

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[BOT 0824]

AUGUST 2024

Sub. Code: 6197

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
SECOND YEAR - (Regulations for the candidates admitted from 2022-2023 onwards)
PAPER III – BIOMECHANICS, APPLIED ANATOMY AND APPLIED
PHYSIOLOGY**

Q.P. Code: 786197

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe the structure and functions of vertebral column.
2. Describe the structure and functions of thumb musculature and its role in hand function.

II. Write notes on:

(8 x 5 = 40)

1. Characteristics of motor unit.
2. The gliding mechanism of the extrinsic finger flexors.
3. Motions of the scapula.
4. Types of muscle contraction.
5. Dynamic stability of Glenohumeral Joint.
6. Function of Patello Femoral Joint.
7. Artificial respiration.
8. Parameters of gait.

III. Short answers on:

(10 x 2 = 20)

1. Anterior pelvic tilt.
2. Define Optimal posture.
3. Two properties of Connective Tissue.
4. Newton's second law.
5. Hand to knee gait.
6. Action of latissimus dorsi.
7. Creep.
8. Define E.C.G.
9. Oedema.
10. Trigger finger.

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[BOT 0825]

AUGUST 2025

Sub. Code: 6197

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
SECOND YEAR - (Candidates admitted from the academic year 2022-2023 onwards)
PAPER III – BIOMECHANICS, APPLIED ANATOMY AND APPLIED
PHYSIOLOGY**

Q.P. Code: 786197

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the general effects of injury and disease on joints.
2. Describe the Kinetics and kinematics of Elbow joint. Add a note on its applied aspects.

II. Write notes on:

(8 x 5 = 40)

1. Describe Types of lever with examples in human body.
2. Active and Passive insufficiency.
3. Draw moment arm of Quadriceps muscle at 90-degree and 130-degree knee flexion.
4. Explain the components of force.
5. Mechanics of respiration.
6. Compare dense fibrous tissue with bone.
7. Discuss on the determinants of cardiac performance.
8. Compare Anteversion with retroversion on the basis of hip stability and mobility.

III. Short answers on:

(10 x 2 = 20)

1. Breath sounds.
2. Reflex action.
3. Oedema.
4. Clonus.
5. Pes planus.
6. Time parameters of gait.
7. Scoliosis.
8. Tennis elbow.
9. Muscles of shoulder depression.
10. Cardiac arrest.
