

**PHYSICAL MEDICINE AND REHABILITATION**

**PAPER-I**

Time: 3 hours  
Max. Marks:100

PMR/D/20/35/I

**Important Instructions:**

- *You are provided with 5 answer sheet booklets. Each individual answer sheet booklet consists of 10 pages excluding the covering jackets.*
- *Answers to all the questions must be attempted within these 5 answer sheet booklets which must be later tagged together at the end of the exam.*
- *No additional supplementary answer sheet booklet will be provided.*
- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

**Write short notes on:**

1. What are the objectives and principles of Therapeutic exercises? 5+5  
Mention the differences between isometric, isotonic and eccentric types of muscular contractions.
2. a) Vitamin-B<sub>12</sub>. 5+5  
b) Botulinum toxin.
3. a) Shoulder stabilizers. 5+(3+2)  
b) Diagnosis and management of impingement syndrome.
4. a) Gate control theory of pain. 5+5  
b) Transcutaneous Electrical Nerve Stimulation(TENS).
5. Describe speech areas of brain. Enumerate various types of presentations of speech disorders of brain injury based on these areas. 4+6
6. a) Materials used for calibration of prosthesis. 5+3+2  
b) Biomechanics & indications of halo vest orthosis.
7. What are the nutritional requirements of a patient with spinal cord injury of 3 months duration at the level of D11 under active gait training? 10
8. a) Draw a labeled diagram of lumbar plexus. 5+(2+3)  
b) Investigation of unilateral foot drop & its management.
9. Describe biomechanics of the ankle joint complex and discuss the bony anatomy involved in motion of the foot and ankle. 5+5
10. a) Brain stem Auditory Evoked Response (BAER) test. 5+5  
b) What are latency studies in compressive neuropathy?

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