



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCE
DEPARTMENT OF REHABILITATION MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF SEPT-DECEMBER 2024 TRIMESTER EXAMINATIONS**

UNIT CODE: PHT 212 **UNIT NAME: General pathology (Special exam)**
DATE: Day/ Date/ AUGUST
TIME: TWO HOURS
START: 0:00 **STOP : 0:00**

INSTRUCTIONS (physical exams)

- 1. Do not write on this question paper**
(Marks and questions distribution as per program curriculum.)

INSTRUCTIONS (Online examinations)

1. This exam is marked out of 70 marks
2. This Examination comprises 3 Sections
3. This online exam shall take 2 Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period
6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the invigilator for this exam on Tel. 0705833434 and or the Head of Department on Tel 0720491032
11. For adverse incidences please write an email to: amiu.examinations@amref.ac.ke

1. Lipofuscin deposition is most likely to result from:-
 - a. Nuclear pyknosis
 - b. Myocardial fiber hypertrophy
 - c. Coagulative necrosis
 - d. Autophagocytosis

2. An Anti-Oxidant enzyme:-
 - a. Glutathione Peroxidase
 - b. Catalase
 - c. NADPH oxidase
 - d. Myeloperoxidase

3. A type of necrosis is most commonly associated with ischemic injury:-
 - a. Coagulation Necrosis
 - b. Liquefaction Necrosis
 - c. Caseous Necrosis
 - d. Gangrenous Necrosis

4. Calcium may play a role in cell injury by:-
 - a. Causing ATP depletion
 - b. Activating phospholipases
 - c. Inducing autophagocytosis
 - d. Reducing intracellular pH

5. A cellular change that represents the best evidence for irreversible cellular injury:-
 - a. Epithelial dysplasia
 - b. Cytoplasmic fatty metamorphosis
 - c. Nuclear pyknosis
 - d. Atrophy

6. The presence of differentiated columnar epithelium with goblet cells in lower esophagus is consistent with:-
 - a. Dysplasia
 - b. Hyperplasia
 - c. Carcinoma
 - d. Metaplasia

7. A physiological response that will show hypertrophy:-
 - a. The uterine myometrium in pregnancy
 - b. The liver following partial resection
 - c. The ovary following menopause
 - d. The cervix with chronic inflammation

8. A tissue most likely to be least affected by Ischemia:-
 - a. Skeletal muscle
 - b. Small intestinal epithelium
 - c. Myocardium
 - d. Hippocampus

9. Hypertrophy is most closely associated with:-
 - a. Hypercalcemia
 - b. Chronic Irritation
 - c. Diminished Blood Supply
 - d. Increased Work Load

10. The loss of individual cell through fragmentation of individual cell nucleus is best described as:-
 - a. Necrosis
 - b. Mitochondrial Poisoning
 - c. Phagocytosis
 - d. Apoptosis

11. Changes of color in Gangrene is due to:-
 - a. Deposition of amyloid
 - b. Breakdown of hemoglobin
 - c. Deposition of melanin
 - d. Deposition of lipofuscin

12. A pathologic change considered irreversible:-
 - a. Fatty change in liver cells
 - b. Hydrophic vacuolization or renal tubular epithelial cells
 - c. Karyolysis in myocardial cells
 - d. Glycogen deposition in hepatocyte nuclei

13. The tumor of inflammation is primarily due to:-
 - a. Arteriolar Dilation
 - b. Venous Dilation
 - c. Increased Intracellular Fluid
 - d. Increased Extracellular Fluid

14. A mediator of acute inflammation that causes increased vascular permeability and pain is:-
 - a. Endotoxin
 - b. Complement

- c. Histamine
- d. Bradykinin

15. Histamine is thought to be the direct cause of:-

- a. Leukocytosis
- b. Emigration
- c. Phagocytosis
- d. Increased Vascular Permeability

16. An Abscess is **best** defined as:-

- a. An abnormal intra-surface accumulation
- b. Any area of tissue necrosis
- c. A localized collection of pus
- d. An epithelium-lined sac filled with viscous fluid

17. A purulent exudate is generally characterized by the presence of:-

- a. Mucous
- b. Macrophages and connective tissue
- c. Neutrophils and necrotic debris
- d. Precipitated Protein

18. Granuloma formation is **most** frequently associated with:-

- a. Acute inflammation
- b. The Healing Process
- c. Wound Contraction
- d. Fibroblasts and Neovascularization

19. The most characteristic feature of granulation tissue is the:-

- a. Resemblance to a Granuloma
- b. Growth of Fibroblasts and New Capillaries
- c. Character of the Exudate
- d. Presence of Monocytes and Fibroblasts

20. Chemical mediators predominantly responsible for pain in acute inflammation:-

- a. Interleukin-1 and tumor necrosis factor
- b. Histamine and Serotonin
- c. Prostaglandin and Bradykinin
- d. Leukotriene and E-selectin

21. Impairment of granulation tissue and collagen formation in wound healing is associated with deficiency of:-

- a. Zinc
- b. Carbohydrates

- c. Proteins
- d. Iron

22. Pigments that accumulates due to wear and tear:-

- a. Lipofuscin
- b. Melanin
- c. Hemosiderin
- d. Calcium

23. The cavity of an abscess contains:-

- a. Hyaline
- b. Giant cells
- c. Pus
- d. Granuloma tissue

24. Osponization is the:-

- a. Formation of free radicals
- b. Coating of antigen by antibodies
- c. Degradation of bacteria by lysozymes
- d. Engulfment of antigen by leukocytes

25. The process of regeneration

- a. Does not restore prior function
- b. Refers to healing by proliferation of stromal elements
- c. Occurs in tissues composed of labile and stable cells
- d. Invariability leads to scar formation

26. Increased vascular permeability is due to:-

- a. Widening gap between endothelial cells
- b. Vascular obstruction
- c. Vascular fibrosis
- d. Endothelial stricture

27. Infarction of the spleen is usually due to:

- a. Hypersplenism
- b. Congestion
- c. Arterial embolism
- d. Venous thrombosis

28. Fat embolism can be precipitated by:-

- a. Excessive fat intake
- b. Rapture of an atheromatous plaque
- c. Fracture of the femur
- d. Changes in atmospheric pressure

29. Red infarcts develop in:-

- a. Spleen
- b. Liver
- c. kidney
- d. Intestine

30. Asthma is an example of:

- a. Type I hypersensitivity reaction
- b. Type II hypersensitivity reaction
- c. Type III hypersensitivity reaction
- d. Type IV hypersensitivity reaction

SECTION II: SHORT ANSWER QUESTIONS

(20 MARKS)

1. Distinguish between dystrophic and metastatic calcification (5 marks)
2. State FIVE factors that control wound healing and repair (5 marks)
3. Describe the situations in which physiological proliferation of cells occur (5 marks)
4. Fibrosis is the result of wound healing and chronic inflammation. Describe the process of fibrous tissue formation (5 marks)

LONG ANSWER QUESTIONS

(20 MARKS)

Instructions: *Answer question ONE then choose another one question between 2 and 3 below.*

1. Describe the sequels of acute inflammation (10 marks)
2. Explain FIVE types of necrosis giving example in each (10 marks)
3. Describe the pathogenesis of different types of shock (10 marks)