

22545

11920

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. **Attempt any FIVE of the following:** **10**
- a) Enlist various steps of gait cycle.
  - b) Give any two goals of rehabilitation engineering.
  - c) Define prosthesis and orthosis.
  - d) Draw a labelled diagram of a prosthetic hand.
  - e) Draw labelled diagram of any one motion analysis technique.
  - f) Give any two functions of mobility aids.
2. **Attempt any THREE of the following:** **12**
- a) Describe the maintenance steps of the specified mobility aid.
  - b) Describe with sketch, process of the specified joint angle measurement.
  - c) Draw labelled structure of crutche's and tripod's.
  - d) Explain structure and function of a Jaipur foot.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) List different approaches for delivery of rehabilitation care.
  - b) Draw a labelled sketch of self alighting orthotic knee joint.
  - c) Discuss the concept of sensory rehabilitation.
  - d) Describe various wheelchairs standard's and test.
- 4. Attempt any THREE of the following:** **12**
- a) Describe the concept of hierarchically controlled prosthetic hand.
  - b) Distinguish between electric powered wheelchair and manual wheelchair.
  - c) Describe knee joint prosthesis with neat sketches.
  - d) Define anatomical lever system with each of example.
  - e) Describe with sketches an intelligent prosthetic knee.
- 5. Attempt any TWO of the following:** **12**
- a) Compare sensory and motor rehabilitation (Any three points)
  - b) Describe structure and applications of myoelectric prosthesis.
  - c) Define gait cycle and describe various stages of gait cycle with neat sketches.
- 6. Attempt any TWO of the following:** **12**
- a) Describe with sketch any two techniques for motion analysis.
  - b) Describe the concept and application of functional electrical stimulation.
  - c) Suggest designing criterion of walking aids for mentally impaired patient.
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