AMREF INTERNATIONAL UNIVERSITY

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF REHABILIATION MEDICINE

BACHELOR OF SCIENCE IN PHYSIOTHERAPY

END OF TRIMESTER EXAMINATIONS JANUARY TO APRIL 2025

UNIT CODE: PHT 212

UNIT NAME: General Pathology (Main Exam)

DATE: 9th APRIL 2025

TIME: 6pm-8.30pm

INSTRUCTIONS

1. **All students will have two (2) hours to complete the examination**
2. **This is an online exam, Attempt all questions as per the instruction**
3. **It is the student's responsibility to report any page and number missing in this paper.**
4. **Check that the paper is complete**
5. **Total number of pages is 6 including the cover.**
6. **Read through the paper quickly before you start.**
7. **Upon finishing the exam paper, on submission, the message 'Your examination has been submitted' will appear.**

TOTAL: _____/70

PERCENT: _____/100%

POINTS EARNED TOWARDS FINAL GRADE_____/70

SECTION A: MULTIPLE CHOICE QUESTIONS. Answer All the questions (30 MARKS)

1. A feature of irreversible cell injury
   a. stromal hypertrophy
   b. Epithelial dysplasia
   c. Steatocyte hypertrophy
   d. Lobular hyperplasia

2. A process that explain the appearance of calcium deposition in tuberculous lymph nodes
   a. Neoplastic change
   b. Dystrophic calcification
   c. Metastatic calcification
   d. Hypercalcemia

3. An amputated lower limb from a diabetic patient showing black discoloration of the skin and soft tissues with areas of yellowish exudates is characterized as:
   a. Hemosiderosis
   b. Gas gangrene
   c. Gangrenous necrosis
   d. Coagulopathy

4. Focal fat necrosis , with flecks of chalky tan-white material seen in the omentum is most associated with:
   a. Acute appendicitis
   b. Gangrenous appendicitis
   c. Acute gastritis
   d. Chronic salpingitis

5. The presence of columnar epithelium with Goblet cells in the lower esophagus is most consistent with:
   a. Dysplasia
   b. Hyperplasia
   c. Metaplasia
   d. Ischemia
6. The action of putrefactive bacteria on necrotic tissue results in:-
   a. Infarction
   b. Embolism
   c. Gangrene
   d. Caseation

7. A type of necrosis most commonly associated with ischemic injury
   a. Coagulation necrosis
   b. Liquefaction necrosis
   c. Caseous necrosis

d. Gangrenous necrosis

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

9. The enzymes responsible for liquefaction in an abscess are derived mainly from:-
   a. Lymphocytes
   b. Neutrophils
   c. Basophils
   d. Tissue

10. Digestion of tissue with soap formation and calcification is characteristic of:-
   a. Coagulation necrosis
   b. Enzymatic necrosis
   c. Fibrinoid necrosis
   d. Liquefaction necrosis

11. A pathology most likely to happen following stroke with loss of blood supply to a lobe of the brain:-
   a. Cerebral softening from liquefactive necrosis
   b. Pale infarction with coagulative necrosis
   c. Predominantly the loss of glial cells
   d. Wet gangrene with secondary bacterial infection

12. A deposit in the myocardium in advanced age
   a. Hemosiderin
   b. Calcium salts
   c. Cholesterol
   d. Lipochrome

13. Hypertrophy is most closely associated with:-
   a. Chronic irritation
   b. Diminished blood supply
   c. Increased workload
   d. Necrosis

14. A type of necrosis characterized by amorphous granular debris:-
   a. Liquefaction necrosis
   b. Caseous necrosis
   c. Coagulation necrosis

d. Gangrenous necrosis

15. Hypertensive enlargement of the heart is a form of:-
    a. Hyperplasia
    b. Hypertrophy
    c. Metaplasia
    d. Fatty infiltration

16. Changes of color in gangrene is due to:-
    a. Breakdown of hemoglobin
    b. Deposition of calcium salts
    c. Deposition of amyloid
    d. Deposition of melanin

17. Dystrophic calcification is:-
    a. Causes renal failure
    b. Associated with primary hyperparathyroidism
    c. Due to reduction of pH in tissues
    d. Occurs in dead parasites in the body

18. A cardinal sign of inflammation is:-
    a. Increased intracellular fluid
    b. Increased extracellular fluid
    c. Venous dilation
    d. Arteriolar dilation

19. Histamine is thought to be the direct cause of:
    a. Leukocytosis
    b. Emigration
    c. Phagocytosis
    d. Increased vascular permeability

20. An abscess is best defined as:-
    a. A local defect in the surface of a tissue
    b. An abnormal accumulation between two surfaces
    c. A localized collection of pus
    d. An epithelium-lined sac filled with viscous fluid

21. The most characteristic feature of granulation tissue is the:-
    a. Resemblance of a granuloma
    b. Growth of fibroblasts and new capillaries
    c. Presence of monocytes and fibroblasts

d. Character of the exudate

22. A purulent exudate is generally characterized by the presence of:-
    a. Macrophages and connective tissue
    b. Precipitated protein
    c. Neutrophils and necrotic debris
    d. Serous fluid

23. Apoptosis does not induce inflammation because:-
    a. The injury is too mild to induce inflammation
    b. The process occurs only in avascular tissues
    c. Phagocytic cells secrete cytokines that inhibit inflammation
    d. Apoptosis occurs only in immune deficient tissues

24. Optionization 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. A type of shock most associated with severe burns:-
    a. Cardiogenic shock
    b. Hypovolemic shock
    c. Septic shock
    d. Neurogenic shock

26. Widespread edema is likely in:-
    a. Lymphatic obstruction
    b. Capillary damage
    c. Cancer of the stomach
    d. Hypoalbuminemia

27. A characteristic of neoplasm:-
    a. Uncontrolled (autonomous) growth
    b. Sensitivity to radiation therapy
    c. Rapid increase in size
    d. Recurrence following excision

28. The contents of a blister is an example of:-
    a. Serous exudate
    b. Fibrinous exudate
    c. Purulent exudate

d. Cellular exudate

29. The following are features of benign tumors EXCEPT:-
    a. Well demonstrated
    b. Infiltrate adjacent cells
    c. Can secrete hormones
    d. Grow slowly

30. Asthma is an example of:-
    a. Type II hypersensitivity reaction
    b. Type I hypersensitivity reaction
    c. Type III hypersensitivity reaction
    d. Type IV hypersensitivity reaction

SECTION B: SHORT ANSWER QUESTIONS. ANSWER ALL THE QUESTION (20 MARKS)

1. Describe the endothelial molecules in acute inflammation (6 marks)
2. Differentiate between lymphatic and hematogenous modes of metastatic spread (4 marks)
3. State FIVE pathologic processes that compromise tissue perfusion (5 marks)
4. Describe the pathogenesis of chronic inflammation (5 marks)

SECTION C: LONG ANSWER QUESTIONS. ANSWER ANY OF 2 QUESTIONS (20 MARKS)

1. Describe the pathologic events in the process of reversible cell injury (10 marks)
2. Describe the morphologic patterns of acute inflammation (10 marks)
3. Describe how abnormal immune reactions can damage cells (10 marks)