



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES
BACHELOR OF SCIENCE IN NURSING
END OF SEMESTER EXAMINATIONS AUGUST 2021

UNIT CODE: BSN 214

UNIT NAME: HUMAN PATHOLOGY

DATE: 29th JULY 2021

TIME: 2 HOURS

Start: 9.00AM

Finish: 11.00AM

INSTRUCTIONS

1. The exam is set out of 70 marks
2. Section A has 50 MCQs, each is one mark
3. For section A, select only one correct response
4. Section B has Short Answer Questions (SAQs) worth 20 marks
5. Answer all the questions in all sections

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQs) 50 MARKS

1. The organ whose infarct is invariably hemorrhagic
 - A. Kidney infarct
 - B. Splenic infarct
 - C. Lung infarct
 - D. Heart infarct

2. The mechanism of chemotaxis:-
 - A. Causes the transformation of monocytes into macrophages
 - B. Involves a pathway of chemical processes resulting in cellular lysis
 - C. Attracts the accumulation of neutrophils and monocytes to an area of injury
 - D. Slows the blood flow in a damaged area, allowing migration of leukocytes into tissue

3. What effect does the action of the complement system have on inflammation?
 - A. Modifies the inflammatory response to prevent stimulation of pain
 - B. Increases body temperature, resulting in destruction of microorganisms
 - C. Produces prostaglandins and leukotrienes that increase blood flow, edema, and pain
 - D. Increases inflammatory responses of vascular permeability, chemotaxis, and phagocytosis

4. What is a characteristic of chronic inflammation?
 - A. It may last 2 to 3 weeks.
 - B. The injurious agent persists or repeatedly injures tissue.
 - C. Infective endocarditis is an example of chronic inflammation.
 - D. Neutrophils are the predominant cell type at the site of inflammation.

5. A patient had abdominal surgery 3 months ago and calls the clinic with complaints of severe abdominal pain and cramping, vomiting, and bloating. What should the nurse most likely suspect as the cause of the patient's problem?
- A. Infection
 - B. Adhesion
 - C. Contracture
 - D. Evisceration
6. Which of the following indicates the proper sequence of tissue repair?
- A. Organization, fibrosis and regeneration, blood clotting, inflammation
 - B. Inflammation, blood clotting, organization, regeneration
 - C. Blood clotting, scab formation, fibrosis and regeneration, organization
 - D. Tissue damage, organization, fibrosis and regeneration, blood clotting
7. Acute inflammation characteristically involves:
- A. Constriction of arterioles.
 - B. Influx of macrophages.
 - C. Influx of mast cells.
 - D. Influx of neutrophils
8. A nurse is caring for a patient who has a pressure ulcer that is treated with debridement, irrigations, and moist gauze dressings. How should the nurse anticipate healing to occur?
- A. Tertiary intention
 - B. Secondary intention
 - C. Regeneration of cells
 - D. Remodeling of tissues

9. Which nutrients aid in capillary synthesis and collagen production by the fibroblasts in wound healing?
- A. Fats
 - B. Proteins
 - C. Vitamin C
 - D. Vitamin A
10. A patient had a complicated vaginal hysterectomy. The student nurse provided perineal care after the patient had a bowel movement. The student nurse tells the nurse there was a lot of light brown, smelly drainage seeping from the vaginal area. What should the nurse suspect when assessing this patient?
- A. Dehiscence
 - B. Hemorrhage
 - C. Keloid formation
 - D. Fistula formation
11. Physical traits expressed by an individual is the definition for which term?
- A. Allele
 - B. Genomics
 - C. Phenotype
 - D. Chromosomes

12. The new parents of an infant born with Down syndrome ask the nurse what happened to cause the chromosomal abnormality. What is the best response by the nurse?
- A. "During cell division of the reproductive cells there is an error causing an abnormal number of chromosomes."
 - B. "A mutation in one of the chromosomes created an autosomal recessive gene that is expressed as Down syndrome."
 - C. "An abnormal gene on one of the two chromosomes was transferred to the fetus, causing an abnormal chromosome."
 - D. "A process of translocation caused the exchange of genetic material between the two chromosomes in the cell, resulting in abnormal chromosomes."
13. A benign neoplasm derived from fat tissue is referred as:
- A. Fibroma
 - B. Lipoma
 - C. Leiomyoma
 - D. Adenoma
14. Regarding chronic inflammation which of the following is FALSE?
- A. It is associated with persistent infections
 - B. It involves attempts at repair, rather than just tissue destruction
 - C. It may contribute to the formation of atherosclerosis
 - D. It can be caused by exposure to toxic agents

