

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATIONS FOR THE AWARD OF BACHELOR OF
SCIENCE (NURSING)**

NURS 224: HUMAN PATHOLOGY

STREAMS: BSC NURSING (Y1T2)

TIME: 3 HOURS

DAY/DATE: TUESDAY 04/12/2018

2.30 P.M – 5.30 P.M

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. Barret esophagus is an example of :
 - a) Metaplasia
 - b) Hyperplasia
 - c) Anaplasia
 - d) Dysplasia
2. Features of reversible cell injury include:
 - a) Cell shrinkage
 - b) Pyknosis
 - c) Plasma membrane blebs
 - d) Cellular fragmentation
3. Causes of mitochondrial damage include all of the following **EXCEPT**:
 - a) Increased cytosolic calcium
 - b) Reactive oxygen species
 - c) Ischemia
 - d) Enzyme activation
4. The major difference between necrosis and apoptosis is that in necrosis:
 - a) The cell shrinks
 - b) Adjacent tissues are inflamed

- c) The cell membrane is intact
 - d) Occurs due to protein misfolding
5. The pattern of necrosis associated with inadequate flow of blood to the brain is:
- a) Coagulative
 - b) Gangrenous
 - c) Liquefactive
 - d) Caseous
6. A 22-year-old woman has a congenital anemia that has required multiple transfusions of RBCs for many years. Which of the following findings would most likely appear in a liver biopsy specimen?
- a) Steatosis in hepatocytes
 - b) Bilirubin in canaliculi
 - c) Amyloid in portal triads
 - d) Hemosiderin in hepatocytes
7. Opsonins are proteins that coat microbes making them target for phagocytosis. They include:
- a) Antibodies, lectins
 - b) Thrombin , lectins
 - c) Kinins, antibodies
 - d) Kinins, lectins
8. Tissue injury is a common feature in chronic inflammation. It results from:
- a) Reduced blood flow
 - b) Reaction oxygen species
 - c) Release of vasoactive amines
 - d) Arachidonic acid metabolites
9. A scar contains which of the following type of collagen
- a) I
 - b) II
 - c) III
 - d) IV
10. The most dominant leucocyte in chronic inflammation is:
- a) Neutrophil
 - b) Macrophage
 - c) Eosinophil
 - d) Mast cell
11. Which of the following is true concerning foreign body granuloma:
- a) Characterized by presence of epitheloid giant cells
 - b) Common in mycobacterium tuberculosis infection
 - c) Associated with poorly degradable particulate agent
 - d) Involves strong activation of neutrophils
12. Which of the following is associated with the first phase of wound healing:
- a) Neutrophil migration
 - b) Angiogenesis
 - c) Collagen matrix formation
 - d) Wound contraction
13. Common features of carcinomas and sarcomas is:

- a) Slow rate of growth
 - b) Well defined cleavage plane
 - c) Abnormally large cells
 - d) Ability to metastasize
14. The most frequently affected organs in hematogenous spread of carcinoma is:
- a) Lungs
 - b) Liver
 - c) Brain
 - d) Heart
15. Concerning the cell cycle, S- phase is associated with:
- a) Nuclear division
 - b) DNA replication
 - c) Cytoplasmic division
 - d) Synthesis of cellular organelles
16. Upregulation of telomerase provides the tumor cells with:
- a) Ability to evade apoptosis
 - b) Limitless replicative potential
 - c) Ability to divide without external influence
 - d) Insensitivity to growth inhibitory signals
17. Leukocytes that are capable of destroying tumor cells without prior sensitization or activation include:
- a) Macrophages
 - b) T-Lymphocytes
 - c) Plasma cells
 - d) NK Cells
18. DNA is found in the cell in the nucleus and the:
- a) Mitochondria
 - b) Ribosomes
 - c) Lysosomes
 - d) Peroxisomes
19. Inborn errors of metabolism(IEM) all associated with which genetic disorders:
- a) Autosomal dominant
 - b) Autosomal recessive
 - c) Sex-linked
 - d) Non disjunction
20. Causes of aneuploidy include:
- a) Mosaicism
 - b) Interstitial deletion
 - c) Anaphase lag
 - d) Robertsonian non disjunction

SECTION B: SHORT ANSWER QUESTIONS (40 MARKS)

1. State five(5) causes of defects in membrane permeability resulting in cell injury

(5 Marks)

2. Describe the process of apoptosis through the intrinsic pathway

(5 Marks)

3. Outline four (4) causes of metastatic calcification
(4 Marks)
4. Reduced blood flow is a common feature in acute inflammation. State four (4) causes of this
(4 Marks)
5. State five (5) properties of mediators of inflammation
(5 Marks)
6. Briefly describe the process of carcinogenesis
(6 Marks)
7. State five (5) differences between autosomal dominant and autosomal recessive genetic disorders
(5 Marks)
8. Describe briefly three (3) mechanisms through which autosomal chromosome disorders occur
(6 Marks)

SECTION C: LONG ANSWER QUESTIONS(40 MARKS)

1. Tumors occur when mutant cells escape the immune system and continue to proliferate.
 - a) Discuss giving appropriate examples five (5) causes of tumors
(10 marks)
 - b) Discuss five (5) mechanisms through which tumor cells evade the immune system
(10 marks)
 2. Acute inflammation is characterized by both vascular and cellular events that aim to deliver plasma proteins and leucocytes to the site of injury.
 - a) Describe the cellular events that occur during acute inflammation
(14 marks)
 - b) Discuss three (3) stop signals that result in the termination of acute inflammatory process
(6 marks)
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