

Sr.No.7965

Exam Code: 106702
Subject Code : 1051

Bachelor in Physiotherapy - 2nd Year (B.P.T.) (Batch 2021-25)
(2523)

Paper-V : Biomechanics

Time allowed: 3 hrs.

Max. Marks: 100

Note: - Attempt FIVE questions in all, selecting at least ONE question from each section. The FIFTH question may be attempted from any section. Each question carries 20 marks.

SECTION-A

1. Explain moment arm of gravity with example. Describe how the angle of application of a force and the Moment Arm of that force are related. When is the MA potentially greatest? 20 marks
2. Write a brief note on:
 - (a) How do anatomical pulley affect the magnitude and direction of a muscle force with example. 5 marks
 - (b) Linear force system with example. 5 marks
 - (c) How the Osteokinematics and Arthrokinematics are linked. Explain? 5 marks
 - (d) Describe force components applied across a joint. Also explain the force components of biceps brachii muscle. 5 marks

SECTION- B

3. Add a note on
 - (a) Lumbopelvic rhythm
 - (b) Supination and pronation twist. 20 marks
4. Explain in detail about
 - (a) Structure of connective tissue.
 - (b) Power grip and precision handling. 20 marks

SECTION- C

5. Explain in detail about Length- tension relationship and force velocity relationship. Also explain its applications? 20 marks
6. (a) Write about muscle architecture in detail. 10 marks
(b) List the factors that affect muscle function and explain how each factor affect. 10 marks

SECTION- D

7. What is "sway envelope"? Analysis of posture in the sagittal plane and its deviations from optimal alignment. 20 marks
8. Write about events of Gait cycle. Describe each event with its muscle actions. 20 marks

7965(2523)100

Sr.No.8017

Exam Code: 106702
Subject Code : 001051

**Bachelor in Physiotherapy – 2nd Year (B.P.T.) (Batch 2023-27)
(2525)**

Paper-V: Biomechanics

Time allowed: 3 hrs.

Max. Marks: 100

Note: Attempt total five questions. Attempt one question from each section and fifth question from any of four sections

Section A

1. A. Write down about planes and axis of motion?
B. Write down about Newtons laws of motion? (2X10)
2. A. Write down about centre of gravity, centre of mass and line of gravity?
B. Write down about levers and their mechanical advantage? (2X10)

Section B

3. A. Write down about joint classification?
B. Write down about biomechanics of cartilage? (2X10)
4. Write down about biomechanics of Knee joint? (20)

Section C

5. A. Write down about structure and functions of muscle?
B. What is pennation angle. Write about structural properties of muscle? (2X10)
6. A. Write down about active and passive insufficiency and stress strain curve?
B. Write down about types of muscle contraction and sliding filament theory ? (2X10)

Section D

7. What is sway envelop. Write down postural deviation in sagittal and frontal planes? (20)
8. What are the temporal variables of gait and write abnormal gaits? (20)

.....

8017(2525)300

10672430928.

Sr.No.8017

Exam Code: 106702
Subject Code : 001051

Bachelor in Physiotherapy – 2nd Year (B.P.T.) (Batch 2023-27)
(2525)

Paper-V: Biomechanics

Time allowed: 3 hrs.

Max. Marks: 100

Note: Attempt total five questions. Attempt one question from each section and fifth question from any of four sections

Section A

1. A. Write down about planes and axis of motion?
B. Write down about Newtons laws of motion? (2X10)
2. A. Write down about centre of gravity, centre of mass and line of gravity?
B. Write down about levers and their mechanical advantage? (2X10)

Section B

3. A. Write down about joint classification?
B. Write down about biomechanics of cartilage? (2X10)
4. Write down about biomechanics of Knee joint? (20)

Section C

5. A. Write down about structure and functions of muscle?
B. What is pennation angle. Write about structural properties of muscle? (2X10)
6. A. Write down about active and passive insufficiency and stress strain curve?
B. Write down about types of muscle contraction and sliding filament theory ? (2X10)

Section D

7. What is sway envelop. Write down postural deviation in sagittal and frontal planes? (20)
8. What are the temporal variables of gait and write abnormal gaits? (20)

8017(2525)300

.....

Sr.No.7965

Exam Code: 106702
Subject Code : 1051

Bachelor in Physiotherapy - 2nd Year (B.P.T.)
(Batch 2022-26)
(2524)

Paper-V: Biomechanics

Time Allowed: 3 hrs.

Max. Marks: 100

Note: Attempt total five question. Attempt one question from each section and fifth question from any of four sections,

Section A

- 1.A. Write down about planes and axis of motion?
B. Write down about Newtons laws of motion? (2X10)
2. A. Write down about anatomical pulleys and line of gravity?
B. Write down about levers and their mechanical advantage? (2X10)

Section B

- 3.A. Write down about joint classification?
B. Write down about biomechanics of cartilage? (2X10)
4. Write down about biomechanics of shoulder joint? (20)

Section C

5. A. Write down about types of muscle contraction and muscle work?
B. Write down about classification of muscle work and their function? (2X10)
6. A. Write down about active and passive insufficiency and stress strain curve?
B. Write down about elements of muscle structure and its properties? (2X10)

Section D

7. Write down about posture, factors responsible for posture and abnormal postures? (20)
8. Write down about gait cycle and abnormal gait? (20)

.....

7965(2524)300