

# Question Paper

Exam Date & Time: 22-Jun-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION-JUNE 2024  
SUBJECT: BPT 201- BIOMECHANICS  
(SCHEME 2016)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe the articular surfaces of the tibiofemoral and patellofemoral joint. Describe patellar movements. Add a note on the role of patella in quadriceps function (20)  
(5+5+10 = 20 marks)
- 2) Define gait. Classify gait cycle . Describe spatial and temporal variables of gait . Explain joint motions and muscle activity during the stance phase of the gait cycle. Add a note on the kinematics and muscle of gait in the sagittal plane (20)  
(2+2+6+10 = 20 marks )
- 3) Explain the structure and function of the extensor mechanism of the hand (10)
- 4) Explain kinematics of the hip joint (10)
- 5A) Explain Scapulohumeral Rhythm (5)
- 5B) Describe kinematics of Pronation and supination of the forearm (5)
- 5C) Explain sagittal plane analysis of posture (5)
- 5D) What is Centre-Edge angle and explain its significance? (5)
- 5E) List the lumbar ligaments and explain their role in spinal stability (5)
- 5F) Describe movements of the temporomandibular joints (5)
- 6A) What is ulnar variance? (2)
- 6B) What is Genu Valgum? (2)
- 6C) Mention functions of pulleys of the hand (2)
- 6D) List the ligaments of the lumbar spine (2)
- 6E) What is closed packed position of the hip joint? (2)

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