

Question Paper

Exam Date & Time: 19-Dec-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2023

SUBJECT: BPT-201 - BIOMECHANICS

(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Mention the articulations of the shoulder complex. Explain the movements of scapulothoracic joint. (20)
(2+18 = 20 marks)
- 2) Explain the phases of gait with diagram. Write the five major tasks for walking gait. (20)
(10+10 = 20 marks)
- 3) Explain in detail the deviations and structural components of forward head posture. (10)
- 4) Explain the kinetics and kinematics of knee flexion from neutral position. (10)
- 5A) Explain pelvic nutation and counternutation with diagram. (5)
- 5B) Explain the thoracic pump handle and bucket handle mechanism with diagram. (5)
- 5C) Explain the motion of femur on acetabulum. (5)
- 5D) Explain the functions of arches of foot with diagram. (5)
- 5E) Explain kinetics of elbow flexion from neutral. (5)
- 5F) Explain the muscle activity during spherical grip of hand. (5)
- 6A) Write and explain function of any 2 ligaments of cervical spine. (2)
- 6B) Write any 2 abnormalities of standing posture in lateral view. (2)
- 6C) Write spatial variables of gait. (2)
- 6D) Write any 4 medial and lateral rotational stabilizers of knee. (2)
- 6E) Explain hip hiking. (2)

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