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University Examinations 2023/2024

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF CLINICAL MEDICINE AND COMMUNITY HEALTH

CCM 3222: GENERAL PATHOLOGY

DATE: APRIL 2024

TIME: 3 HOURS

INSTRUCTIONS:

Answer *All* questions

Ensure that all your answers are properly numbered

Part A: Short Answer Questions – Answer questions following each other on the answer booklet

Part B: Long Answer Questions – Answer each question on the answer booklet

Part C: multiple Choice Questions (MCQ): Write the correct answer on the space provided in the answer booklet. Each MCQ is one mark

SECTION A: SHORT ANSWER QUESTIONS (40 MARKS)

1. List 6 beneficial effects of acute inflammation. (6 marks)
 2. Enumerate 6 pathological stimuli that can cause cellular adaptation. (6 marks)
 3. Name 3 organs commonly affected by amyloidosis. (3 marks)
 4. List 4 characteristics of wounds that heal by second intention. (4 marks)
 5. Name 4 cells that can be found in chronic inflammation. (4 marks)
 6. Illustrate 4 differences between benign and malignant tumours. (8 marks)
 7. Define the following terms. (4 marks)
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Page 1

- a) Hyperplasia
- b) Atrophy
- c) Steatosis
- d) Lipofuscin

8. List 5 electrolyte imbalance disorders. (5 marks)

SECTION B (LONG ANSWER QUESTIONS) (40 MARKS)

1. Ali has been stung by a bee on his right ear lobe. The ear lobe is swollen, red, warm to touch and he reports that the area is very painful.

- a) What type of inflammation is taking place? (1 mark)
- b) List and explain the steps in this type of inflammation. (19 marks)

2. You have been posted to rotate in the blood transfusion unit (BTU)

- a) What are the 2 methods used to procure blood products and components from donated whole blood? (2 marks)
- b) Name and explain 6 blood products that can be ordered from the BTU, listing their contents, storage conditions and the indications for their usage. (18 marks)

SECTION C (MULTIPLE CHOICE QUESTIONS) (20 MARKS)

1. A 55-year-old man has complained of mild burning sub-sternal pain following meals for the past 4 years. An OGD was done and biopsies taken of an erythematous area of the lower esophageal mucosa 3 cm above the gastro-esophageal junction. There is no mass lesion, no ulceration, and no hemorrhage noted. The biopsies show the presence of columnar epithelium with goblet cells. Which of the following mucosal alterations best describes these findings. (1 mark)

- a) Hypoplasia
- b) Achondroplasia
- c) Dysplasia
- d) Metaplasia

For each of the following statements, select the most likely matching pathologic finding:

2. Following a cut to the skin in a 43-year-old African man, the healing scar develops a disfiguring nodular appearance.
3. Region composed of proliferating capillaries, fibroblasts, and macrophages following a scraping injury to the knee of a 5-year-old girl.
4. A 59-year-old man with diabetes mellitus develops a dark black to red appearance of the big toe and second toe of his right foot following an episode of minor trauma
5. A 15-year-old boy develops a large boil in the groin area. On incision 2ml of pus is drained.
6. A type of necrosis found at the centre of a tuberculous granuloma
 - a) Caseous necrosis
 - b) Callus
 - c) Calcification
 - d) Gangrene
 - e) Leukopenia
 - f) Sero-fibrinous inflammation
 - g) Suppurative inflammation
 - h) Keloid
 - i) Granulation tissue
 - j) Fistula
 - k) Eosinophilia
7. The stain used to diagnose amyloid is? (1 mark)
 - a) Sudan Black
 - b) Congo-Red
 - c) Periodic acid Schiff
 - d) Giemsa
8. The cells that make up blood are collectively know as? (1 mark)
 - a) Megakaryocytes.
 - b) Hematopoietic cells

- c) Osteoblastic cells
 - d) Chondrocytes
9. What type of giant cell is present in granulomatous inflammation secondary to a thorn prick? (1 mark)
- a) Touton giant cell
 - b) Langhans giant cell
 - c) Foreign body giant cell
 - d) Reed Sternberg cell
10. The following are examples of Autosomal Recessive disorders Except? (1 mark)
- a) Alkaptonuria
 - b) Sickle cell Disease
 - c) Cystic fibrosis
 - d) Marfan's syndrome
11. The predominant cell type seen in acute inflammation is? (1 mark)
- a) Epitheloid cell
 - b) Neutrophil
 - c) Eosinophil
 - d) Lymphocyte
12. Liquefactive necrosis occurs in? (1 mark)
- a) Heart
 - b) Spleen
 - c) Intestine
 - d) Brain
13. Which occurs first in fracture healing? (1 mark)
- a) Neutrophil invasion
 - b) Procallus formation
 - c) Woven bone ossification

- d) Lamellar bone ossification
14. Which of the following processes explain the appearance of calcium deposition in Tuberculous c lymph node? (1 mark)
- a) Dystrophic calcification
 - b) Apoptosis
 - c) Hypercalcemia
 - d) Metastatic calcification
15. Hepatocytes are an example of: (1 mark)
- a) Permanent cells
 - b) Stable cells
 - c) Labile cells
 - d) Mesenchymal cells
16. Hypertensive enlargement of the heart, is a form of? (1 mark)
- a) Hypoplasia
 - b) Hyperplasia
 - c) Hypertrophy
 - d) Steatosis.
17. The diagnostic feature of a granuloma is the presence of? (1 mark)
- a) Giant cells
 - b) Lymphocytes
 - c) Epitheloid cells
 - d) Fibrosis
18. Which of the following does not promote fracture healing? (1 mark)
- a) Steroid therapy
 - b) Adequate blood supply
 - c) Immobilization
 - d) Adequate Vitamin C

19. What type of shock is associated with severe burns? (1 mark)

- a) Septic shock
- b) Cardiogenic shock
- c) Hypovolemic shock
- d) Neurogenic shock

20. The following are true about arterial thrombi, EXCEPT? (1 mark)

- a) Lead to ischemia and infarction
- b) Grow in the direction of blood flow.
- c) Are usually due to endothelial injury
- d) Can be precipitated by arteriosclerosis