

22545

22223

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) 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) State the concept of rehabilitation.
 - b) Define Gait cycle.
 - c) Give classification of orthosis on the basis of its anatomical area.
 - d) State the function of any one part of Wheel Chair.
 - e) Draw labelled diagram of tripod.
 - f) State the concept of functional electrical stimulation.
 - g) Suggest any two advanced application in Rehabilitation Engineering.
- 2. Attempt any THREE of the following: 12**
- a) State the need for intelligent prosthetic knee.
 - b) Describe Joint angle measurement using Goniometer.
 - c) Describe classification of prosthesis based on construction design materials used and power system.
 - d) Draw a labelled sketch of Walking frame and parallel bar.

P.T.O.

- 3. Attempt any THREE of the following: 12**
- a) Describe functions of physiatrist and Biomedical Engineering in rehabilitation.
 - b) List advanced application of rehabilitation Engineering and describe any one with neat sketch.
 - c) Discuss the concept of motor rehabilitation.
 - d) Describe functions of foot switches.
- 4. Attempt any THREE of the following: 12**
- a) Give type of spinal orthosis and describe any one in detail.
 - b) Explain the construction of myo-electric prosthesis.
 - c) List different approaches for delivery of rehabilitation Care.
 - d) Describe intelligent prosthetic knee with neat Sketch.
 - e) Explain with sketches Hierarchically controlled prosthetic hand.
- 5. Attempt any TWO of the following: 12**
- a) Describe Video motion technique with neat sketches.
 - b) Define
 - i) orthosis
 - ii) prosthesis and state the concept of Jaipur foot.
 - c) Describe the maintenance steps of the Wheel Chair.
- 6. Attempt any TWO of the following: 12**
- a) List different facilities available in powered Wheel Chair
 - b) Describe the different phases of gait cycle with neat diagram.
 - c) List different contra indications to orthosis and state the concept of Hip-knee ankle-foot orthosis.
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