



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY**

**(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2020/2021 ACADEMIC YEAR**

**FOURTH YEAR, SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**FOR THE DEGREE**

**OF**

**BACHELOR OF SCIENCE IN PHYSIOTHERAPY**

**COURSE CODE: BSP 315**

**COURSE TITLE: NEUROLOGY AND NEUROSURGERY I**

**DATE: TUESDAY 9<sup>TH</sup> FEBRUARY 2021    TIME: 2:00PM – 5:00PM**

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**INSTRUCTIONS TO CANDIDATES**

**Answer all Questions**

Sec A: Multiple Choice Questions                      (MCQ) (20 Marks)

Sec B: Short Answer Questions                         (SAQ) (40 marks)

Sec C: Long Answer Questions                         (LAQ) (40 marks)

**TIME: 3 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.



**SECTION A: MULTIPLE CHOICE QUESTIONS**

**(20 Marks)**

1. What type of nerve is a typical spinal nerve?
  - A. Motor nerve
  - B. Mixed nerve
  - C. Parasympathetic nerve
  - D. Sympathetic nerve
2. A lesion of left half of spinal cord at the 10<sup>th</sup> thoracic spinal segment will present with?
  - A. Central cord syndrome
  - B. Posterior Cord syndrome
  - C. Anterior Cord syndrome
  - D. Brown Sequard syndrome
3. Which sign and symptom is absent in cerebellar lesions?
  - A. Tendency to fall to the side of the lesion
  - B. Intentional tremors on the side of the lesion
  - C. Nystagmus
  - D. Positive Babinskis sign on the side of the lesion
4. A patient with a TIA at the cerebellum will not have difficulty?
  - A. Producing alternative movements
  - B. Initiating movement
  - C. Coordination
  - D. Multiple movements at different joints
5. Which of the following statements is true regarding swallowing?
  - A. Palatopharyngeal muscle is moved laterally
  - B. Tensor villi platni moved downward
  - C. Larynx is drawn downward
  - D. Vocal cords are totally approximated
6. Pyramidal lesions will not be associated with the following signs
  - A. Ankle clonus
  - B. Babinski
  - C. Exaggerated abdominal reflex
  - D. Clasp knife spasticity
7. Which of the following segmental innervation does not correspond with the following tendon reflexes is?
  - A. Biceps jerk C5-C6
  - B. Supinator jerk C7-T1
  - C. Knee jerk L3-L4
  - D. Ankle jerk L5-S1
8. Features of an intracranial lower motor neuron lesion of the facial nerve will not include which symptom?
  - A. Inability to wrinkle the forehead
  - B. Upward deviant of the eye on attempted eyelid closure
  - C. Deafness due to loss of the nerve to the stapedius muscle
  - D. Loss of taste over the anterior 2/3 of the tongue
9. The characteristics features of trigeminal neuralgia will include?
  - A. Pain lasting several hours at a time
  - B. Pain precipitated by touching the face and or chewing
  - C. Absence of the corneal reflex
  - D. Predominance in young females
10. Functional recovery following a stroke is not likely to be poor if?
  - A. The stroke is embolic rather than hemorrhagic in origin
  - B. Associated hypertension is severe

- C. There is a conjugate gaze palsy
  - D. Hemiplegia is left sided rather than right sided
11. Recognized causes of paraplegia will not include?
    - A. Intracranial meningioma
    - B. Potts disease
    - C. Posterior spinal artery thrombosis
    - D. Spinal neurofibromas
  12. Which of the following motor abnormalities does not indicate extrapyramidal disease?
    - A. Cog wheel rigidity
    - B. Lead pipe rigidity
    - C. Static tremors
    - D. Flaccidity
  13. The most reversible risk factor for stroke?
    - A. Diabetes Mellitus
    - B. Dyslipidemia
    - C. Obesity
    - D. Hypertension
  14. Definition of status epilepticus?
    - A. Generalized tonic clonic seizure more than 15 minutes
    - B. Seizure more than 30 minutes without regaining consciousness in between
    - C. Absence seizures for more than 15 minutes
    - D. None of the above
  15. 80-year-old with some behavioral abnormalities including annoyance following traumatic brain injury, most likely lobe to be affected?
    - A. Frontal
    - B. Parietal
    - C. Occipital
    - D. Temporal
  16. The most common initial manifestation of increased ICP in patient after a traumatic brain injury is?
    - A. Change in level of consciousness
    - B. Ipsilateral pupillary dilatation
    - C. Contralateral pupillary dilatation
    - D. Hemiparesis
  17. Seizure arising from a localized area of the brain without impairment of consciousness?
    - A. Absence
    - B. Grand mal seizure
    - C. Focal seizure
    - D. Myoclonic seizure
  18. J.D a 48-year-old male presented with sudden onset headache and weakness of the right lower limb. On physical examination mental status was normal and cranial nerve were intact. The right upper extremity MMT was at 5/5 but the right lower extremity MMT was at 3/5. Babinski on the right side is positive and there was a mild sensory deficit on the right side. Where is the lesion?
    - A. Mid cerebral artery superior division
    - B. Anterior cerebral artery
    - C. Anterior Spinal artery
    - D. Mid cerebral artery inferior division
  19. An immediate and transient loss of consciousness following a TBI that is associated with a short period of amnesia
    - A. Skull fracture
    - B. Contusion
    - C. Diffuse axonal injury
    - D. Concussion

20. Regarding question 19. What is the most urgent and appropriate diagnostic test that should be done to such a patient?
- A. Brain X-ray
  - B. Brain CT
  - C. Brain MRI
  - D. CSF analysis

**SECTION B: SHORT ANSWER QUESTIONS**

**(40 Marks)**

1. Regarding ophthalmology: Define the following terms (8 Marks)
- a. Colour vision:
  - b. Contrast sensitivity:
  - c. Perimetry:
  - d. Visual acuity:
  - e. Scotopic:
  - f. Photopic:
  - g. Miosis:
2. Describe the mechanism of hearing (8 Marks)
3. Differentiate the two main classifications of aphasia and give 3 examples of each type (8 Marks)
4. Regarding Cranial nerves outline which fall in the following category (8 Marks)
- a. Sensory
  - b. Motor
  - c. Mixed
5. Describe 4 exercise that you would do to strengthen the tongue and pharynx to improve on swallowing (8 Marks)

**SECTION C: LONG ANSWER QUESTIONS**

**(40 Marks)**

1. Pertaining to Ataxia:
- a. List 8 anatomical structures that may be affected to cause the impairment (4 Marks)
  - b. Describe 8 clinical features that may be associated with cerebellar ataxia (16 Marks)
2. Regarding Neurological assessment. Plan how you assess and include all possible objective tests for:
- a. Motor integrity (10 Marks)
  - b. Sensory integrity (10 Marks)