

22545

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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) Assume suitable data, if necessary.  
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.  
(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.  
(8) Use of Steam tables, logarithmic, Mollier's chart is permitted.

**Marks**

1. **Attempt any FIVE of the following :** **10**
- a) Define Rehabilitation.
  - b) Give classification of orthosis.
  - c) Classify orthosis on basis of function.
  - d) Define mobility aids.
  - e) Draw the diagram of motion analysis technique.
  - f) Define prosthesis.
  - g) Suggest any two advanced applications in Rehabilitation engineering.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Explain Hierarchically controlled prosthetic hand.
  - b) Describe Goniometer and state the function of each part.
  - c) Compare orthosis and prosthesis.
  - d) Sketch the diagram of parallel bars and tripods.
- 3. Attempt any THREE of the following :** **12**
- a) State the need for self alighting orthotic knee.
  - b) Compare sensory and motor rehabilitation.
  - c) Explain delivery of rehabilitation care.
  - d) Compare manual and electric power wheel chair.
- 4. Attempt any THREE of the following :** **12**
- a) Explain contraindications of orthosis.
  - b) Draw the diagram of myoelectric prosthesis hand.
  - c) Describe the function of mobility aids.
  - d) Describe self alighting orthotics knee joint.
  - e) Give designing aspects of intelligent prosthetic knee.
- 5. Attempt any TWO of the following :** **12**
- a) Explain team members of rehabilitation and their roles.
  - b) Define gait cycle and explain various steps of gait cycle analysis.
  - c) Explain functional electrical stimulation. Describe any two applications of functional electrical stimulation.
- 6. Attempt any TWO of the following :** **12**
- a) Draw and explain the wheelchair.
  - b) Explain measurement device. Draw the diagram of foot switches and walkway.
  - c) Describe basic components of prosthesis.
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