

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATION

RESIT /SPECIAL EXAMINATION

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
NURSING**

NURS 224: HUMAN PATHOLOGY

STREAMS:BSC NURSING (Y2T1)

TIME:2 HOURS

DAY/DATE: FRIDAY 05/11/2021

8.30 A.M – 10.30 A.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. The 4th step in tissue preparation for pathologic examination is:
 - a) 10% formalin fixation
 - b) Dehydrating with alcohol
 - c) Paraffin impregnation
 - d) Clearing with xylene
2. Which of the following type of necrosis is associated with protein denaturation:
 - a) Caseous
 - b) Coagulative
 - c) Liquefactive
 - d) Fibrinoid
3. Destruction of bone tissue due to tumors of bone marrow or diffuse skeletal metastasis is likely to result in:
 - a) Metastatic calcification

- b) Fibrinoids
 - c) Caseous necrosis
 - d) Dystrophic calcification
4. Production of excessive hormones and growth factors on target cells is likely to result in:
 - a) Hypertrophy
 - b) Metaplasia
 - c) Hyperplasia
 - d) Dysplasia
 5. In the mitochondrial pathway of apoptosis:
 - a) Calcium binds to cytochrome C to activate caspases
 - b) Occur due to severe damage to the mitochondrial membrane
 - c) Involves activation of caspases 3 and 8
 - d) Nuclear breakdown occur due to activation of caspase 6 and 9
 6. Concerning endothelial cell injury:
 - a) May be long lived.
 - b) Occurs in venules only
 - c) Induced by VEGF
 - d) Associated with late stages of inflammation
 7. The most reactive free radical principally responsible for damaging cellular components during cell injury is:
 - a) Super oxide
 - b) Hydrogen peroxide
 - c) Carboxyl
 - d) Hydroxyl
 8. Increase in acute phase protein in an inflammatory process results from their increased synthesis through the action of:
 - a) IL-1, IL-6
 - b) TNF, histamine
 - c) IFN- γ , IL-6
 - d) IFN- γ , TNF
 9. A common feature of chronic inflammation is tissue injury. It results from:
 - a) Reduced blood flow
 - b) Reaction oxygen species
 - c) Release of vaso-active amines
 - d) Arachidonic acid metabolites
 10. Which of the following statement concerning angiogenesis is False:
 - a) PDGF selectively induces hyperplasia of lymphatic tissue
 - b) New blood vessels bud from pre-existing vessels
 - c) VEGF receptors are largely restricted to the endothelial cells
 - d) New vessels are leaky due to incompletely formed inter-endothelial junctions
 11. Maternal imprinting of chromosome 15 will result in:
 - a) Angelman syndrome

- b) Prader- Willi syndrome
 - c) Huntington disease
 - d) Leber hereditary neuropathy
12. Which of the following is true concerning Fragile X syndrome:
- a) Occurs due to single gene deletion
 - b) Affects mostly females
 - c) Manifests mainly with macro-orchidism
 - d) Has a late onset than Huntington disease
13. Concerning sex chromosome disorders:
- a) Turner syndrome is more common than Klinefelter syndrome
 - b) Coarctation of aorta is more common than Klinefelter syndrome
 - c) Turner syndrome occur due to 47,XXY karyotype due to non-disjunction
 - d) The likelihood of mental retardation increases with increase in X chromosome numbers
14. Familial hypercholesterolemia is disorder that results from genetic defects in:
- a) A structural protein
 - b) A receptor
 - c) An enzyme
 - d) A chromosome
15. 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
16. Ionizing radiations cause tumors by:
- a) Causing hydroxyl free radical injury
 - b) Forming pyrimidine dimmers in the DNA
 - c) Reacting with nucleophilic sites in the cell
 - d) Inhibiting tumor suppressor genes
17. Tumor cells are able to evade apoptosis through the following mechanisms EXCEPT
- a) Mutation of P53 genes
 - b) Up-regulation of enzyme telomerase
 - c) Expression of high levels of FLIP
 - d) Expression of reduced levels of CD 95/Fas
18. The commonly encountered endocrinopathy in a patient with a malignant tumor is:
- a) Cushing syndrome
 - b) Cachexia
 - c) Hypercalcemia
 - d) Conn's syndrome
19. The feature used in the grading of a tumor is:
- a) Size of the primary tumor
 - b) Presence of blood borne metastasis
 - c) Lymphatic spread of the tumor

- d) Degree of differentiation of tumor cell
20. Malignant tumors contain reactive stroma and cells. common leukocytes associated with malignant tumors include:
- Lymphocyte, Neutrophil
 - Neutrophil, Macrophage
 - Macrophage, Lymphocyte
 - Neutrophil, Eosinophil

SECTION B: SHORT ANSWER QUESTIONS (20 Marks)

- Enumerate five(5) uses of pathology in nursing practice [5 marks]
- Indicate five (5) factors that can cause pathologic atrophy [5 marks]
- Outline five (4) differences between apoptosis and necrosis [5 marks]
- State four (4) stop signals that result in the termination of an acute inflammatory response [4 marks]
- State the five(4) local manifestations of acute inflammation [5 marks]
- Articulate five(5) effects of arachidonic acid(AA) metabolites in an acute inflammatory response [5 marks]
- State five (5) features of autosomal dominant genetic disorders [5 marks]
- Explain the three(3) mechanisms of Turner syndrome [6 marks]

SECTION C: LONG ANSWER QUESTIONS (40 MARKS)

- Injury to cells and tissues sets in motion a series of events that contain the damage and initiate the healing process.
 - Describe the three(3) phases of wound healing by secondary union [12 marks]
 - Explain four(4) factors that influence wound healing process [8 marks]
- Cell-mediated immunity is the dominant antitumor mechanism in vivo although antibodies can be made against tumors. However, through various mechanisms the tumor cells are able to evade the immune system
 - Describe the process of carcinogenesis [10 marks]
 - Explain five(5) mechanisms through which tumor cells evade the immune system [10 marks]

