



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 972-60200 – Meru-Kenya

Tel: +254(0) 799 529 958, +254(0) 799 529 959, + 254 (0) 712 524 293,

Website: [info@must.ac.ke](mailto:info@must.ac.ke) Email: [info@must.ac.ke](mailto:info@must.ac.ke)

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## University Examinations 2023/2024

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

### CCM 3423: CLINICAL PATHOLOGY II

DATE: APRIL 2024

TIME: 3 HOURS

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#### INSTRUCTIONS:

Answer *All* questions

Ensure that all your answers are properly numbered

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

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

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

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#### SECTION A (SHORT ANSWER QUESTIONS) (40 MARKS)

- Write short notes on the metabolic effects of growth hormone on:
  - Protein synthesis (2 marks)
  - Fats (1 mark)
  - Carbohydrates (3 marks)
- List 5 signs that can be picked on physical examination of a female diagnosed with pan-hypopituitarism. (5 marks)
- Name 5 parasite species that are known to cause malaria. (5 marks)
- Classify and explain burns according to depth of burn injury. (8 marks)

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Page 1

5. List 4 characteristics used to define nephrotic syndrome. (4 marks)
6. List 3 major causes of Thrombocytopenia. (3 marks)
7. List 4 sexually transmitted diseases. (4 marks)

**SECTION B (LONG ANSWER QUESTIONS) (40 MARKS)**

1. Endocrine pathology.
  - a) List 10 signs and symptoms of hyperthyroidism. (10 mark)
  - b) List and explain 3 classifications of Diabetes mellitus. (6 marks)
  - c) State 4 tests that can be used to diagnose Diabetes mellitus. (4 marks)
2. A 67-year old male complains of an 8-month history of difficulty voiding and feeling as if he cannot empty his bladder completely. After voiding, he feels as though he needs to urinate again. He does not have pain with urination or a discharge from the urethra. On examination, his BP and HR are normal and he does not have fever. The heart, lung and abdominal examinations are also normal.
  - a) What are the two possible explanations / differential diagnoses for this patient's symptoms? (2 marks)
  - b) List and explain some of the risk factors of the above stated diagnoses. (12 marks)
  - c) What are the key tests done to narrow down to the right diagnoses? (6 marks)

**SECTION C (MULTIPLE CHOICE QUESTIONS) (20 MARKS)**

1. Which of the following subtypes of HPV are linked with development of cervical cancer? (1 mark)
  - a) HPV 6 & 11
  - b) HPV 1 & 2
  - c) HPV 16 & 18
  - d) HPV 3 & 10
  - For each of the following statements, select the most likely matching pathologic finding:
2. Pain on micturition.

3. Formation of glucose from non-carbohydrate source. (amino acids, glycerol and lactate)
4. Deficiency of Vitamin B3 (Niacin)
5. Inflammation of the brain.
6. Increase in size of the spleen.

- a) Pellagra
- b) Scurvy
- c) Encephalitis
- d) Gluconeogenesis
- e) Glycogenesis
- f) Beriberi
- g) Dysuria
- h) Oliguria
- i) Meningitis
- j) Hypersplenism
- k) Splenomegaly

7. All of the following are types of Hodgkin's lymphoma EXCEPT. (1 mark)

- a) Burkitt's lymphoma
- b) Lymphocyte rich lymphoma
- c) Lymphocyte depleted lymphoma
- d) Nodular sclerosing lymphoma

8. In the adrenal cortex, the Zona glomerulosa is responsible for production of ? (1 mark)

- a) Cortisol
- b) Androgens
- c) Oestrogen
- d) Aldosterone

9. Which of the following anemia types does not cause splenomegaly? (1 mark)

- a) Sick cell anemia
  - b) Autoimmune Hemolytic anemia
  - c) Pernicious anemia
  - d) Anemia due to malaria parasites
10. Mr. Oloo aged 65 years has had type II Diabetes for over 20 years and is currently admitted in hospital with chronic renal failure. When completing the initial assessment, which signs would indicate circulatory overload? (1 mark)
- a) Apprehension, poor tissue turgor and bradycardia.
  - b) Weight gain, coughing of frothy sputum and jugular vein distention.
  - c) Increased blood pressure, apprehension and shock.
  - d) Cool, dry skin, gastric distension and pleural edema.
11. In distinguishing acute from chronic renal failure, which of the following is the most reliable evidence of Chronic Renal Disease? (1 mark)
- a) History of increased BUN
  - b) Above normal plasma sodium
  - c) History of increased serum creatinine
  - d) Above normal serum calcium
12. Maculo-papular rash is seen in each of the following conditions except which one? (1 mark)
- a) Glandular fever
  - b) Scarlet fever
  - c) Measles
  - d) Drug reaction
13. The following are disorders that affect the fallopian tubes except? (1 mark)
- a) Salpingitis
  - b) Ectopic pregnancy
  - c) Para-tubal cyst

- d) Fibroids
14. Which of the following parasites does not cause Hydatid disease? (1 mark)
- a) Echinococcus vogeli
  - b) Echinococcus multilocularis
  - c) Taenia saginata
  - d) Echinococcus granulosus
15. Which of the following causes of thrombocytopenia is mainly due to decreased platelet production rather than increased platelet destruction? (1 mark)
- a) ITP (Immune thrombocytopenic purpura)
  - b) Post transfusion purpura
  - c) Aplastic anemia
  - d) TTP (Thrombotic thrombocytopenic purpura)
16. Rupture of which of the following is the most common cause of non-traumatic sub-arachnoid hemorrhage? (1 mark)
- a) Mycotic aneurysm
  - b) Berry aneurysm
  - c) Arteriosclerotic aneurysm
  - d) Charcot-Bouchard aneurysm.
17. A 13-year-old boy collapsed while playing tennis with his father. At hospital, a brain CT-scan showed hemorrhage in the left hemisphere. Which of the following is the most likely pathogenesis? (1 mark)
- a) Embolism
  - b) Ruptured berry aneurysm
  - c) Hypertensive intracerebral hemorrhage
  - d) Ruptured arteriovenous malformation
18. Muscle wasting (hypotrophy) usually develops in neuronal disease affecting which of the following areas? (1 mark)

- a) Lower motor neuron
- b) Caudate nucleus
- c) Upper motor neuron
- d) Cerebellum

19. Hemophilia is suspected in patients with recurrent bleeding, unexplained hemarthroses or prolonged

APTT. Which inheritance pattern is seen in both Hemophilia A and B? (1 mark)

- a) Autosomal recessive
- b) X-linked dominant
- c) X-linked recessive
- d) Autosomal dominant

20. Which of the following is not an infectious cause of lymphadenopathy? (1 mark)

- a) Infectious mononucleosis
- b) HIV (Human Immunodeficiency Virus)
- c) ALL (Acute Lymphoblastic Leukemia)
- d) Syphilis