

**BOWEN UNIVERSITY, IWO**

**B. Physiotherapy Programme**

**2021/2022 session second semester examination**

**PST 422: Neurological Disorders And Rehabilitation I**

**Date: 19/09/2022**

**Time Allowed: Two 2 ½ hours (for both parts 1 and 2)**

**PART 1: Answer all questions**

**SECTION A: ESSAY**

1. What are the grades of nerve injuries according to Sunderland? (5 marks)
2. In not more than three simple sentences each, summarise autogenic inhibition, reciprocal inhibition, and stress relaxation (4 ½ marks).
3. Describe Glasgow Coma Scale (7 ½ marks)
4. Mr Fagbamigbe came to your clinic with features of myasthenia gravis, how could you accurately diagnose him? (6 marks)
5. List the components of motor examination in a neurological patient (2 marks).

**SECTION B: ESSAY**

**Answer true or false (A wrong answer attracts a penalty).**

1. All these are properties of a nerve: Excitability, conductivity, contraction, refractory period, Summation and adaptation/accommodation.
2. Environment influences motor development.
3. Relax contract is a technique of PNF
4. Object Permanence develops during the first year
5. PNF was initially developed by Dorothy Voss and Margaret Knott.

**SECTION C: Fill in the gaps**

6. The components of motor development are.....
7. At birth, babies curl up in a characteristics manner called.....
8. The first voluntary task learned by a baby is.....
9. List the principles of motor development.....
10. List three signs that point at delayed development in an infant.  
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**PART 2: Attempt all questions**

**SECTION ONE: ESSAY**

1. A 40-year-old woman has just walked into your treatment area with the aid of a tripod. On history taking, she complained of tingling and numbness in both hands and from her waist down that started insidiously, an accompanying weakness in both lower limbs, fatigue and low back pain. Her MRI results showed areas of lesions in her CNS characterised by inflammation, demyelination and scarring.
  - a) What could the possible diagnosis of this patient be? (1Mark)
  - b) Explain how the condition identified in (a) above is caused (3Marks)
  - c) Are there variations of this condition? If yes, name and briefly explain them (3Marks)
  - d) Give 3 differences in a tabular form between this condition and a similar condition affecting the Peripheral Nervous System (PNS) (3Marks)
  
2. You have been invited by the neurosurgery team to review a case of a 35year old man who has suffered a T4 spinal cord injury following a ghastly motor vehicular road traffic accident about three weeks ago. On examination, you found that the patient has complete loss of motor, sensory and reflex activity below the level of the lesion.
  - a) What could account for this finding? (1Mark)
  - b) Describe how you would determine the following using the ASIA impairment scale:
    - i) the patient's sensory level (2Marks)
    - ii) the patient's motor level (2Marks)
    - iii) the patient's neurological level of injury (2Marks)
  - c) Define the terms above (i.e. sensory level, motor level and neurological level of injury) (3Marks)

**SECTION TWO: Answer all questions. Each correct answer attracts one mark**

1. In diabetic neuropathy, sensory affectation occurs in: a) a proximo-distal fashion b) a disto-proximal fashion c) a sensorimotor fashion d) an asymmetrical fashion
2. Alcohol neuropathy is characterised by all except: a) Poor sensation b) Hyporeflexia c) Muscle pain d) Muscle weakness occurring in a proximo-distal fashion
3. The polio virus has a high affinity for the: a) Dorsal column of the spinal cord b) Anterior column of the spinal cord c) Anterior horn cells of the spinal cord d) Dorsal root of the spinal cord
4. Which of the following is true for meningocele? a) Most babies born with it may have club feet b) the sac-like protrusion from the back contains fluid, meninges and nerves c) There is rarely an evidence of lower limb weakness d) It is the most severe form of spina bifida

5. All are the goals of physiotherapy in managing tabes dorsalis except: a) Recommending an appropriate ambulatory device b) Improving coordination c) Reducing the rate of transmission of the infection d) Advice on care of hypoaesthetic parts of the body
6. A significant clinical feature of post-polio syndrome is: a) New muscle weakness b) Hyperaesthesia c) Decreased function d) New paralysis
7. A spinal cord injury with motor and sensory affectation in the upper limbs more than the lower limbs is known as: a) Posterior cord syndrome b) Anterior cord syndrome c) Central cord syndrome d) Brown sequard syndrome
8. Which is false for stroke? a) Has equal rate of occurrence in men and women b) Increasing age is a predisposing factor c) Rarely would lead to affectation in one limb d) Are basically of two types-ischaemic and haemorrhagic
9. Broca's aphasia is also known as: a) Receptive aphasia b) Expressive aphasia c) Sensory aphasia d) Fluent aphasia
10. Haemorrhagic stroke occurs from: a) Atrial fibrillation b) Myocardial infarction c) Ruptured micro-aneurysms d) All of the above
11. Which of the following accounts for the highest occurrence of traumatic brain injuries? a) Stroke b) Falls c) Domestic violence d) Road traffic accidents
12. The following are true of traumatic brain injury except a) It is caused by an external force b) It is progressive in nature c) There may be an accompanying altered level of consciousness d) It is not congenital
13. Sensory testing in spinal cord injury is done: a) from C2 to S4,5 dermatomes b) Only S4,5 dermatomes c) Only C2-C4 and T2-L1 dermatomes d) Randomly
14. ASIA E is: a) Motor and sensory function in normal people b) Normal motor and sensory function after having suffered a spinal cord injury c) Having muscle power of 5/5 preserved in only key muscles d) Having intact sensory function below the level of injury
15. Which is also known as a mild form of polio? a) Non-paralytic polio b) Abortive polio c) Bulbar polio d) Spinal polio