



# Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES  
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
MEDICAL LABORATORY SCIENCES  
**BMLS 12S**

## **AML 4303 : HISTOLOGY**

SEMESTER EXAMINATION

APRIL 2014 SERIES

2 HOURS

Instructions to candidates:

This paper consists of **TWO** sections **A** and **B**

**Section A** -Contains MCQS, Answer **ALL** questions in **Section B**.

### **SECTION A - MCQs - (30marks)**

1. The part of the microscope where the object is observed from is called.
  - a) The eye piece
  - b) The objective
  - c) The stage
  - d) The condenser
  - e) The base
2. A group of cells performing a similar function is called
  - a) An organ
  - b) A zygote
  - c) A system
  - d) A tissue
  - e) A body
3. Histology can be defined as the

- a) Study of living and non – living things
  - b) Study of morphology of living organisms
  - c) Study of structure and form of living things study of tissues
  - d) Study of tissue affected by diseases only
4. The study of abnormal anatomy is called
- a) Histology
  - b) Cytology
  - c) Pathology
  - d) Organology
  - e) Histopathology
5. The cytoplasmic organelles are made up of
- a) Sucrose
  - b) Glucose
  - c) Proteins
  - d) Enzymes
  - e) Vitamins
6. The cytoplasmic organelle which is a network of membrane vesicles and tubules is called
- a) Endoplasmic reticulum
  - b) Desmosomes
  - c) Ribosomes
  - d) Centriosomes
  - e) Chromosomes
7. What is the main cause of autolysis
- a) Bacteria that had caused the disease in the tissue
  - b) Cathepsins
  - c) Carboxyl peptidase
  - d) Oxidase
  - e) Phyaline
8. Chromalization of tissues is done immediately after fixation of tissues in the following fixative
- a) Formaldehyde
  - b) 10% formal saline
  - c) 40% formaldehyde
  - d) Zenkers fluid
  - e) Boiuns fluid
9. Which of the following are cytoplasmic organelles include the following
- a) Karyosome
  - b) Glycogen vacuole
  - c) Plasma membrane
  - d) Mitochondria
  - e) Nucleolus

10. The endoderm layer gives rise to
- Epithelia of skin
  - Epithelia of nose
  - Epithelia of bladder
  - Epithelia of mouth
  - Epithelia of eye
11. Which of the following fixative inhibit haematoxyline staining
- Picnc acid
  - Osmium tetroxide
  - Formaline
  - Chromic acid
  - Bouins fluid
12. Which of the following best describes fixatives is relation to temperature?
- Increase action at high temperatures
  - Decreased action at low temperatures
  - Increased action at low temperatures
  - Reduced action at high temperatures
  - No action at low temperatures.
13. Histopathology is
- The study of tissue structure
  - The study of tissue affected by disease
  - The study of normal body tissues
  - The study of cells that undergo mitosis
  - The study of body organs
14. What is the wavelength of visible light
- 300 – 400nm
  - 400-800nm
  - 800 – 1000nm
  - 200-300nm
  - 100 – 200nm
15. During vertebrate development, the middle layer is called
- Coelonic
  - Endoderm
  - Mesoderm
  - Mesometric
  - Ectoderm
16. The process of putrefaction is due to
- Fixation
  - Cell enzymes
  - Bacteria
  - Cancerous cells
  - Embedding

17. The specialization of cells of the fundamental germ layers into tissues and organs is called
- Morphogenesis
  - Histology
  - Embrogenesis
  - Histogenesis
  - Embryology
18. Which of the following is a simple fixative
- Mercuni chloride
  - Formaldehyde
  - Zenker's fluid
  - Bour's fluid
  - Histochemical fixatives
19. What is the meaning of post fixation in histology
- To preserve mitochondria and myelin sheath
  - To fix enzymes
  - To remove fatty acids
  - To expose proteins from fixation
  - To preserve lipids
20. A group of compound fixative that fixes general tissue structures is called
- Micro anatomical fixatives
  - Secondary fixatives
  - Cytological fixatives
  - Cytoplasmic fixatives
  - Histochemical fixative
21. Which of the following is a clearing agent in histology
- Diaxane
  - Chloroform
  - Zester's fluid
  - 20% alcohol
  - Formal saline
22. What is the largest organ of the body
- Liver
  - Kidney
  - Lungs
  - Heart
  - Skin
23. The following are decalcifying agents except.
- Perengis fluid
  - Xylene
  - Niric acid
  - Formic acid

- e) Trichloroacetic acid
24. Picric acid is
- Clearing agent
  - Differentiator
  - Decalcifying agent
  - Impregnating agent
  - Dehydrating agent
25. Give an example of a naturally calcified tissue
- Bone marrow
  - Pima ear
  - Calcified scar
  - Calcified thyroid gland
  - Chronic tuberculosis foli
26. The human body cells have an average diameter of between:-
- 5 – 15 microns
  - 10 – 15 microns
  - 1-5 microns
  - 10 – 25 microns
  - 0.5 – 5 microns
27. The prophase stage of mitotic cell division is characterize by
- Appearance of two daughter cells
  - Condensation of chromosomal material
  - Disappearance of the spindle
  - Replication of DNA and RNA
  - Disappearance of the chromosomal material
28. Simple columnar epithelium are found in the
- Skin
  - Alimentary canal
  - Uterus
  - Large ducts of kidney
  - Bucal cavity
29. The best time to fix tissues is
- Immediately after removal
  - 2 hours after removal
  - Before removal
  - 48 hours after removal
  - 24 hours after removal
30. At what temperature should a tissue be put after removal from the body if fixation is not immediate
- Room temperature
  - 22°C
  - 4°C

- d) 37°C
- e) In a microwave

**SECTION B ESSAY**  
**(ANSWER ALL QUESTION IN THIS SECTION)**

- 1. a) State the criteria of a good fixative **(10 marks)**  
b) Discuss the post mortem changes **(10 marks)**
  
- 2. Discuss decalcification under the following headings **(20 marks)**
  - a) Criteria of a good decalcifying solution
  - b) Methods for determining the end point of decalcification
  - c) Chemical test for end point of decalcification