



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

SCHOOL OF NURSING MIDWIFERY AND PARAMEDICAL SCIENCES

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN
PARAMEDIC SCIENCE**

COURSE CODE: NPP 322

COURSE TITLE: HEAD FACE NECK SPINE TRAUMA

DATE: 20TH APRIL 2022

TIME: 3 – 6 PM

INSTRUCTIONS TO CANDIDATES

All questions in the three sections (A, B and C) are compulsory

DURATION: 3 Hours

Answer all questions on the booklet provided

MMUST observes ZERO tolerance to examination cheating

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQs)

20 MARKS

Choose the most appropriate answer

1. A patient with injury to Broca's area in the cerebral cortex is likely to exhibit:
 - A. Inability to focus
 - B. Difficulty in speech
 - C. Inability to concentrate
 - D. Loss of balance

2. Which cartilaginous ring is commonly referred to as the Adam's apple?
 - A. Cricoid
 - B. Thyroid
 - C. Hyoid
 - D. Laryngeal

3. Blowout fracture can occur if enough force is applied to the:
 - A. Mouth
 - B. Nose
 - C. Eyes
 - D. Ears

4. The cranial nerve that controls movement of the eyes is:
 - A. Ophthalmic nerve
 - B. Oculomotor nerve
 - C. Optic nerve
 - D. Facial nerve

5. Ear injuries evidenced by complaints of vertigo and cannot be treated in the prehospital setting involve:
 - A. External ear
 - B. Middle ear
 - C. Inner ear
 - D. The ossicles

6. 'Battle sign' in head injury refers to:
 - A. Periorbital ecchymosis
 - B. Retroauricular ecchymosis
 - C. Intraorbital ecchymosis
 - D. Intraauricular ecchymosis

7. Mechanism of injury suggesting highly possible spinal injury is:
 - A. Moderate-velocity crash (less than 40 mph)
 - B. Restrained occupant of moderate- to high-speed MVC
 - C. Fall of an adult from a height greater than 10 feet

- D. Compartmental intrusion (30 cm) into the patient's seating space
8. The level of spinal cord injury that may lead to diaphragmatic paralysis is at:
- A. C1 and C2
 - B. C3 and C4
 - C. C4 and C5
 - D. C6 and C7
9. In spine injuries, end tidal carbon dioxide levels should be maintained at:
- A. 20 to 25 mm Hg
 - B. 25 to 30 mm Hg
 - C. 30 to 35 mm Hg
 - D. 35 to 40 mm Hg
10. Routine hyperventilation of patients with brain injury should be avoided because it:
- A. Causes cerebral vasodilatation
 - B. Increases the ICP
 - C. Causes cerebral ischemia
 - D. Causes increase in cerebral perfusion pressure
11. When signs of cerebral herniation are present, adult recommended rates of hyperventilation are:
- A. 20 breaths/min
 - B. 25 breaths/min
 - C. 30 breaths/min
 - D. 35 breaths/min
12. Spinal injury patients in neurogenic shock present with:
- A. Hypotension and tachycardia
 - B. Hypotension and bradycardia
 - C. Hypercapnia and bradycardia
 - D. Hypercemia and tachycardia
13. The most appropriate immobilization device that takes pressure off specific areas and prevent decubitus is:
- A. Backboard
 - B. Scoop stretcher
 - C. Back Raft
 - D. Spine board
14. If the patient had a penetrating injury to the neck, which type of dressing would be applied?
- A. Bulky dressing, lightly bandaged in place
 - B. Bulky dressing, tightly bandaged in place
 - C. Occlusive dressing, sealed on all sides
 - D. Occlusive dressing, sealed on three sides

15. The single most important sign in assessing severity of brain injury in prehospital setting is:
- A. Level of consciousness
 - B. Blood pressure
 - C. Oxygen saturation levels
 - D. Blood glucose level
16. “Blown” pupils are later signs of:
- A. Fracture base of skull
 - B. Increased intracranial pressure (ICP)
 - C. Pressure on optic nerve
 - D. Orbital fracture
17. While assessing pupillary reaction in eye injuries, consensual response to light refers to:
- A. Dilatation of both pupils
 - B. Dilatation of the opposite pupil
 - C. Constriction of both pupils
 - D. Constriction of the opposite pupil
18. The following is **NOT TRUE** of subperichondrial hematoma in ear injuries:
- A. Results from trauma to the exterior ear
 - B. Blood pools under the skin in the outer ear
 - C. There is avulsion of part of the ear
 - D. Cartilage will look rippled, lumpy and swollen
19. The primary risks associated with oral and dental injuries are:
- A. Airway compromise from oropharyngeal bleeding
 - B. Ingestion of displaced dental appliance
 - C. Swallowing of avulsed or fractured teeth
 - D. Sepsis of gingiva
20. Zone II anterior neck injuries involve the structures:
- A. Below the mandible
 - B. Between the clavicle and cricothyroid cartilage
 - C. Between cricoid cartilage and angle of the mandible
 - D. Between angle of the mandible and base of the skull

SECTION B: SHORT ANSWER QUESTIONS (SAQS)

40 MARKS

Answer all questions

1. Explain the three types of Le Fort fractures. (6 marks)
2. Differentiate between central cord syndrome and anterior cord syndrome (8 marks)
3. Outline the four (4) types of skull fractures that can occur in head injury (8 marks)

4. Explain the four (4) classifications of spinal cord injuries (8 marks)
5. State any four (4) signs of marked elevation level of ICP (4 marks)
6. Outline the specific prehospital management of penetrating trauma to the eyes (6 marks)

SECTION C: LONG ESSAY QUESTIONS (LEQS)

40 MARKS

Answer all questions

1. You are dispatched to respond to a 30-year-old male who slid from a cliff and sustained a deep cut on the occipital region while on a rock climbing expedition in the slopes of Mt. Kenya. On arrival you notice the patient is semiconscious, lying prostrate in a pool of blood. Describe your response to this call till patient handover for definitive care (20 marks).
2. You and crew are covering a marathon sports event on the countryside far off from any health facility. A speeding motorbike hits a runner on the roadside, the patient is thrown up and lands awkwardly on the back injuring his spine. He is apparently in neurogenic shock as you approach. Describe your assessment of the patient, the pathophysiology of the shock state and your prehospital interventions (20 marks).

END