



## **MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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### **UNIVERSITY EXAMINATIONS 2024/2025**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR  
OF SCIENCE IN CLINICAL MEDICINE AND COMMUNITY HEALTH

#### **CCM 3231: SURGERY I/GENERAL SURGERY**

**DATE: JANUARY 2025**

**TIME: 3 HOURS**

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**INSTRUCTIONS:** *Answer all questions in the booklet provided*

Ensure that all your answers are properly numbered

Section A: Short Answer Questions

Section B: Long Answer Questions

Section C: Multiple Choice Questions (MCQs)

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### **SECTION A: SHORT ANSWER QUESTIONS**

Describe briefly each of the following

a) Metabolic acidosis	[5 Marks]
b) WHO safe surgery check-list	
c) Tension pneumothorax	[5 Marks]
d) Varicose veins	
e) Epidural hematoma	[5 Marks]
f) Anal fissure	[5 Marks]



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g) Asepsis and antisepsis in surgery [5 Marks]  
h) Testicular torsion [5 Marks]

## **SECTION B: LONG ANSWER QUESTIONS**

1. Describe clinical presentation, risk factors, classification and general management of Peptic ulcer disease [10 Marks]
2. Discuss the possible complications of the chest trauma [10 Marks]
3. Describe in details the types of shock providing examples for each [10 Marks]
4. Discuss classification, management and complications of burns. [10 Marks]

## **SECTION C: MULTIPLE CHOICE QUESTIONS (MCQS – chose one best answer.)**

1. With regard to gastric acid secretion: which one is correct
  - a) It is inhibited by gastrin
  - b) It is potentiated by histamine
  - c) It commences only when food enters the stomach
  - d) It is stimulated by the glossopharyngeal nerve
2. With regard to the acute-phase response:
  - a) Bacterial endotoxin induces the acute-phase response: which one is correct
  - b) Exogenous pyrogens act on the liver to release tumour necrosis factor (TNF)
  - c) The acute-phase response is mediated through interleukin-10
  - d) TNF decreases catabolic activity
3. The most common cause of burns in children is related to?
  - a) Low voltage household current
  - b) Flammable clothing
  - c) Scalding by spilling or immersion
  - d) Chemically strong acids
4. Which of the following studies is most effective in differentiating between solid and cystic lesions
  - a) Screening mammography



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- b) Xenomammography
- c) Ultrasonography
- d) Thermography

5. Which of the following types of ulcers is associated with major burns?

- a) Cushing ulcer
- b) Curling ulcer
- c) Marjolin ulcer
- d) Venous ulcer

6. The following is not true with regard to toxic goiter:

- a) The resting pulse is elevated.
- b) Sweaty palms are never a feature.
- c) Exophthalmos may be a presenting feature.
- d) Tremors may occur

7. With regard to fever which one is correct:

- a) It results from the direct action of microorganisms on the brain
- b) It depends on the action of prostaglandins within the hypothalamus
- c) It is always maladaptive and serves no purpose
- d) It only results from infectious causes

8. What is the purpose of sterilization in surgical procedures?

- a) To prevent infection
- b) To reduce bleeding during surgery
- c) To increase visibility of the surgical field
- d) To improve wound healing

9. With regard to schistosomiasis: chose the correct statement

- a) The intermediate host is the sandfly
- b) Schistosoma mansoni causes urinary schistosomiasis
- c) Disease results from the immune response to schistosome eggs
- d) It is treated with quinine

10. Concerning the thyroid gland, which one of the following is correct?



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- a) Blood supply is through the internal carotid and subclavian arteries
- b) Embryologically starts out at the foramen caecum of the tongue
- c) Venous drainage is by way of the external jugular vein
- d) Produces thyroid-stimulating hormone (TSH)

11. With regard to the veriform appendix: choose correct response

- a) It is most often situated in retrocaecal position
- b) It receives blood via the right colic branch of the superior mesenteric artery
- c) It lies at McBurney's point (halfway between the anterior superior iliac spine and umbilicus)
- d) It is a retroperitoneal structure

12. A 42-year-old man with no history of use of nonsteroidal anti-inflammatory drugs (NSAIDs) presents with recurrent gastritis. Infection with Helicobacter pylori is suspected. Which of the following statements is not true?

