

315349

12526

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

-
- 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**
- List benefits of mobility aids.
 - Define gait cycle.
 - List factors in choosing a mobility aid.
 - State applications of motion analysis.
 - Give goals of rehabilitation robotics.
 - Define rehabilitation engineering.
 - State classification of orthosis on the basis of function.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Distinguish between manual wheel chair and powered wheel chair.
 - b) Explain contraindications for using an orthosis.
 - c) Explain tele-rehabilitation in detail.
 - d) Compare walking stick and walking frame aids w.r.t. following points.
 - i) stability
 - ii) mobility
 - iii) weight support
 - iv) Use case
- 3. Attempt any THREE of the following :** **12**
- a) State classification of prosthesis.
 - b) Describe the concept of functional electrical stimulation.
 - c) Describe rehabilitation team with the help of core members of the rehabilitation team and their roles.
 - d) List the types of lower limb Orthosis. Also explain any one type in detail.
- 4. Attempt any THREE of the following :** **12**
- a) List types of disabilities as per WHO.
 - b) Describe spinal orthosis. Also give classification of spinal orthoses.
 - c) Compare medical model approach and social model approach related to rehabilitation care.
 - d) Describe different materials used in lower limb orthosis.
 - e) Give purpose of sensory rehabilitation and motor rehabilitation. Also list common conditions for both rehabilitation types.

- 5. Attempt any TWO of the following :** **12**
- a) List basic components of prosthesis. Also state the role of knee joint and foot components.
 - b) Describe tripods and quadripods. List advantages, disadvantages and uses of tripods and quadripods.
 - c) A person is having disability related to lower limbs. Suggest a suitable prosthesis and explain in detail.
- 6. Attempt any TWO of the following :** **12**
- a) Describe in detail, domains of ergonomics.
 - b) Define powered wheelchair. Give the types of powered wheelchair. Also list advantages of powered wheelchair.
 - c) Describe and intelligent prosthetic knee and hierarchically controlled prosthetic hand in detail.
-