

CHUKA



UNIVERSITY

**SECOND YEAREXAMINATIONS FOR THE
BACHELOR OF SCIENCE (NURSING)**

NURU 229: HUMAN PATHOLOGY

STREAMS: Bsc Nursing up-grad. (Y2T1)

TIME: 2 HOURS

DAY/DATE:.....

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INSTRUCTIONS TO CANDIDATES

- Do not write anything on the question paper.
- Mobile phones and any other reference materials are **NOT** allowed in the examination room.
- The paper has three (3) Sections. **ALL** the questions are compulsory
- Your answers for Section A (MCQs) should be on the first page of the answer Booklet.
- Number **ALL** your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

SECTION A: MULTIPLE CHOICE QUESTIONS (20 Marks)

1. During tissue preparation for pathologic examination, paraffin impregnation is done to:
 - a) Enable molten wax embedding
 - b) Fix the tissue
 - c) Dehydrate the tissue
 - d) Make sectioning easier
2. The most commonly used chemical for decalcifying tissues for pathologic examination is:
 - a) Eosin
 - b) Chloroform
 - c) 10% formalin
 - d) Aqueous nitric acid
3. Which of the following statement is true concerning cell adaptation:
 - a) It is irreversible
 - b) Results in new altered steady state
 - c) Occurs after a cell is injured
 - d) May lead to apoptosis or necrosis
4. The most characteristic feature of apoptosis include:

- a) Karyolysis
 - b) Plasma membrane blebbing
 - c) Chromatin condensation
 - d) Presence of myelin figures
5. Necrosis is likely to occur due to:
- a) DNA viral infections
 - b) Severe membrane damage
 - c) Protein misfoldig syndrome
 - d) Activation of death receptors
6. Impaired blood flow to the brain cells will result in _____ necrosis
- a) Liquefactive
 - b) Caseous
 - c) Coagulative
 - d) Fibrinoid
7. Myelin figures in a necrotic cell is composed of:
- a) Proteins
 - b) Triglycerides
 - c) Cholesterol esters
 - d) Phospholipids
8. All of the following tissues will mitotically regenerate **EXCEPT**:
- a) Skin
 - b) Bone
 - c) Muscle
 - d) Connective tissue
9. An advantage of wound healing by primary intent include:
- a) Reduced risk of foreign material being left in the wound
 - b) Increased activity of interferons
 - c) Reduced risk of anaerobic infection
 - d) Minimization of scar tissue formation
10. Angiogenesis and fibrosis result from growth factors secreted mainly by:
- a) Neutrophils
 - b) Mast
 - c) Macrophage
 - d) Eosinophil
11. Type of inflammation associated with blood vessels is:
- a) Serous
 - b) Fibrinous
 - c) Suppurative
 - d) Granulomatous
12. During transmigration, adhesion is mediated by :

- a) Integrins
 - b) Cytokines
 - c) Chemokines
 - d) Selectins
13. Bradykinin:
- a) Is produced through the action of kininase
 - b) Requires the activation of complements
 - c) Potentiates the effect of lipoxins
 - d) Causes vasodilation
14. Hydrogen peroxide is produced in the cells through the action of:
- a) Super oxide dismutase
 - b) Catalase
 - c) Glutathione peroxidase
 - d) NADPH peroxidase
15. Classic Turner syndrome is associated with:
- a) 47, XXY
 - b) 45, X0
 - c) 47, X0
 - d) 47, iXqY
16. Which of the following does NOT follow classical pattern of inheritance:
- a) Hereditary spherocytosis
 - b) Lysosomal storage disease
 - c) Leber hereditary optic neuropathy
 - d) Chronic granulomatous disease
17. The syndrome that results from genomic imprinting include:
- a) Edward
 - b) Down
 - c) Klinefelter
 - d) Prader-Willi
18. Familial hypercholesterolemia is disorder that results from genetic defects in:
- a) A structural protein
 - b) An enzyme
 - c) A receptor
 - d) A chromosome
19. A malignant tumor of a bone is called:
- a) Sarcoma
 - b) Osteoma
 - c) Carcinoma
 - d) Papilloma
20. Products of tumor suppressor genes include:
- a) RB protein

- b) Ras protein
- c) MYC oncoproteins
- d) Telomerase

SECTION B: SHORT ANSWER QUESTIONS (35 Marks)

- 1. Explain two (2) branches of histopathology indicating the application of each 4 marks
- 2. Explain three (3) components of acute inflammation 6 marks
- 3. State the four (4) features of chronic inflammation 4 marks
- 4. Describe the maturational phase of wound healing process 6 marks
- 5. Explain two (2) components of extracellular matrix 5 marks
- 6. Outline five(5) differences between autosomal dominant and sex- linked genetic disorders 5 marks
- 7. State five(5) categories of tumor antigens 5 marks

SECTION C: LONG ANSWER QUESTIONS (15 Marks)

- 1. Cell injury results when cells are exposed to inherently damaging agents. If the injury is severe, the cell dies either through apoptosis or necrosis.
 - a) Describe the mechanisms through which hypoxia causes cell injury 7 marks
 - b) Describe the process apoptosis through the mitochondrial (Intrinsic) pathway 8 marks