- a) Morphologically, the bacteria is gram-negative, rod-shaped organism
- b) Diagnosis can be made by serologic testing or urea breath tests
- c) Diagnosis is most routinely achieved via culturing endoscopic scrapings
- d) The organism is not easily eradicated

13. A 60-year-old male is scheduled to have a total gastrectomy for Zollinger—Ellison syndrome. He has been informed preoperatively that he will require lifelong intramuscular injections of vitamin B 12. Absence of which cell type is responsible for the vitamin replacement requirement?

- a) Goblet cells
- b) Parietal cells
- c) G-cells
- d) Chief cells

14. A 32-year-old man is involved in a motorcycle accident and sustains a closed unstable spiral tibial fracture. This is managed with an intramedullary nail. On the following day he is noted to have increasing pain in the limb and on examination the limb is swollen warm and tender. The most likely diagnosis is:



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- a) Tibial nerve neuropraxia
- b) Displaced tibial nail
- c) Compartment syndrome
- d) Deep vein thrombosis

15. A newborn presents with profuse bilious vomiting at birth with fullness in the epigastric region. AXR shows the 'double bubble' sign. Which of the following pathologies is this associated with?

- a) Congenital intestinal obstruction
- b) Gastric outlet obstruction
- c) Duodenal atresia
- d) Meconium ileus

16. The following are true regarding gastrointestinal anatomy

- a) The Ileum produces the intrinsic factor of Castle Which helps in the absorption of vitamin B12
- b) Mucoid secretions of transverse colon are rich in antibodies of IgA group
- c) Meckel's diverticulum is due to persistence of remnant of the vitellointestinal duct
- d) The opening of the bile duct into the second part of the duodenum represents the junction of the midgut and the hindgut

17. Concerning bone tumours, which is true?

- a) There is an association between osteosarcoma and Paget's disease of the bone
- b) Chondrosarcomas most commonly occur in young children
- c) Chemotherapy has a limited role in overall management
- d) Metastasis usually occurs via lymphatics

18. Which of the following statements are not true?

- a) Identification of the causative organism should be done after starting antibiotics.
- b) Wounds are best managed by delayed primary or secondary closure.
- c) Subcuticular continuous skin closure decreases the incidence of wound infection.
- d) Administration of antibiotic preparations locally is less effective than the oral

19. Which is a feature of a keloid scar?



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- a) May respond to pressure dressing
- b) Occurs within the limits of the surgical wound
- c) Can be prevented by subcuticular sutures
- d) May be re-excised with good results

20. How is hydatid disease transmitted?

- a) By eating infected meat and it therefore affects only non-vegetarians
- b) By the faecal-oral route through ingestion of eggs
- c) Through penetration of the skin of unshod feet by larvae
- d) It may be vector-borne

21. Extracellular fluid differs from intracellular fluid by which of the following?

- a) Lower chloride concentration
- b) Higher potassium concentration
- c) Greater volume
- d) Lower protein concentration

22. How is cerebral perfusion pressure defined?

- a) Systolic arterial blood pressure minus diastolic blood pressure
- b) Systolic arterial blood pressure minus venous pressure
- c) Mean arterial blood pressure minus venous pressure
- d) Mean arterial blood pressure minus intracranial pressure (ICP)

23. With regard to ABO blood grouping: which one is true?

- a) Blood group O is the universal recipient
- b) The mode of inheritance is autosomal recessive
- c) Blood group AB is the universal donor
- d) Blood group O is recessive to A and B

24. Which of the following statements is true?

- a) In the unstable patient, chest CT scan is the first investigation of choice.
- b) A chest drain can be both diagnostic and therapeutic.
- c) A penetrating chest injury always requires a thoracotomy.
- d) In a chest injury, auscultation from the front only can be sufficient.



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25. Regarding enteral tube feeding, which statement is true?

- a) Requires just as much monitoring as parental feeding
- b) Continuous feeding with isoosmolar fluids may cause diarrhoea
- c) Elemental fluids require minimal digestion by the patient
- d) Maintains the structural, but not the functional, integrity of the small bowel



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