

QP CODE: 105028

Reg. No:

**First Year Bachelor of Prosthetics and Orthotics Degree Regular
Examinations November 2025**

**Biomechanics-I
(2024 Scheme)**

Time: 3 Hours

Total Marks: 80

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essays

(2x15=30)

1. Explain the biomechanics of Ankle Foot Orthosis in different planes. Justify the how design of orthosis alters the biomechanical principle with an example.
2. Define and classify lever with examples. Explain the mechanical advantage of each lever. Explain the lever system acting of human body.

Short essays

(7x5=35)

3. Explain the Screw home mechanism.
4. Briefly explain the types of connective tissue and its functions.
5. Explain synovial joint with example.
6. Explain the windlass mechanism.
7. Describe parallel and concurrent force systems.
8. Elaborate Equinus gait and its causes and write about the complications of it.
9. Explain stress and strain curve with necessary diagrams

Answer briefly

(5x3=15)

10. Gait cycle.
11. Calcaneal gait.
12. Biomechanics of quadriceps bar on transtibial socket.
13. Enlist the muscles around knee joint.
14. Patellar Alta and patellar Baja.

CORRECTION / NO-CORRECTION FILE
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QPCODE: 105028

Dated: 19-11-2025

Question No.3

Replaced with "Explain three point force principle with example."

Question No. 13

Replaced with "Osteokinematics and Arthrokinematics."

Question No. 14

Replaced with "Name the different arches of the foot."

Corrections/Modifications/Replacement of Questions if any shall be made available to all students. Take the print out of the Correction File in such cases and distribute to all students.

(Sd/-)

CONTROLLER OF EXAMINATIONS