15. A 48-year-old man presents to the emergency room complaining of vague abdominal pain, intermittent fevers, and a 9-kg (20-lb) weight loss over the past 4 months. On physical examination, he has diffuse abdominal tenderness, hepatomegaly, and yellow sclera. CT-guided liver biopsy reveals hepatocellular carcinoma. Which of the following tumor markers is useful for monitoring recurrence of disease following surgery in this patient?
- A. AFP
 - B. CA-125
 - C. HCG
 - D. PSA
16. What does pleomorphism mean?
- A. Uncontrolled mitosis
 - B. Multiple nuclei
 - C. Variability in shape and size
 - D. The cells are different from where they arose from
17. What is an example of metastasis occurring as a direct extension of the primary tumor?
- A. Breast cancer developing over a course of 3 months
 - B. Leukemia developing at a very young age
 - C. Renal cell carcinoma spreading to the adrenal gland
 - D. HIV developing into AIDs
18. Which of the following types of necrosis is commonly associated with ischemic injury?
- A. Coagulative necrosis
 - B. Caseous necrosis
 - C. Liquefactive necrosis
 - D. Fat necrosis

19. Which of the following is a reversible change?
- A. Karyorrhexis
 - B. Pyknosis
 - C. Karyolysis
 - D. Cellular swelling
20. The most characteristic feature of granulation tissue is:
- A. Growth of fibroblasts and new capillaries
 - B. Resemblance to a granuloma
 - C. Character of the exudate
 - D. Formation of scar tissue
21. Grading of tumors is based on:
- A. Size of the primary tumor
 - B. Spread of the cancer to regional lymph nodes
 - C. Presence of blood borne metastasis
 - D. Degree of differentiation of tumor cells, anaplasia
22. Which of the following is the most common site of venous thrombosis?
- A. Veins of the lower extremity
 - B. Pelvic veins
 - C. Portal vein
 - D. Pulmonary veins
23. What are the types of edema?
- A. Pitting and non-pitting
 - B. Creased and non-creased
 - C. Folded and non-folded
 - D. Torn and non-torn

24. Which of the following diseases can cause edema?
- A. Cirrhosis, heart failure, kidney disease
 - B. Measles, mumps, chicken pox
 - C. Rickets, osteoporosis, osteomalacia
 - D. Porphyria, hemophilia, bipolar
25. During the healing phase of inflammation, which cells would be most likely to regenerate?
- A. Skin
 - B. Neurons
 - C. Cardiac muscle
 - D. Skeletal muscle
26. When the aetiology of a disease is unknown, the disease is said to be:
- A. Idiopathic
 - B. Chronic
 - C. Acute
 - D. Acquired
27. Cancer cells do:
- A. Not undergo apoptosis
 - B. Play a part in mitosis
 - C. Undergo mitosis
 - D. Play a part in steroid-hormone production
28. Necrosis is:
- A. Reversible
 - B. Lack of oxygen to the tissue
 - C. Not reversible
 - D. Blebbing at the periphery

29. Tumour cells are not recognized as foreign by the immune system because they do not have:
- A. A specific antigen called tumour-associated antigen
 - B. Promoter signals on their cells
 - C. Signalling receptors
 - D. Cytokines within the cell
30. A performed mediator of inflammation is
- A. Prostaglandin
 - B. Histamine
 - C. Leukotriene
 - D. Nitric oxide
31. Removal of sutures from a wound at day 7 coincides with a wound strength of
- A. 1% of unwounded skin strength
 - B. 10% of unwounded skin strength
 - C. 50% of unwounded skin strength
 - D. 75% of unwounded skin strength
32. Which of the following choices lists the steps of pathogenesis in the correct order?
- A. Invasion, infection, adhesion, exposure
 - B. Adhesion, exposure, infection, invasion
 - C. Exposure, adhesion, invasion, infection
 - D. Disease, infection, exposure, invasion
33. Diabetic foot is an example of
- A. Dry gangrene
 - B. Wet gangrene
 - C. Gas gangrene
 - D. Necrotizing inflammation

