

B.E-VII Sem-Biomed.

Biomechanics Prosthesis & Orthosis.

(17)

BE/III/CBGS/BM/BPEO
QP Code : 5948

(3 Hours)

[Total Marks : 100

- N.B. : (1) Question No.1 is compulsory.
(2) Attempt any three questions from Q.2 to Q.6
(3) Figures to right indicate full marks.
(4) Make suitable assumptions if required.

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| 1. a) Write short note on goniometer. | 5 |
| b) Biomechanics of skin, explain. | 5 |
| c) SACH foot, draw neat diagram. | 5 |
| d) Explain typical stress-strain curve. | 5 |
| 2. Explain the complete gait cycle with neat diagram. Draw the graphs for the various joint angles. | 20 |
| 3. What is spinal orthosis. Discuss the criteria for providing spinal orthosis. List the various abnormal spinal curvatures. Describe any one spinal orthosis. | 20 |
| 4. a) Explain the lamination procedure of a PTB socket. | 10 |
| b) Explain three point pressure principle with three examples. | 10 |
| 5. a) Define lever and mechanical advantage. Explain levers giving two anatomical examples for each type. | 12 |
| b) Explain biomechanics of bone. | 8 |
| 6. Write short notes on any Four | 20 |
| 1) Jaipur foot | |
| 2) AFO | |
| 3) Biomechanics of tendons and ligaments | |
| 4) Wrist units | |
| 5) Foot switches | |
| 6) Synovial joints-classification | |

MD-Con. 9981-15.