

**Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore- 641043.**

Continuous Internal Assessment Test –I February 2025

SEMESTER - IV

Class: 2nd UG

Major: BPT

Time: 2 hours

Max. Marks:60

22BPTC018 – Biomechanics -II

Course Outcomes

- CO1: Categorize the structure & functions of cervical, thoracic, lumbar and sacral vertebra.
CO2: Understands general and specific features of the hip, knee, and ankle complex.
CO3: Evaluate the pathological basis of injury and aging of the hip, knee and ankle complex
CO4: Analyse the different postural malalignment
CO5: Knows about the variation between different pathological gait patterns

Part A

Choose the correct answer

6x1=6

1. The main weight-bearing structure of a vertebra **CO1 K3**
A. Spinous process B. Vertebral foramen C. Body of the vertebra D. Transverse process
2. The atlas (C1 vertebra) lacks which of the following structures **CO1 K3**
A. Transverse process B. Spinous process C. Vertebral arch D. Vertebral foramen
3. The primary function of the labrum in the hip joint **CO2 K3**
A. To produce synovial fluid B. To provide blood supply to the femur
C. To deepen the acetabulum and stabilize the joint D. To connect muscles to the femur
The strongest and most important ligament for preventing hyperextension of the hip joint **CO2 K3**
A. Ischiofemoral ligament B. Pubofemoral ligament C. Iliofemoral ligament
D. Ligamentum teres
5. Common cause of traumatic hip dislocation **CO2 K3**
A. Osteoarthritis B. Low-energy falls C. Motor vehicle accidents D. Repetitive strain injury
6. Meniscus in the knee that is more prone to injury **CO3 K3**
A. Lateral meniscus B. Medial meniscus C. Both equally D. Neither is prone to injury

Part – B

Answer should not exceed 400 words or two pages

3x6=18

1. a) Explain Spondylolisthesis (or) **CO1 K2**
b) Describe typical and atypical vertebra of cervical spine **CO1 K1**
2. a) Explain Coxa vara and Coxa valga (or) **CO2 K2**
a) Define Anterior posterior pelvic tilting **CO2 K1**
3. a) Describe nutation and counter nutation (or) **CO2 K1**
b) Explain neural tube defects **CO1 K1**

Part – C

Answer should not exceed 800 words or four pages

3x12=36

4. a) Explain the biomechanics of lumbar vertebra (or) **CO1 K2**
b) Explain the biomechanics of thoracic vertebra **CO1 K1**
5. a) Describe IVDP (or) **CO1 K2**
b) Describe dislocation of hip joint **CO2 K1**
6. a) Explain in detail about femoral motions (or) **CO2 K1**
b) Describe anatomy of knee joint and its ligament stability **CO3 K1**

Copies : 44

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