



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2022/2023

ACADEMIC YEAR

FIRST YEAR THIRD TRIMESTER

MAIN EXAMINATION

FOR BACHELOR OF SCIENCE IN NURSING DEGREE

COURSE CODE: NUR 133

COURSE TITLE: HUMAN PATHOLOGY 1

DATE: 05/07/2023

TIME: 9:00 AM – 12:00 PM

INSTRUCTIONS TO CANDIDATES

Answer ALL Section one (1) MULTIPLE CHOICE QUESTIONS and ALL Section two (2) SHORT ANSWER QUESTIONS and any one (1) section THREE (3) LONG ANSWER QUESTION.

TIME: 3 Hours

This paper consists of 7 printed pages. Please Turn Over
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SECTION 1: MULTIPLE CHOICE QUESTIONS (50 MARKS)

1. Pathology

- (A). Is the study of abnormal or diseased tissues and organs.
- (B). Is concerned only with normal anatomy.
- (C). Has no part in diagnosis and treatment of disease.
- (D). Involves only macroscopic study of tissues and organs.

2. Which of the following statements is NOT TRUE?

- (A). Necrosis is the death of tissues or cells.
- (B). Apoptosis is a physiological process which does not require energy.
- (C). Hypertrophy involves increase in cell size.
- (D). Hyperplasia involves increase in cell number.

3. Atrophy

- (A). Results in increased size of the organ involved.
- (B). The organ involved is not developed normally.
- (C). Affects only the liver.
- (D). Involves wasting away of tissue or organ due to degeneration of cells.

4. The following statements are true of cellular response to injury EXCEPT

- (A). Causative agents include trauma and infections.
- (B). It may involve mechanical disruption of cell membrane.
- (C). Hydrogen peroxide, a free radical, is not harmful to cells.
- (D). Deficiency of essential metabolites can result in cell injury.

5. Regarding hydropic degeneration

- (A). The cell cytoplasm is shrunken.
- (B). It is an irreversible cell damage.
- (C). It is caused by acute ischemia and toxins.
- (D). There is no vacuolation of cells.

6. Which of the following concerning necrosis is FALSE?

- (A). It does not require energy.
- (B). It is a programmed cell death.
- (C). There is inflammation involved.
- (D). Liquifactive necrosis affects only brain tissues.

7. In chronic inflammation

- (A). Lymphocytes and macrophages predominate.
- (B). Neutrophils are the main cell types found.
- (C). Pharyngitis is an example.
- (D). Foreign bodies in the tissues cannot cause it.

8. Ulcerative colitis

- (A). Affects mainly the stomach.
- (B). Is an example of acute inflammation.
- (C). Microscopically neutrophils predominate.
- (D). Results in chronic inflammation.

9. The following factors results in impaired wound healing EXCEPT

- (A). Poor nutrition.
- (B). Retained foreign material.
- (C). Normal immunity.
- (D). Sequestered dead tissue.

10. In excisional biopsy

- (A). Large bore needle is used to get the tissue sample.
- (B). Part of the lesion removed.

- (C). The entire lesion is removed for investigation.
(D). Wide excision is done.
11. The following are methods used in cytopathology EXCEPT
(A). Core biopsy.
(B). Aspiration of fluid.
(C). Fine needle aspiration biopsy.
(D). Exfoliative cytology.
12. Labile cells
(A). Continue to multiply throughout life under normal physiologic conditions.
(B). Are in resting phase. (G₀)
(C). An example is the parenchymal cells of the liver.
(D). Lose their ability to multiply at birth.
13. The following are permanent cells EXCEPT
(A). Neurons.
(B). Surface epithelial cells of the epidermis.
(C). Skeletal muscle.
(D). Cardiac muscle.
14. Regarding edema
(A). It is an abnormal and excessive accumulation of fluid in the interstitial tissue spaces only.
(B). Serous cavities are never involved.
(C). In the peritoneal cavity is known as ascites.
(D). In the interstitial spaces it is always pitting in nature.
15. The following are true of transudate EXCEPT
(A). It is a filtrate of blood plasma.
(B). There is no changes in endothelial permeability.
(C). It is a non-inflammatory edema.
(D). Protein content is high.
16. Dehydration
(A). Results in facial puffiness.
(B). Leads to hyponatremia.
(C). Involves loss of water and sodium.
(D). Symptoms include intense thirst and oliguria.
17. A 2 year old child admitted in a hospital and receiving intravenous fluids suddenly developed facial puffiness and confusion. This child has most likely become
(A). Dehydrated.
(B). Overhydrated.
(C). Anaemic.
(D). Hyperglycemic.
18. Primary fracture healing
(A). Occurs in fractures treated operatively with rigid internal fixation.
(B). Occurs in tibial fracture treated with plaster of Paris.
(C). Has a higher risk of malunion compared to secondary healing.
(D). Results in formation of copious callus in the natural situation.
19. The following statements are true of secondary fracture healing EXCEPT
(A). Haematoma formation occurs immediately after the injury.
(B). Amount of movement between the bone ends determines the amount of callus formed.
(C). Treatment of fracture humerus with plating is an example.
(D). The union takes much shorter compared to primary fracture healing.
20. The following adversely affects fracture healing EXCEPT
(A). Bone loss.

