



**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

DATE: Wednesday / 4th/ December
TIME: TWO HOURS
START: 9AM STOP : 11AM

INSTRUCTIONS (physical exams)

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 exam shall take 2 Hours

SECTION I: MULTIPLE CHOICE QUESTIONS. ANSWER ALL

(30 MARKS)

1. A type of tissue composed of macrophages, capillaries and fibroblasts
 - a. Granuloma
 - b. Granulation tissue
 - c. Scar tissue
 - d. Keloid

2. Liquefactive necrosis occurs in:-
 - a. The heart
 - b. The spleen
 - c. The intestine
 - d. Pyogenic abscess

3. Selectin is expressed by:-
 - a. Endothelial cells
 - b. Leukocytes
 - c. Mast cells
 - d. Macrophages

4. Integrin is expressed by:-
 - a. Endothelial cells
 - b. Leukocytes
 - c. Macrophages
 - d. Pus cells

5. The first cell to appear in acute inflammation
 - a. Mast cell
 - b. Macrophages
 - c. Neutrophil
 - d. Basophil

6. A characteristic of blood vessels chronic inflammation
 - a. They become numerous
 - b. Endarteritis obliterans
 - c. They have thin walls
 - d. They immediately rupture

7. The process by which malignant cells adjust to their environment to further their own growth is termed as;
 - a. Dissemination
 - b. Cell inversion
 - c. Proliferation
 - d. Metastasis

8. Malignant tumor refers to:-
 - a. Abnormal cell division that metastasizes or invades the surrounding tissue
 - b. Abnormal cell division that does not metastasize or invade the surrounding tissue
 - c. Alteration in normal cellular growth
 - d. Growth of clustered neoplastic cells; may be benign or malignant.

9. Paroxysmal episodes of bilateral ischemia of digits is termed as:-
 - a. Thromboangitis
 - b. Saccular aneurysm
 - c. Buerger disease
 - d. Raynaud's disease

10. Reversible cell injury is characterized by:-
 - a. Membrane blebbing
 - b. Swelling and disruption of lysosomes
 - c. Detachment of ribosomes from endoplasmic reticulum
 - d. Generalizes swelling of cell and its organelles

11. Nomenclature for malignant tumors arising from mesenchymal tissue:-
 - a. Sarcoma
 - b. Carcinoma
 - c. Hematoma
 - d. Meseninoma

12. Chemokine and adhesion molecule expression in acute inflammation is increased by; -
 - a. Reactive oxygen species
 - b. Nitric oxide
 - c. Lysosomal enzymes
 - d. Neuropeptides

13. The pigments that accumulates due to wear and tear:-
 - a. Lipofuscin
 - b. Melanin
 - c. Hemosiderin
 - d. Calcium

14. Accumulation of carbon particles in cells is referred to as:-
 - a. Normal substance accumulation
 - b. Abnormal endogenous accumulation
 - c. Abnormal exogenous accumulation
 - d. Normal exogenous accumulation

15. The correct statement concerning initiation of apoptosis is:-
- Intrinsic pathway is triggered by lack of survival signals
 - Extrinsic pathway is triggered by DNA damage
 - Intrinsic pathway triggered by cytotoxic T lymphocytes
 - Death receptor pathway triggered by misfolded proteins
16. Staging of tumors is based on:-
- Degree of anaplasia
 - Metastatic spread
 - Rate of cell growth
 - Degree of cell differentiation
17. The direct causes of cell injury includes:-
- Change in pH
 - Burns
 - Electrolyte imbalance
 - Change in body temperature
18. Bacteremia means:-
- Transient presence of bacteria in the blood
 - Circulation and multiplication of bacteria in the blood
 - Presence of bacterial toxins in the blood
 - Inflammation caused by bacteria in blood vessels
19. Metastatic calcification:-
- Is due to hypercalcemia
 - Is due to hypocalcemia
 - Occurs in necrotic tissue
 - Occurs in sites of chronic inflammation.
20. Complications of wound healing likely to be observed after abdominal surgery is:-
- Dehiscence
 - Trophic ulcers
 - Keloid formation
 - Excessive scar
21. The following is true about hyperplasia EXCEPT:-
- Can be physiological
 - Is a precancerous condition
 - Is reversible
 - Is due to excess hormone stimulation

22. Digestion of tissue with soap formation and calcification is characteristic of:-
- Coagulative necrosis
 - Caseous necrosis
 - Liquefactive necrosis
 - Enzymatic fat necrosis
23. The organ most susceptible to liquefactive necrosis following ischemic injury:-
- Pancreas
 - Liver
 - Spleen
 - Brain
24. Calcium may play a role cell injury by:-
- Causing ATP depletion
 - Activating phospholipases
 - Inducing autophagocytosis
 - Regulating pyknosis
25. An amputated foot of a diabetic will most likely show:-
- Neoplasia
 - Gangrenous necrosis
 - Coagulopathy
 - Hemosiderosis
26. Hypertrophy is most closely associated with:-
- Increased work load
 - Hypercalcemia
 - Chronic irritation
 - Diminished blood supply
27. Hypoplasia is due to:
- Cell loss
 - Atrophy
 - Inadequate development
 - Disuse
28. Changes of color in gangrene is due to:-
- Deposition of amyloid
 - Breakdown of hemoglobin
 - Deposition of melanin
 - Deposition lipofuscin

29. Reperfusion injury is due to:-
- Generation of oxygen free radicals
 - Swelling of endoplasmic reticulum
 - Recruitment of polymorphs by pancreatic cells
 - Mitochondrial swelling

30. A tumor of inflammation is due primarily to:-
- Increased intracellular fluid
 - Increased extracellular fluid
 - Arteriolar dilation
 - Venous dilation

SECTION II: SHORT ANSWER QUESTIONS

(20 MARKS)

- Describe the genetic polymorphisms that strongly influence susceptibility and resistance to disease (5 marks)
- State FIVE noxious agents that can damage cells (5 marks)
- Describe hyperplasia as a non-neoplastic proliferation response (5 marks)
- State FIVE characteristic features that differentiate malignant tumors from benign tumors (5marks)

LONG ANSWER QUESTIONS

(20 MARKS)

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

- Describe the cellular reactions that can occur due to host-virus interactions (10 marks)
- Describe steps in the evolution of malignant ulcer (ulcerated tumor) from a chronic inflammation (10 marks)
- Describe how exogenous pigments can be introduced and the pigment degenerations (10 marks)