Storage facility for bulk flammable liquids should be inside the main laboratory
 - c) The flammable liquid storage area should be clearly labelled as a fire-risk area
 - d) The switches for lighting should be placed inside the flammable liquid storage building

3. Before specimens are arrived at the laboratory one of most appropriate steps to be adhered to is
 - a) diathermy
 - b) keeping tissue on filter paper
 - c) rough handling of tissue during surgery
 - d) using small, atraumatic forceps to handle small biopsies

4. One of characteristics of an ideal fixative is
 - a) destruction of the structure of the tissue
 - b) loss of soluble components within the cells/tissues
 - c) shrinkage of tissue
 - d) slightly hardened the tissue

5. Acetone is
 - a) a coagulant fixative
 - b) a compound fixative
 - c) a cross-linking fixative
 - d) an oxidizing fixative

6. A most appropriate method to be followed when handling of small biopsies is
 - a) removal of mounted tissue papers during grossing
 - b) use of nylon specimen bags to wrap small biopsies
 - c) use of sponges to hold the specimen in the cassette
 - d) wrapping of small biopsies in thin lens papers

7. In tissue processing, the step after clearing is
 - a) dehydration
 - b) embedding
 - c) fixation
 - d) infiltration

8. A chelating agent which acts as a decalcifying solution is
 - a) acetic acid
 - b) ammonium oxalate
 - c) ethylenediaminetetraacetic acid
 - d) formic acid

9. Incomplete dehydration
 - a) is receptive to infiltration
 - b) leaves the specimen harden
 - c) prevents the proper penetration of the clearing agent into the tissue
 - d) produces shrunken tissues

10. Elongate tissues are
 - a) aligned across the long axis of the mold
 - b) embedded to provide sections in a plane at right angles to the surface
 - c) placed at random in the block
 - d) placed diagonally across the block

Part B: Structured Essay Questions (80 marks)

Q1

1.1 What do you mean by “mastectomy”? (2 marks)

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.....

1.2 Why is mastectomy done? (2 marks)

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.....

1.3 List **three (03)** changes to be undergone in the tissues after the mastectomy. (3 marks)

- i.
- ii.
- iii.

1.4 Briefly describe how the tissues are fixed after the mastectomy. (6 marks)

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1.5 Briefly describe the recognized features of the container to be used for fixation of the mastectomy specimen. (3 marks)

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1.6 Is it advisable to cut/ open surgical specimens in the theatre? Give reasons for the answer. (4 marks)

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Total 20 marks

Q2

2.1 What is meant by “incision biopsy”? (1 marks)

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2.2 Give two (02) examples for incision biopsy? (2 marks)

- i.
- ii.

2.3 The laboratory becomes responsible for a tissue specimen from the time it arrives at the laboratory.

2.3.1 Write down the steps that must be undertaken before a specimen is forwarded for grossing. (4 marks)

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2.3.2 List **four (04)** points that should be included in a macroscopic description during grossing of specimens. (4 marks)

- i.
- ii.
- iii.
- iv.

2.4 What is decalcification? (2 marks)

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2.5 How is tissue decalcification done? (3 marks)

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2.6 Briefly explain how temperature influences the rate of decalcification. (4 marks)

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Total 20 marks

Q3

3.1 What is meant by “post fixation treatment”? (3 marks)

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3.2 Give **one (01)** example for post fixation treatment? (2 marks)

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3.3 List **five (05)** factors which influence the rate and efficiency of wax impregnation. (5 marks)

- i.
- ii.
- iii.
- iv.
- v.

3.4 A manual tissue processing schedule followed by a histopathology laboratory for small biopsies is given in the table.

Step	Time
10% formalin	10 min
100% alcohol	10 min
Xylene	10 min
Paraffin	10 min

3.4.1 Identify a problem encountered in this manual processing. (2 marks)

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3.4.2 How can you troubleshoot that problem mentioned in 3.4.1? (2 marks)

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3.4.3 List **three (03)** circumstances requiring the tissue samples to be manually processed. (3 marks)

- i.
- ii.
- iii.

3.4.4 List **three (03)** criteria to be used for selecting a suitable clearing agent. (3 marks)

- i.
- ii.
- iii.

Total 20 marks

Q4

4.1 Briefly describe how you perform orientation and paraffin wax embedding of uterine curetting at the tissue embedding center. (14 marks)

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4.2 List **three (03)** circumstances that paraffin wax is not suitable as an embedding medium. (3 marks)

- i.
- ii.
- iii.

4.3 List **three (03)** alternative embedding media which can be used in these circumstances mentioned in 4.2. (3 marks)

- i.
- ii.
- iii.

Total 20 marks

Part C: Essay Question (10 marks)

- 1. Discuss the important facts to be retained in mind when automated tissue processing is done.

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BACHELOR OF MEDICAL LABORATORY SCIENCE HONOURS
MDU4406: HISTOPATHOLOGY
NO BOOK TEST 1

REGISTRATION NO:

ANSWER SHEET FOR PART A

1.

a	b	c	d
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2.

a	b	c	d
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3.

a	b	c	d
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4.

a	b	c	d
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5.

a	b	c	d
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6.

a	b	c	d
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7.

a	b	c	d
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8.

a	b	c	d
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9.

a	b	c	d
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10.

a	b	c	d
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