

**BACHELOR OF MEDICAL LABORATORY  
TECHNOLOGY  
THIRD SEMESTER  
PATHOLOGY III  
BMLT – 305 [REPEAT]  
(USE OMR SHEET FOR OBJECTIVE PART)**

**SET  
A**

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

( Objective )

Marks: 20

1×20=20

*Choose the correct answer from the following:*

1. What is used for the preparation of tissue block
  - a. Formalin
  - b. Ethy alcohol
  - c. Paraffin
  - d. Xylene
2. Which instrument is used in histochemical fixative
  - a. Tissue flotation bath
  - b. Cryostat
  - c. Microtome
  - d. None of these
3. Decalcification is done for which type of tissue
  - a. Brain tissue
  - b. Muscle tissue
  - c. Bone
  - d. Skin
4. What is used to remove water from the tissue during tissue processing.
  - a. Formalin
  - b. Xylene
  - c. Ethyl alcohol
  - d. Paraffin
5. Stropping means
  - a. Sharpening the knife
  - b. Polishing the knife
  - c. Cleaning the knife
  - d. Dulling the knife
6. Which of these hormones are responsible for inducing ovulation?
  - a. Progesterone
  - b. Relaxin
  - c. Follicle stimulating hormone
  - d. Luteinizing hormone.
7. Xylene is used in which of the following steps of tissue processing.
  - a. Fixation
  - b. Dehydration
  - c. Clearing
  - d. Impregnation
8. Alveoli is the smallest unit of which organ system?
  - a. Urinary system
  - b. Respiratory system
  - c. Circulatory system
  - d. Endocrine system
9. What is the total number of daughter cells produced in meiosis?
  - a. 2
  - b. 3
  - c. 4
  - d. 6

10. All of these factors described are characteristics for fixation except
- |   |   |
|---|---|
| a. Arrests autolysis                                | b. Activates bacterial decomposition                      |
| c. Minimizes loss of soluble cytoplasmic components | d. Stabilizes tissue for further processing and treatment |
11. Which of the following is not a decalcifying agent?
- |                      |                |
|----------------------|----------------|
| a. Hydrochloric acid | b. Formic acid |
| c. Formaldehyde      | d. Nitric acid |
12. Which of the following is a cytological fixative.
- |                  |                   |
|------------------|-------------------|
| a. Bouin's fluid | b. Clarke's fluid |
| c. Helly's fluid | d. Zenker's fluid |
13. Which of the following is not a dehydrating agent?
- |            |                    |
|------------|--------------------|
| a. Acetone | b. Gelatin         |
| c. Dioxane | d. Ethylene Glycol |
14. Which of the following is not an embedding medium?
- |                  |                |
|------------------|----------------|
| a. Paraffin wax  | b. Agar gel    |
| c. Cedarwood Oil | d. Epoxy resin |
15. Accentuators are the group of substances that help to
- |  |  |
|--|--|
| a. Increase the staining intensity of the dye. | b. Decrease the staining intensity of the dye. |
| c. Both of these                               | d. None of these                               |
16. What is used for the preparation of tissue block?
- |             |                  |
|-------------|------------------|
| a. Formalin | b. Xylene        |
| c. Paraffin | d. Ethyl alcohol |
17. What is the full form of QC?
- |                     |                    |
|---------------------|--------------------|
| a. Quality Centre   | b. Quality Control |
| c. Quantity Control | d. Quantity Centre |
18. Which of the following errors can happen in post analytical phase?
- |                            |                     |
|----------------------------|---------------------|
| a. Grossing                | b. Staining         |
| c. Microscopic examination | d. Typing of report |
19. Which type of microtome is used for the cutting tissue for frozen sample.
- |                          |                   |
|--------------------------|-------------------|
| a. Base sledge microtome | b. Cryomicrotome  |
| c. Rocking microtome     | d. Ultramicrotome |
20. Which type of microtome is the best for large tissue sample or the hard tissue.
- |                          |                   |
|--------------------------|-------------------|
| a. Base sledge microtome | b. Cryomicrotome  |
| c. Rocking microtome     | d. Ultramicrotome |

**( Descriptive )**

Time : 2 hrs. 30 min.

Marks : 50

**[ Answer question no.1 & any four (4) from the rest ]**

1. Describe H & E staining. 10
  
2. Define fixation. What are the types of fixatives. Write the aims and effects of fixation. Describe the reagents employed as fixatives. 1+2+2+5  
=10
  
3. Explain the steps of tissue processing. Write a short note on the various agents used for clearing and embedding. 5+5=10
  
4. Draw a labelled diagram and explain the elementary system. Write a short note on respiratory system. 6+4=10
  
5. Write a short note on cell structure and organelles. Describe the cell cycle. 5+5=10
  
6. Define microtome and describe the types of microtomes? 10
  
7. Define decalcification and explain in detail the methods of decalcification and the end point determination of decalcification. 10
  
8. Describe the various types of microtome knife based on shape of the knife edge. Write a short note on honing and stropping. 6+4=10

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