



*(University of Choice)*

**MASINDE MULIRO UNIVERSITY OF**

**SCIENCE AND TECHNOLOGY**

**(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**THIRD/SECOND YEAR, SECOND TRIMESTER DIRECT/UPGRADING CLASS  
EXAMINATION**

**FOR THE DEGREE**

**OF**

**BACHELOR OF SCIENCE IN CLINICAL MEDICINE**

**COURSE CODE: HCM 315.**

**COURSE TITLE: CLINICAL PATHOLOGY II.**

**DATE: TUESDAY 19<sup>TH</sup> APRIL 2022**

**TIME: 8:00-11.00 AM**

**INSTRUCTIONS TO CANDIDATES**

Section A: Multiple choice questions (CHOOSE THE BEST ANSWER IN SECTION A)

Section B: Short Answer Questions

Section C: Long Answer Questions

Attempt all questions

TIME: 3 Hours

**SECTION A-MCQ (BEST ANSWER QUESTION). (20MARKS).**

1. The term meningocele refers to
  - a) Failure of brain and cranial nerve to develop congenitally small brain
  - b) Herniation of meninges through a defect in the neural arches
  - c) Herniation of meninges and spinal cord through a defect of the neural arches.
2. Which of the following is **not** a **key CSF** feature of concern in laboratory interpretation?
  - a) Specific gravity
  - b) Proteins
  - c) Color
  - d) Platelets
3. In viral meningitis:
  - a) The C.S.F is purulent
  - b) There is normal cell count
  - c) C.S.F is slightly increased
  - d) Low glucose levels
4. Aseptic meningitis is caused by:
  - a) Hemophilus.influenza
  - b) Escherichia coli
  - c) Pneumococcal
  - d) Staphylococci
5. Pathological changes seen in hydrocephalus include the following **except**:
  - a) Thickening of the brain
  - b) Open fontanelles
  - c) Engorged scalp veins
  - d) Thinning of the brain
6. With regard to Spina bifida:
  - a) Majority of these malformations occur in the lumbosacral region.
  - b) Folate deficiency has a role
  - c) Majority of these malformations occur in the thoracolumbar region.
  - d) Majority of these malformations occur in the cervical thoracic region.
7. Which of the following is not a factor determining susceptibility to infection by Tubercle Bacilli:
  - a) Steroid Therapy
  - b) HIV
  - c) Diabetes Mellitus
  - d) Bronchial Asthma
8. Non modifiable risk factors for cerebral vascular accident:
  - a) Uncontrolled hypertension
  - b) Physical inactivity
  - c) Family history
  - d) Excessive alcohol intake

9. The most common route of spread of infection to the brain is:
- Via venous route
  - Via arterial route
  - Via lymphatics
  - Along nerves.
10. Glucose content of CSF is unaltered in the following type of meningitis:
- Acute pyogenic meningitis
  - Acute viral meningitis
  - Cryptococcal meningitis
  - Tuberculosis meningitis
11. Subarachnoid haemorrhage results most often from the following:
- Hypertension
  - Aneurysm
  - Vascular malformation
  - Bleeding diathesis.
12. Primary CNS tumours may arise from the following constituent cells *except*:
- Neuroglia
  - Microglia
  - Neurons
  - Meninges
13. The cell of origin of meningioma is:
- Dura mater
  - Arachnoid cap cell layer
  - Pia mater
  - Choroid plexus.
14. Common cause of meningitis in neonates with neural tube defects is:
- Escherichia coli
  - Neisseria meningitides
  - Streptococcus pneumonia
  - Staphylococcus aureus.
15. The most common soft tissue sarcoma is:
- Fibrosarcoma
  - Rhabdomyosarcoma
  - Liposarcoma
  - Malignant fibrous histiocytom.
16. The following is a presentation of upper motor neuron lesion:
- Fasciculation
  - Increased tone
  - An absent planter reflex
  - Extensive muscle wasting.
17. Following a bar fight, a 22-year-old man is brought unconscious to the emergency department. Several minutes earlier, he had been hit on the head with a heavy iron club and had been briefly unconscious, but had then apparently recovered. One or two minutes later, he had again lost consciousness. Which of the following is the most likely diagnosis?

- a) Epidural hematoma
- b) Subarachnoid haemorrhage
- c) Subdural hematoma
- d) Transient ischemic attack

18. One of the following is the commonest cause of cerebrovascular accident in elderly

- a) Thrombosis
- b) Embolism
- c) Intracerebral bleeding
- d) Subarachnoid bleeding

19. Pathological changes seen in Alzheimer's disease

- a) Brain is atrophied bilaterally and reduced in weight
- b) Frontal and temporal lobes are most affected
- c) Compensatory enlargement of the ventricular system
- d) Generalized increase of neurones

20. The following are common cause of childhood neurological disability which one odd one out?

- a) Maternal disease
- b) Placental abnormalities
- c) Hypoglycaemia
- d) Infarction

#### SECTION B.SHORT ANSWER QUESTIONS 40 MKS.

1. Define Stroke (2 mks)
  - a. Describe the pathophysiology of haemorrhagic stroke (8 marks)
2. Discuss the pathophysiology of hydrocephalus (10 marks)
3. Discuss the components of the Glasco coma scale (10 marks).
4. Briefly discuss the clinical manifestation and investigation to conduct in patient with hyperthyroidism(10 marks)

#### SECTION C.LONG ASSAYS QUESTIONS EACH 40 MKS.

1. Discuss acute bacterial meningitis under the following headings
  - i. Risk factors (5mks).
  - ii. Pathogenesis (5mks)
  - iii. Clinical features(5mks)
  - iv. Characteristic of cerebral spinal fluid on lumber puncture (5mks).
2.
  - a. Define Diabetes mellitus (2mks)
  - b. Outline the difference between type I and type II DM (4mks)
  - c. Discuss the pathophysiology of DM (10mks)
  - d. Outline any relevant radiological and laboratory investigation in a patient with heart failure (4mks)