BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Physiotherapy-2021/B.Physiotherapy-2022/B.Physiotherapy-2023

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) Select the Joint reaction force is

a) Compressive force in a joint
b) Compressive force & muscle compressive force
c) Compressive force & muscle rotatory force
d) Compressive force of muscle & other soft tissues

(ii) Identify Which is not an anatomical pulley

a) FDP contraction
b) Quadriceps contraction
c) Hamstring contraction
d) Peroneal contraction

(iii) Select the muscle is not included in pes anserinus

a) Gracilis
b) Semimembranosus
c) Semi tendinosus
d) Sartorius

(iv) Identify the muscle is the little helper of latissimus dorsi

a) Teres minor
b) Teres major
c) Posterior deltoid
d) Subscapularis

(v) Select the accessory movement multiple points along one articular surface contact multiple points on another articular surface

a) Slide
b) Rotation
c) Spin
d) Roll

(vi) Select the meniscus injury there should be

a) Shear of compressed knee
b) Torsion of compressed knee
c) Shear and torsion of knee
d) Torsion of extended knee

(vii) Identify the condition muscle force production is more

a) Less velocity middle range
b) More velocity middle range
c) Less velocity outer range
d) More velocity inner range

(viii) Select the two forces applied from one point as the angle between the forces decrease the resultant force

a) Decrease
b) Increase
c) Remains same
d) Becomes twice

(ix) Differentiate The weight on the trunk balanced by the erector spinae muscle in standing is application of which lever system are less

a) 1st class
b) 2nd class
c) 3rd class
d) 2nd& 3rd class

(x) Identify the plane of External rotation of a segment

a) a sagittal plane
b) a transverse plane
c) a frontal plane
d) a longitudinal plane

(xi) Discuss the degrees of freedom for Ellipsoidal joints have

a) 1
b) 2
c) 3
d) 4

(xii) Distinguishing the ability to shorten when stimulated is called

a) contractility
b) extensibility
c) irritability
d) flexibility

(xiii) Select the medical term for knock-kneed

a) Genu varum
b) Genu valgum
c) Genu recurvatum
d) Genu anterium

(xiv) Identify the bone articulates with the first metacarpal bone in the form of a saddle joint

a) Trapezium
b) Trapezoid
c) Triquetrum
d) Scaphoid

(xv) Trace the following is a static stabilizer of the shoulder joint

a) Biceps tendon
b) Labrum
c) Supraspinatus muscle
d) Subscapularis muscle

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Write in detail about Patellofemoral pain syndrome. (3)
3. Write about the closed-packed position for the subtalar joint. (3)
4. Write about Pad-to-pad prehension. (3)
5. Describe the Carrying angle . (3)
6. Analyze the relationship between prolonged immobilization and changes in cardiovascular fitness. (3)

OR

Evaluate the long-term consequences of muscle disuse due to immobilization on overall physical health. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Write in detail about lumbo - pelvic rhythm. (5)
8. Describe the convex-cancave rule and how does it affect the movement. (5)
9. Write about the glenohumeral stabilizers. (5)
10. Analyze the advantage of a force acting on a lever with a mechanical advantage greater than 1. (5)
11. Analyze the movement of scapulothoracic joint. (5)
12. Summarize the vertebral column muscle attachment. (5)

OR

Evaluate the function of patella at the knee joint. (5)