

**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[AHS 0424]**

**APRIL 2024**

**Sub. Code: 2472**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**

**THIRD YEAR (Regulation 2017-2018 onwards)**

**PAPER II – BIOMECHANICS III**

***Q.P. Code: 802472***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Biomechanics of Trans-Humeral Prosthetic socket.
2. Introduction of Functional Electrical Stimulation application in P and O field.
3. Grasp pattern and Grasp force.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Mechanical replacement of hand function.
2. Structure and function of Thoracic spine.
3. Theorem of Parallel axes.
4. Myoelectric control system in P and O appliances.
5. Biomechanics of spinal injuries.
6. Follower load.
7. Biomechanical function of Charleston bending Orthosis.
8. Open and closed helical spring.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Hueters Volkman Law.
2. Ligament of Spine.
3. Kinesthetic reminder.
4. Structure of IV disk.
5. Primary curve and secondary curve of spine.
6. Hybrid Orthosis.
7. Phalen's test.
8. Biomechanics of hard collar.
9. PIP and DIP splint biomechanics.
10. Opponance bar function.

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