



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Physiotherapy-2021/B.Physiotherapy-2022

Course Name – Biomechanics & Kinesiology I

Course Code - BPTC304

(Semester III)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Differentiate The arthrokinematics of shoulder flexion is
 - a) Roll and slide along joints longitudinal diameter
 - b) Roll and slide along transverse diameter
 - c) Spin movement of articular surface
 - d) A roll of the articulating surface
- (ii) Identify the Centre of gravity of adult human in the anatomical position is slightly
 - a) Anterior to S1 vertebra
 - b) Posterior to S1 vertebra
 - c) Anterior to S2 vertebra
 - d) Posterior to S2 vertebra
- (iii) Select The centre of gravity of adult human is at what % of person's height
 - a) 0.5
 - b) 0.55
 - c) 0.45
 - d) 0.6
- (iv) Differentiate which is not a saddle joint?
 - a) Carpometacarpal of thumb
 - b) Ankle
 - c) Sternoclavicular
 - d) Acromio clavicular
- (v) Identify the Normal carrying angle
 - a) 0 – 20 degree
 - b) 0-30 degree
 - c) 0-10 degree
 - d) 0-40 degree
- (vi) Identify the small carrying angle means there is a risk of _____
 - a) Inferior dislocation
 - b) Posterior dislocation
 - c) Superior dislocation
 - d) Anterior dislocation
- (vii) Select The trabecular system is weak in the spine
 - a) Anteriorly
 - b) Posteriorly
 - c) Laterally
 - d) In the middle
- (viii) Select the most important muscle to produce upwards rotation of the scapula
 - a) Serratus anterior
 - b) Trapezius
 - c) Levator scapulae
 - d) Deltoid
- (ix) Discover The primary contributor to the resistance to passive stretching is

- a) Cross bridges of myosin filament
- b) Titin
- c) Thixotrophy of muscle
- d) Stiffness of tendon
- (x) Interpret During forward reach _____ use lumbar spine movement earlier.
- a) Males
- b) Females
- c) Children
- d) Male & female equal
- (xi) Identify the Second class lever will always have a lever arm
- a) Equal to 1
- b) More than 1
- c) Less than 1
- d) More than 2
- (xii) Interpret In pulled elbow syndrome there is dislocation of
- a) Radio-humeral joint
- b) Radio-ulnar joint
- c) Humero-ulnar joint
- d) Wrist joint
- (xiii) Distinguish Hyaline cartilages are found in
- a) IVD
- b) Ears
- c) Epiglottis
- d) Joints
- (xiv) Interpret the Shear stress is more in
- a) Coxa vara
- b) Coxa valga
- c) Femoral anteversion
- d) Femoral retroversion
- (xv) Interpret the Delayed onset muscle soreness is most severe at
- a) 5-10 hours
- b) 10 – 30 hours
- c) 30 – 45 hours
- d) 45 – 60 hours

Group-B
(Short Answer Type Questions)

3 x 5=15

- 2. Write about the back extensors muscle. (3)
- 3. Write about types of collagen with an example. (3)
- 4. Explain about the creep phenomenon. (3)
- 5. Explain what is Hip Dysplasia. (3)
- 6. Explain how Q-angle is measured. (3)

OR

Explain the function of interosseous membrane. (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

- 7. Define axes and planes. (5)
- 8. Explain the role of ligaments in providing stability of vertebral column. (5)
- 9. Write about the static stabilizers of the glenohumeral joint. (5)
- 10. Write about the Spurt and Shunt muscle and it's function with an example (5)
- 11. Evaluate the function of patella at the knee joint. (5)
- 12. Analyze the mechanism called nutation and counter nutation of pelvis. (5)

OR

Analyze the reason for extension lack and extensor lag of knee. (5)
