



*(University of Choice)*

**MASINDE MULIRO UNIVERSITY OF**

**SCIENCE AND TECHNOLOGY**

**(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**SECOND YEAR, SECOND TRIMESTER DIRECT CLASS EXAMINATION**

**FOR THE DEGREE**

**OF**

**BACHELOR of Science In Clinical medicine**

**COURSE CODE: HCM 225.**

**COURSE TITLE: GENERAL PATHOLOGY.**

**DATE: TUESDAY 19<sup>TH</sup> APRIL 2022**

**TIME: 8:00-11.00 AM**

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**INSTRUCTIONS TO CANDIDATES**

- Section A: Multiple choice questions (CHOOSE THE BEST ANSWER IN SECTION A)
  - Section B: Short Answer Questions
  - Sections C: Long Answer Questions
- Attempt all questions  
TIME: 3 Hours

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MMUST OBSERVES ZERO TOLERANCE TO EXAMINATION CHEATING  
BEHAVIORAL SCIENCES AND MEDICAL ETHICS.

**SECTION A-MCQ (BEST ANSWER QUESTION).(20MKS).**

1. Apoptosis has the following features except:
  - a) There is cell shrinkage in apoptosis
  - b) There are no acute inflammatory cells surrounding apoptosis
  - c) There may be single cell loss or affect clusters of cells
  - d) Apoptosis is seen in pathologic processes only
2. Enzymatic digestion is the predominant event in the following type of necrosis:
  - a) Coagulative necrosis
  - b) Liquefactive necrosis
  - c) Caseous necrosis
  - d) Fat necrosis
3. For metaplasia the following holds true:
  - a) It is a disordered growth
  - b) It affects only epithelial tissues
  - c) It is a reversible change
  - d) It is an irreversible and progressive change
4. Diabetic foot is an example of:
  - a) Dry gangrene
  - b) Wet gangrene
  - c) Gas gangrene
  - d) Necrotizing inflammation
5. Pick the correct sequence:
  - a) Renin-Angiotensin II-Angiotensin I-Angiotensinogen-Aldosterone
  - b) Angiotensinogen-Renin-Angiotensin II-Angiotensin I-Aldosterone
  - c) Renin-Angiotensinogen-Angiotensin I-Angiotensin II-Aldosterone
  - d) Aldosterone-Renin-Angiotensinogen-Angiotensin II-Angiotensin I
6. Which of the following is true?
  - a) Arterial thrombi are white and occlusive
  - b) Venous thrombi are white and occlusive
  - c) Arterial thrombi are white and mural
  - d) Venous thrombi are red and mural
7. The infarct of following organ is invariably hemorrhagic:
  - a) Infarct kidney
  - b) Infarct spleen
  - c) Infarct lung
  - d) Infarct heart
8. Venous emboli are most often lodged in:
  - a) Intestines
  - b) Kidneys

- c) Lungs  
d) Heart
9. The most common cause of arterial thromboemboli is:
- a) Cardiac thrombi  
b) Aortic aneurysm  
c) Pulmonary veins  
d) Aortic atherosclerotic plaques
10. In septic shock, pathogenesis of endothelial cell injury involves the following mechanisms except:
- a) Lipopolysaccharide from lysed bacteria injures the endothelium  
b) Interleukin-1 causes endothelial cell injury  
c) TNF- $\alpha$  causes direct cytotoxicity  
d) Adherence of PMNs to endothelium causes endothelial cell injury
11. Which is false about primary union?
- a) Exuberant granulation tissue to fill the gap  
b) Clear margins  
c) Uninfected  
d) Lead to neat linear scar.
12. All the following malignant tumors metastasize except:
- a) Synovial sarcoma  
b) Malignant mesothelioma  
c) Glioma  
d) Neuroblastoma
13. A 72-year-old man presents with a 3-day history of progressively worsening productive cough, fever, chills, and signs of toxicity prominent physical findings include signs of consolidation and rales over the right lung base. Sputum culture is positive for *Streptococcus pneumoniae*. An intra-alveolar exudate filling the alveoli of the involved portion of the lung is present. Which of the following types of inflammatory cells is most likely a prominent feature of this exudate?
- a) Basophils  
b) Eosinophils  
c) Neutrophils  
d) Monocytes-macrophages
14. A 16-year-old girl undergoes radiologic imaging of her abdomen and is found to have only one kidney. She had been entirely unaware of this problem. Which of the following terms is most descriptive of this finding?
- a) Agensis  
b) Atrophy  
c) Hyperplasia  
d) Hypoplasia

15. A 20-year-old man presents with yellowing of the sclera, skin, and oral mucosa. Which of the following accumulations underlies these findings?
- a) Bilirubin
  - b) Hemosiderin
  - c) Lead
  - d) Melanin
16. Which of following statements is true about malignant tumours?
- a) Malignant tumours remain localized at their site of origin.
  - b) They grow by expansion, pushing the normal tissues away, often with the formation of a capsule of compressed fibrous tissue.
  - c) Malignant tumors usually grow slowly
  - d) grow by infiltrating into the surrounding normal tissues and have the ability to spread to distant sites
17. Regarding malignant tumors
- a) It is usually encapsulated
  - b) Has a rapid growth rate
  - c) Distant spread is absent
  - d) It is rarely fatal
18. One of the following is a local effect of chronic inflammation
- a) Tissue destruction
  - b) Splenomegaly
  - c) Anemia
  - d) Hepatomegaly
19. 29. One of the following is not true about cardiogenic shock
- a) May be caused by massive myocardial infarction.
  - b) Cardiac tamponade is a cause.
  - c) Is associated with severe hemorrhage.
  - d) Massive pulmonary embolism is a cause.
20. Pathogenesis of compensated shock includes?
- a) Fluid conservation by the kidney
  - b) Stimulation of adrenal medulla
  - c) Hypercoagulability
  - d) Anoxic damage.

**SECTION B-SHORT ANSWER QUESTIONS 40 MKS.**

- 1) Describe any five example of mediators of acute inflammation and giving their functions (10mks)
- 2) Cell injury is an inevitable phenomenon. Describe five ways it can occur and provide examples of cell injury. (10 marks)
- 3) Describe five different ways which a cell can respond to non-lethal cell damage. (10 marks)
- 4) A 35-year old female patient of type II diabetes mellitus cut her hand with a knife in the kitchen; the wound failed to heal even after two weeks:
  - a. What cause/causes of delayed healing you would suspect in this patient? (2mark
  - b. List four other local/systemic factors that influence wound healing. (4marks)

**SECTION C-LONG ASSAYS QUESTIONS EACH 40 MKS.**

- 1) Discuss Shock under the following sub-headings
  - a. Definition (1 mark)
  - b. Explain five types of Shock (10 marks)
  - c. Outline 6 general Clinical features of shock (3 marks))
  - d. Stages of Shock (6 marks)
- 2)
  - a. Define Neoplasm (1 mks)
  - b. Highlighting any eight(8) systemic features in a patient with malignant tumour (4mks)
  - c. Define infarction (1mks)
  - d. Explain the pathogenesis of infarction (10mks).
  - e. Outline the outcome of an infarction (4mks).