



*(University of Choice)*

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

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2017/2018 ACADEMIC YEAR**

**SECOND YEAR FIRST REGULAR EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF MEDICAL LABORATORY SCIENCES  
(UPGRADING - BUSIA)**

**COURSE CODE: BML 231**

**COURSE TITLE: GENERAL AND SYSTEMIC PATHOLOGY**

**DATE:**

**TIME:**

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**INSTRUCTIONS TO CANDIDATES**

This examination paper consists of three sections, **A** (Multiple Choice Questions), **B** (Short Answer Questions), and **C** (Long Answer Questions). Answer all questions in ALL the sections.

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over.

**BML 231: GENERAL AND SYSTEMIC PATHOLOGY**

## **SECTION A: MULTIPLE CHOICE QUESTIONS (20 MARKS)**

1. Injury to the lysosomes mediates pathogenesis of?
  - a) Pernicious anaemia
  - b) Receptor defects
  - c) Free radical injury
  - d) Rheumatoid arthritis
  
2. Chronic inflammation is characterized by?
  - a) Macrophages, lymphocytes and/or plasma cells
  - b) Growth independent of environmental stimuli
  - c) Derangements in the cell growth cycle
  - d) Decreased mitosis due to external stimuli
  
3. Hydropic degeneration is due to?
  - a) Fatty change
  - b) Excess fluid in the cytoplasm
  - c) Hypertrophy
  - d) Intralysosomal accumulation of glucocerebrosides
  
4. Dilatation of a blood vessel thought to be caused by weakening of the media especially of abdominal and iliac arteries is known as:
  - a) Embolism
  - b) Aneurysm
  - c) Atheroma
  - d) Thrombus
  
5. A cancer that has spread throughout the whole body is:
  - a) Localized
  - b) Malignant
  - c) Benign
  - d) Metastasized
  
6. Cytologic features of apoptosis include?
  - a) Swelling of the cell
  - b) Inflammation
  - c) Pyknotic subdivided nuclei
  - d) Coarse chromatin patterns

7. Which of the following is the frequent cancer in Kenyan women?
- Breast cancer
  - Kaposi's sarcoma
  - Cervical cancer
  - Oesophageal cancer
8. Gout results from deposition of .....crystals in the soft tissues and joints
- Calcium carbonate
  - Calcium pyrophosphate
  - Calcium phosphate
  - Urate
9. Healing where there is substantial loss of tissue is referred to as:
- Healing by secondary intention
  - Healing by primary intention
  - Healing by primary and secondary intention
  - Healing by tertiary intention
10. The passive escape of leukocytes which may be facilitated by chemotactic mediators is called:
- Diapedesis
  - Adherence
  - Ecchymosis
  - Petechial haemorrhage
11. Which of the following is implicated in the development of cervical cancer?
- Human herpes-8 virus
  - Human papilloma virus
  - Epstein-Barr virus
  - Hepatitis B virus
12. A fluid exudate described as clear water fluid of low protein content especially fibrinogen is known as:
- Catarrhal
  - Serous
  - Haemorrhagic
  - Petulant

13. Abnormal accumulation of fluid in the peritoneal cavity is called:
- Peritonitis
  - Pericardial effusion
  - Hydrothorax
  - Ascites
14. Which of the following is the leading cancer in Kenyan men?
- Lung cancer
  - Prostate cancer
  - Bone cancer
  - Cervical cancer
15. The main cells mediating chronic inflammation are?
- Polymorphonuclear neutrophils
  - Macrophages
  - Eosinophils
  - Platelets
16. A common complication of arteriole thrombosis?
- Disseminated cancer
  - Varicose veins
  - Atherosclerosis
  - Thrombo-embolism
17. Which of the following refers to redness during acute inflammation?
- Rubor
  - Tumor
  - Dolor
  - Calor
18. Lack of lumen development of the gastrointestinal tract is referred to as:
- Stenosis
  - Lesion
  - Atresia
  - Atrophy
19. Which of the following is a chemical mediator of pain?
- Tumour necrosis factor
  - Bradykinin
  - Interleukin-1
  - Nitric oxide
20. A 65 year-old male developed severe chest pain. He was admitted at the hospital, and diagnosed with a myocardial infarction based on his

electrocardiogram and serial CK-MB levels. One week later, he again complained of precordial pain and develops a fever of 38.9°C. Physical examination is remarkable for a loud friction rub. Which of the following is the likely diagnosis?

- a) Caseous pericarditis
- b) Purulent pericarditis
- c) Haemorrhagic pericarditis
- d) Fibrinous pericarditis

### **SECTION B: SHORT ANSWER QUESTIONS (40 MARKS)**

- Q1. a) Define acute inflammation and write down its three major components **(4 marks)**.  
b) Describe the process of increased vascular permeability in response to acute inflammation **(4 marks)**.
- Q2. a) What is a macrophage? Describe its role in chronic inflammation **(5 marks)**.  
b) State Virchow's triad of thrombus formation **(3 marks)**.
- Q3. Tabulate the system and the disorder caused by autosomal dominant disorders **(8 marks)**.
- Q4. State any **EIGHT** causes of cell injury **(8 marks)**.
- Q5. Enumerate any **FOUR** oncogenic viruses with reference to malignancy they cause **(8 marks)**.

### **SECTION C: LONG-ANSWER QUESTIONS (40 MARKS)**

- Q1. Discuss the applications of tumour markers in laboratory medicine (20 marks).
- Q2. Discuss patterns of necrosis in tissues and organs (20 marks).