

Please check whether you have got the right question paper.

- N.B:**
1. Q.No.1 is compulsory.
  2. Attempt any three from remaining five questions.
  3. Figures to the right indicate full marks.
  4. Use legible hand writing.

- Q1. Answer any Four. 20**
- a) What are levers and explain its types.
  - b) Explain the types of movements and their importance in functioning of joints.
  - c) How is Exoskeletal prosthesis different from Endoskeletal prosthesis?
  - d) What is shape memory effect?
  - e) What do you understand by Non-Dynamic Response foot?
- Q2. 04**
- a) What are the prerequisites of gait cycle?
  - b) Explain with the help of a neat diagram, the gait cycle. 10
  - c) Explain the distance variables of gait parameters. 06
- Q3. 10**
- a) What is orthosis? Explain the principle while designing an orthosis. 10
  - b) Explain SOMI Brace in detail. 10
- Q4. 10**
- a) Comment on Ti and Ti based on alloys as implants, also mention its properties. 10
  - b) What are ceramics and how are they classified? Explain in detail. Enlist one application of each each ceramic. 10
- Q5. 10**
- a) Explain the Invivo types of Biological testing of Biomaterials. 10
  - b) How the surface property of a Biomaterial can be studied using SIMS technique. 10
- Q6. 20**
- Write short notes on **any four**.
- a) PMMA and its applications.
  - b) Transradial prosthetic system.
  - c) Biodegradable Polymers.
  - d) Synovial joints.
  - e) Corrosion and wear.

\*\*\*\*\*