



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS  
UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR 2ND TRIMESTER EXAMINATION**

**FOR THE DEGREE  
OF**

**BACHELOR OF SCIENCE IN CLINICAL MEDICINE/  
BACHELOR OF SCIENCE IN HEALTH PROFESSIONS EDUCATION/  
BACHELOR OF SCIENCE IN PHYSIOTHERAPY.**

**COURSE CODE: HCM 124**

**COURSE TITLE: HUMAN HISTOLOGY**

**DATE: THURSDAY 21<sup>ST</sup> APRIL 2022**

**TIME: 2:00-5:00 PM**

**INSTRUCTIONS TO CANDIDATES**

1. READ THE INSTRUCTIONS AT THE BEGIN OF EACH SECTION
2. THIS PAPER CONSIST OF:  
Section A: Multiple Choice Questions (MCQ) 30 Marks.  
Section B: Short Answer Questions (SAQ) 30 Marks.  
Section C: Long Answer Question (LAQ) 40 Marks
3. NO MOBILE PHONE IS ALLOWED IN THE EXAMINATION ROOM

**DURATION: 3 Hours**

## SECTION A: MULTIPLE CHOICE QUESTIONS

- The following cells are found in connective tissues
  - mast cells
  - fat cells
  - fibroblasts
  - undifferentiated mesenchymal cells
- The following tissues are proper connective tissue
  - cartilage
  - lymph
  - adipose tissue
  - blood
- The loose connective tissue is found
  - around the mucous membrane of gut
  - between muscles
  - blood vessels
  - in the peritoneum and mesenteries
- The loose connective tissue
  - is soft and easily bent
  - contains little cavities
  - Become filled with fluid in oedema
  - is known as lamina propria
- Dense connective tissue
  - may be regular as in ligament and joints
  - may be irregular as in tendons
  - is either white or black
  - contains more fibers but fewer cells
- Tendon cells
  - are fibroblasts in between collagen fibers
  - have triangular shape
  - have rectangular shape none of the above
  - none of the above
- White fibrous connective tissue constitutes
  - ligaments of joints
  - sclera (the outer tough coat of the eye)
  - dura mater (the outer coat protecting brain & spinal cord)
  - the dermis of the skin
- Yellow elastic connective tissue
  - is found in large arteries
  - is found in heart and lung
  - constitutes the elastic ligaments of legamenta flava

- d. all of the above
9. Reticular connective tissue is found in
- lymphoid organs
  - liver
  - bone marrow
  - all the above
10. Reticular connective tissue consists of reticulate fibers and
- mast cells
  - plasma cells
  - fibroblasts
  - none of the above
11. Adipose connective tissue is widely distributed
- around kidney to form shock absorbing pads
  - in mesentery and omentum
  - in bone marrow cavities
  - all the above
12. Mucoid connective tissue has
- no fibers
  - fibroblasts of stellate forms
  - fibroblasts of elongated shape
  - little amount of histiocytes but much in mast cells
13. Mucoïd connective tissue is found in
- embryo tissue only
  - adult tissue only
  - both of the above
  - umbilical cord of the pregnant women
14. Fibroblast cells through their activity form
- collagen
  - elastin
  - reticulin
  - all the above
15. Chondriocytes are the only cell type in
- loose connective tissue
  - adipose connective tissue
  - special type of connective tissue called cartilage
  - special type of connective tissue called bone
16. This type of epithelial tissue lines the nasal cavity, trachea and bronchi
- Transitional Epithelium
  - Pseudostratified Ciliated Columnar Epithelium
  - Stratified Squamous Epithelium

D. Stratified Columnar Epithelium

17. This type of tissue covers exposed surfaces, lines internal passageways & chambers, and forms glands
- A. Skin
  - B. Connective Tissue
  - C. Epithelial Tissue
  - D. Nerve Tissue
18. Which of the following is NOT primarily composed of connective tissue?
- A. Spinal cord
  - B. Pubic symphysis
  - C. Ligament
  - D. Areolar tissue
  - E. Organ capsule
19. What type of epithelium lines the upper esophagus?
- A. Simple squamous epithelium
  - B. Simple cuboidal epithelium
  - C. Simple columnar epithelium
  - D. Stratified squamous epithelium
20. All the following are part of junctional complex except:
- A. Gap junctions
  - B. Zonula occludens
  - C. Desmosome
  - D. Macula adherens
  - E. Microvilli
21. Simple squamous epithelium lines:
- A. Alveoli of the lungs
  - B. Lymphatics
  - C. Peritoneal cavity
  - D. Pleural cavity
  - E. All of the above
22. Of the extracellular matrices in following tissues, which would most likely have collagen type II?
- A. hyaline cartilage
  - B. fibrocartilage
  - C. dense irregular connective tissue
  - D. dense regular connective tissue
23. Connexins are the proteins found in which plasma membrane specialisation?
- A. Desmosomes

- B. Gap Junctions
- C. Microvilli
- D. Tight Junctions

24. The three basic components of all types of connective tissue are:

- A. Cells, fibers, and ground substance
- B. Collagen fibers, fibroblasts, and lymph
- C. Blood vessels, Type II collagen, and fibroblasts
- D. Lymphocytes, matrix protein, and ground substance

25. The structural unit of collagen and tropocollagen is synthesized by \_\_\_\_\_

- A. macrophages
- B. fibroblasts
- C. plasma cells
- D. megakaryocytes

26. Haversian systems in compact bone are interconnected by means of \_\_\_\_\_

- a. volkmann's canals
- b. concentric lamellae
- c. interstitial lamellae
- d. lacunae

27. What is a gland called if the secretory portion is tube shaped ending in a flask shaped area at the terminus?

- a. Simple gland
- b. Compound gland
- c. Tubular
- d. Alveolar
- e. Tubuloalveolar

28. What type of tissue composes the kidney tubules?

- a. Simple squamous epithelium
- b. Simple cuboidal epithelium
- c. Simple columnar epithelium
- d. Stratified squamous epithelium
- e. Transitional epithelium

29. Which of the following is lined by a mucosa?

- a. Peritoneal cavity
- b. Pericardial cavity
- c. Pleural cavity
- d. Alimentary canal
- e. All of the above are lined by a mucosa

30. What cell type makes up the mucosa of the gallbladder?

- a. Simple squamous epithelium
- b. Simple cuboidal epithelium
- c. Simple columnar epithelium
- d. Stratified squamous epithelium
- e. Transitional epithelium

**SECTION B: SHORT STRUCTURED QUESTIONS (5 Marks Each, 30 Marks total)**

1. List 5 characteristics of epithelial tissues
2. What are the functions of the epithelium?
3. Describe how epithelium is classified
4. List at list 5 types of glands and where they are located
5. Describe the histology of desmosomes and gap junctions
6. List 5 main characteristics of connective tissues

**SECTION C: LONG ESSAY QUESTIONS (20 marks each, 40 Marks total)**

1. Describe all the cells of connective tissues and their functions
2. Describe the 3 major components of extracellular matrix