

N.B. : (1) **Question No.1** is **compulsory**.

(2) Attempt **any three** questions from the **remaining** questions.

(3) **Draw** suitable **diagrams** wherever **necessary**.

(4) **Figures to right** indicate **full marks**.

1. (1) Biomechanics of bone. **5**
 - (2) Typical stress-strain curve; short explanation and diagram. **5**
 - (3) Classification of synovial joints and diagram of anyone synovial joint. **5**
 - (4) Classification of force system. **5**

 2. (a) Define lever and mechanical advantage. Classify levers and give one anatomical example for each type. **10**
(b) Explain the biomechanical behaviour of bone under different loading modes. **10**

 3. Explain the human gait cycle with neat stick diagrams and joint motion graphs. **20**

 4. (a) Different parts of PTB prosthesis and fabrication of PTB socket. **10**
(b) Explain the principle of three-point pressure. Also state two applications of the principle. **10**

 5. (a) Explain any two instrumentation devices used for gait analysis. **10**
(b) Classify the vertebrae and explain SOMI in detail with a neat diagram. **10**

 6. Write short notes on **any FOUR** : **20**
 - (1) SACH Foot
 - (2) CTEV Shoe
 - (3) Milwaukee Brace
 - (4) Quadrilateral socket
 - (5) Terminal devices
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