



**UNIVERSITI KUALA LUMPUR
ROYAL COLLEGE OF MEDICINE PERAK**

**FINAL EXAMINATION
MARCH 2026 SEMESTER**

COURSE CODE : RFD23703
COURSE NAME : PHYSIOTHERAPY IN NEUROLOGY 1
PROGRAMME NAME : DIPLOMA IN PHYSIOTHERAPY
DATE : 22 JUNE 2026
TIME : 2.30PM – 4.30PM
DURATION : 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read CAREFULLY the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of TWO (2) sections; Section A and Section B.
4. Answer ALL questions in Section A and THREE (3) questions in Section B.
5. Please mark/write your answers on the OMR answer script and answer booklet provided.
6. Answer all questions in English language ONLY.

THERE ARE 7 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A: MULTIPLE CHOICE QUESTIONS (Total: 20 marks)

INSTRUCTION: Answer ALL questions.

Please use the OMR sheet provided.

1. Identify the type of glial cell that produces myelin in the central nervous system.
 - A. Microglia.
 - B. Astrocytes.
 - C. Schwann cells.
 - D. Oligodendrocytes.

2. **"Parasympathetic system is active during Y."**
Select Y.
 - A. Fear.
 - B. Rest.
 - C. Stress.
 - D. Exercise.

3. Which of the following is the major relay station for sensory information entering the brain?
 - A. Thalamus.
 - B. Brainstem.
 - C. Cerebellum.
 - D. Hypothalamus.

4. Find the division of the nervous system that controls voluntary movements.
 - A. Somatic nervous system.
 - B. Autonomic nervous system.
 - C. Sympathetic nervous system.
 - D. Parasympathetic nervous system.

5. **"Temporary interruption of blood supply to the brain with symptoms resolving within 24 hours."**

Identify the condition.

- A. Lacunar infarct.
- B. Ischemic stroke.
- C. Hemorrhagic stroke.
- D. Transient ischemic attack.

6. Select the hormone affected in parkinson's disease.

- A. Oxytocin.
- B. Thyroxine.
- C. Dopamine.
- D. Adrenaline.

7. **"X is formerly known as Lou Gehrig's disease which affect the upper and lower motor neurons."**

Identify X.

- A. Spinal Muscular Atrophy (SMA).
- B. Progressive Bulbar Palsy (PBP).
- C. Congenital SMA with Arthrogryposis.
- D. Amyotrophic Lateral Sclerosis (ALS).

8. Select the pathophysiology of multiple sclerosis (MS).

- A. Muscle degeneration disease.
- B. Immune system attacks myelin sheath.
- C. Reduced production of neurotransmitters in the brainstem.
- D. Progressive destruction of motor neurons in the spinal cord.

9. Find the injury associated with carpal tunnel syndrome.

- A. Ulnar nerve.
- B. Radial nerve.
- C. Median nerve.
- D. Axillary nerve.

10. Select the median nerve entrapment in upper limb.
- A. Radial tunnel syndrome.
 - B. Carpal tunnel syndrome.
 - C. Cubital tunnel syndrome.
 - D. Thoracic outlet syndrome.
11. Identify the test used for median nerve injury.
- A. Phalen's test.
 - B. Lachman test.
 - C. McMurray test.
 - D. Trendelenburg test.
12. Find the nerve injury associated with shoulder dislocation.
- A. Ulnar nerve.
 - B. Radial nerve.
 - C. Axillary nerve.
 - D. Median nerve.
13. Which cranial nerve is responsible for facial expression?
- A. Vagus nerve (X).
 - B. Facial nerve (VII).
 - C. Trigeminal nerve (V).
 - D. Hypoglossal nerve (XII).
14. What does the term "ataxia" refer to in neurological terminology?
- A. Muscle weakness.
 - B. Loss of coordination.
 - C. Sensory impairment.
 - D. Increased muscle tone.
15. Select the function of Glasgow Coma Scale (GCS).
- A. Reflex activity.
 - B. Muscle strength.
 - C. Sensory integration.
 - D. Level of consciousness.

16. Which part of the brain is mainly responsible for voluntary movement control?
- A. Cerebrum.
 - B. Brainstem.
 - C. Cerebellum.
 - D. Medulla oblongata.

Question 17 to 20 requires the following answer.

A	B	C	D
I and III	II and IV	I, II and III	II, III and IV

17. Find the causes of hemorrhagic stroke.
- i. Peripheral nerve demyelination.
 - ii. Weak spots in blood vessel walls.
 - iii. Uncontrolled high blood pressure.
 - iv. Overtreatment with anticoagulants.
18. Identify the type of ischemic stroke.
- i. Embolic stroke.
 - ii. Lacunar stroke.
 - iii. Thrombotic stroke.
 - iv. Hemorrhagic stroke.
19. Select the reducible risk factor for cerebrovascular accident (CVA).
- i. Age.
 - ii. Smoking.
 - iii. Hypertension.
 - iv. Cholesterol level.
20. Identify the main clinical features of multiple sclerosis (MS).
- i. Dementia.
 - ii. Vision problem.
 - iii. Speech problem.
 - iv. Muscle weakness.

SECTION B: MODIFIED ESSAY QUESTIONS (Total: 60 marks)**INSTRUCTION: This section consists of FOUR (4) questions.****Answer THREE (3) questions in the answer booklet provided.****Question 1**

- (a) State **THREE (3)** similarities of the somatic and autonomic nervous system. (3 marks)
- (b) Explain the hindbrain. (5 marks)
- (c) Describe **THREE (3)** major sensory tracts that involve chains of neurons. (6 marks)
- (d) Explain **SIX (6)** physiotherapy management for multiple sclerosis (MS). (6 marks)

Question 2

- (a) Identify **TWO (2)** types of hemorrhagic stroke. (2 marks)
- (b) State **FIVE (5)** clinical features of cerebrovascular accident (CVA). (5 marks)
- (c) "A 65-year-old male with a history of uncontrolled hypertension and high cholesterol, was brought to the emergency department after developing weakness on the right side of his body. On examination, he has slurred speech, right facial droop, and reduced strength (2/5) in the right upper and lower limbs. A brain scan confirmed a blockage in the left middle cerebral artery with no evidence of bleeding. He was diagnosed with a Cerebrovascular Accident and admitted for further management and rehabilitation."

With reference to the above case, answer all the following questions.

- i. Identify the type of stroke for this patient. (1 mark)
- ii. Discuss **SIX (6)** physiotherapy management for the condition. (12 marks)

Question 3

- (a) Define Parkinson's disease. (4 marks)
- (b) Explain the pathophysiology of Parkinson's disease. (6 marks)
- (c) Describe the gait abnormalities in Parkinson's disease. (6 marks)
- (d) List **FOUR (4)** objective assessment component of neurological examination. (4 marks)

Question 4

- (a) Define peripheral nerve injury.

(2 marks)

- (b) Explain Seddon's classification of nerve injury.

(6 marks)

- (c) "A 32-year-old man presents with weakness in his right hand after falling asleep on a couch with his arm hanging over the edge following a night of drinking. Upon waking, he noticed he was unable to extend his wrist and fingers, resulting in a wrist drop."

With reference to the above case, explain the nerve injury.

(4 marks)

- (d) Describe the procedure for finger to nose coordination test.

(8 marks)

END OF EXAMINATION PAPER