- (B). Adequate immobilization.
 - (C). Soft tissue interposition.
 - (D). Infection.
21. Abraham aged 50 years sustained a fracture of the left tibia with a large wound overlying it. Which type of fracture does Abraham have?
- (A). Closed.
 - (B). Open.
 - (C). Pathological.
 - (D). Greenstick.
22. Malunion
- (A). Cannot occur in secondary bone healing.
 - (B). Occurs most commonly in bones fixed with plates and screws.
 - (C). Results in a false joint.
 - (D). Is a possible complication of fracture healing.
23. The following statements concerning healing by primary intention are true EXCEPT
- (A). An example is in simple skin incision.
 - (B). Wound should be clean.
 - (C). This is the method of healing in infected wounds.
 - (D). Healing occurs quickly.
24. In healing by secondary intention
- (A). The tissue defect is large.
 - (B). The wound edges are in close apposition.
 - (C). There is minimal granulation tissue.
 - (D). The wound heals quickly.
25. In wound healing, haemostasis
- (A). Occurs after 72 hours.
 - (B). It involves wound contraction.
 - (C). Occurs immediately accompanied by vasospasm.
 - (D). Is characterized by increased capillary permeability.
26. Granulation tissue
- (A). Occurs in the first stage of wound healing.
 - (B). Is a combination of proliferating capillary loops, myofibroblasts and inflammatory cells.
 - (C). Is usually discernible within 24 hours of injury.
 - (D). There is no damage to connective tissue framework.
27. Which of the statements below regarding wound contraction is FALSE?
- (A). It is mediated by myofibroblasts.
 - (B). It can reduce the tissue defect by up to 80%.
 - (C). Can lead to deformities in burns affecting the joints.
 - (D). There is no secretion of collagen.
28. Keloid
- (A). Do not extend beyond the borders of pre-existing wound.
 - (B). Is common in the white race.
 - (C). Is an abnormal scar which extends beyond the borders of existing wound.
 - (D). Is never symptomatic.
29. The following are complications of wound healing EXCEPT
- (A). Bleeding.
 - (B). Pigmentation.
 - (C). Epidermal cyst formation.
 - (D). Contractures around joints.
30. The following statements are true of acute inflammation EXCEPT

- (A). Always presents with local effects only.
 - (B). It is a physiological response to tissue injury.
 - (C). Its purpose is to eliminate the damaging agents and initiate repair.
 - (D). It involves vasodilatation.
31. Which of the following is NOT a cardinal sign of acute inflammation?
- (A). Calor.
 - (B). Pallor.
 - (C). Rubor.
 - (D). Dolor.
32. Alex, a 3 year old boy developed a running nose and had to be taken to a paediatrician for treatment. Which type of inflammation is this macroscopically?
- (A). Haemorrhagic.
 - (B). Suppurative.
 - (C). Fibrinous.
 - (D). Catarrhal.
33. The following statements are true of atherosclerosis EXCEPT
- (A). It affects large and medium-sized arteries.
 - (B). It is characterized by lipid deposition and fibrosis.
 - (C). It is a degenerative disease of the small veins.
 - (D). Tobacco use is a modifiable risk factor.
34. Which one of the following is NOT a complication of atheroma formation?
- (A). Embolism.
 - (B). Vessel dilatation.
 - (C). Aneurysm formation.
 - (D). Haemorrhage.
35. A clot
- (A). Forms in blood vessels after death or outside the body as a response to trauma.
 - (B). Fibrin is not necessary in its formation.
 - (C). Is only composed of platelets.
 - (D). Involves only the veins.
36. The following statements are true of a thrombus EXCEPT
- (A). It is formed within the vascular system.
 - (B). It consists of aggregates of platelets, erythrocytes and leucocytes.
 - (C). Fibrinogen is important in its formation.
 - (D). It never occurs in arteries.
37. Which of the following is NOT a risk factor for thrombosis?
- (A). Endothelial damage.
 - (B). Disordered blood flow.
 - (C). Hypercoagulable states.
 - (D). Increased physical activity.
38. Thrombophlebitis
- (A). Is the formation of a thrombus following the inflammation of a vein.
 - (B). Is the inflammation of a vein secondary to the presence of a thrombus.
 - (C). Never involves endothelial injury.
 - (D). Only affects peripheral veins.
39. A 40 year old lady dies suddenly after removal of a plaster applied 3 months earlier following a fracture of her left tibia. What is the most likely cause of death?
- (A). Myocardial infarction.
 - (B). Pulmonary embolism.
 - (C). Severe haemorrhage.