34. Which of the following chronic diseases is a autoimmune disorder
- A. Systemic Lupus Erythematosus
 - B. Myasthenia Gravis
 - C. Kaposi Sarcoma
 - D. Hay Fever
35. The extent to which injurious agent can cause cell injury or death is determined by all EXCEPT
- A. Intensity of exposure
 - B. Duration of exposure
 - C. Type of cell involved
 - D. Pathogenicity of the cell
36. When a person sustains injury the first line of defense that is initiated immediately to prevent further injury is
- A. Walling off the injured area
 - B. Tissue macrophage invasion
 - C. Neutrophil invasion of the inflamed area
 - D. Increased production of granulocytes and monocytes
37. Which definition is the best description of the term genotype?
- A. Basic unit of heredity; arranged on chromosome
 - B. Transmission of a disease from parent to child
 - C. Genetic identity of an individual not seen as outward characteristics
 - D. Family tree containing genetic characteristics and disorders of that family

38. A 21-year-old patient says no one in his family has type 1 diabetes mellitus but he has had it since childhood. He asks how his diabetes was transmitted to him. The nurse should explain to him that this disease is
- A. A single gene disorder
 - B. A chromosome disorder
 - C. An acquired genetic disorder
 - D. A multifactorial genetic disorder
39. A patient was told she has carcinoma in situ, and the student nurse wonders what that is. How should the nurse explain this to the student nurse?
- A. Evasion of the immune system by cancer cells
 - B. Lesion with histologic features of cancer except invasion
 - C. Capable of causing cellular alterations associated with cancer
 - D. Tumor cell surface antigens that stimulate an immune response
40. What does paraneoplastic syndrome refer to?
- A. The effects of substances such as hormones secreted by the tumor cells
 - B. Severe weight loss and cachexia associated with advanced cancer
 - C. The decreased resistance to infection resulting from malignant tumors
 - D. The effects of multiple metastatic tumors
41. The process of carcinogenesis usually begins with:
- A. Exposure to promoters causing dysplasia
 - B. Development of defective genes
 - C. An irreversible change in the cell DNA
 - D. A single exposure to a known risk factor causing temporary cell damage

42. What are malignant neoplasms arising from connective tissue cells called?
- A. Carcinomas
 - B. Sarcomas
 - C. Melanomas
 - D. Fibromas
43. Which of the statements for bradykinin is TRUE in relation to inflammation?
- A. It decreases vascular permeability
 - B. It causes relaxation of smooth muscle
 - C. It causes vasospasm
 - D. It induces pain when injected into the skin
44. Which of the following is a source of histamine during inflammation?
- A. Neutrophil
 - B. Hepatocyte
 - C. Lymphocyte
 - D. Platelet
45. If a clot has 'embolised' this means it has:
- A. Attached itself to another clot
 - B. Decreased in size
 - C. Broken loose
 - D. Hardened
46. With regard to embolism:
- A. Arterial embolism most often lodge in the viscera
 - B. Pulmonary emboli are rarely multiple
 - C. Amniotic fluid emboli are associated with the highest mortality
 - D. All emboli consist of either a gas or a solid intravascular mass

47. All the following are endogenous antioxidants and/or free radical removers EXCEPT:

- A. Ceruloplasmin
- B. Glutathione
- C. Hydrogen peroxide
- D. Vitamin C and E

48. TNM in cancer staging stands for:

- A. Tumor, Nerve, Metastases.
- B. Tumour, Nodule, Metastases.
- C. Tumour, Node, Metastases.
- D. Temperature, Metabolism, Nutrition.

49. A carcinogen is:

- A. Another name for cancer.
- B. A gene.
- C. A type of blood disease.
- D. Any substance involved in causing cancer.

50. The largest percentage of body water is located in what compartment?

- A. Interstitial fluid
- B. Extracellular fluid
- C. Blood plasma
- D. Intracellular fluid

SECTION B: SHORT ANSWER QUESTIONS (SAQS) 15 MARKS

1. State five (5) effects of tumours on the host. (5 Marks)
2. Define gangrene and describe its different types. (5 Marks)
3. Describe the steps of wound healing by primary intention (5 marks)
4. Differentiate between neoplasia and hyperplasia (5 marks)