- (D). Stroke.
40. Torsion of the testis
- (A). Results from venous occlusion due to twisting of the spermatic cord.
 - (B). Involves arterial occlusion only.
 - (C). Is not an emergency condition.
 - (D). Follows occlusion of veins by a thrombus.
41. Regarding dry gangrene, which of the following is NOT TRUE?
- (A). It is common on the foot of a diabetic patient.
 - (B). Consists of tissue necrosis with desiccation.
 - (C). Always preceded by infection.
 - (D). A zone of demarcation may appear.
42. Which of the following statements concerning hemorrhage is FALSE?
- (A). It is the escape of blood from a blood vessel.
 - (B). It can be external or internal.
 - (C). The amount of blood loss has no effect on symptoms.
 - (D). It can result from severe trauma.
43. A 50 year old male had a ruptured spleen after a road traffic accident. He presents to the emergency department with a blood pressure of 60/30 mmHg. Which type of shock is this?
- (A). Cardiogenic.
 - (B). Septic.
 - (C). Anaphylactic.
 - (D). Hypovolemic.
44. Which of the following is TRUE of secondary hypertension?
- (A). Genetic factors play a major role in its etiology.
 - (B). Coarctation of the aorta is a known cause.
 - (C). Racial and environmental factors are important considerations.
 - (D). It is the most common type of hypertension.
45. The following statements are true of dysplasia EXCEPT
- (A). There is increased cell proliferation with incomplete or failure of maturation.
 - (B). It is considered a premalignant state.
 - (C). Often arises in normal tissues.
 - (D). It is common in the cervix.
46. Concerning atypia, which of the following is NOT TRUE?
- (A). Cells shows failure of differentiation.
 - (B). There is rapid multiplication of cells as a response to cell destruction.
 - (C). The damaging stimulus is usually persistent.
 - (D). It always results in cancer.
47. Neoplasia
- (A). Results from abnormal, uncoordinated proliferation of cells.
 - (B). Cessation of stimulus reverses the growth.
 - (C). There is normal maturation of cells.
 - (D). The cells are always well-differentiated.
48. Regarding benign tumors which of the following is TRUE
- (A). Cells have variable degree of differentiation.
 - (B). The growth is expansile and invasive.
 - (C). They are often encapsulated.
 - (D). May metastasize to distant regions.
49. An antibody
- (A). Is a substance introduced into the tissues leading to immune reaction.
 - (B). Is a protein substance produced as a result of antigenic stimulation.

(C). Produces no immune response.

(D). Is not found in the serum.

50. Concerning innate immunity, which of the following is INCORRECT?

(A). It is characterized by antigenic specificity.

(B). It is the first line of defense of the body.

(C). There is no antigenic specificity.

(D). It consists of neutrophils, macrophages and natural killer cells.

SECTION 2: SAQS

1. Define the following terms: (5 marks)
 - (i). Necrosis.
 - (ii). Apoptosis.
 - (iii). Hypertrophy.
 - (iv). Hyperplasia.
 - (v). Metaplasia.
2. State 5 differences between benign and malignant tumors. (5 marks)
3. State 5 possible causes of embolism in a patient. (5 marks)
4. Write short notes on wound healing by primary intention. (5 marks)
5. Enumerate 5 complications of secondary fracture healing. (5 marks)
6. Briefly explain the pathogenesis of edema. (5 marks)

SECTION 3: LAQS

1. Describe dehydration in terms of definition, etiology, morphological features, signs and symptoms in severe cases, and its management in the emergency department and the ward. (20 marks).
2. Describe acute inflammation in terms of definition, its purpose, the causes, pathogenesis, cardinal signs, 2 macroscopic types, and outcomes. (20 marks)