

[KP 1002]

Sub. Code : 6215

**BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.**

(Revised Non-Semester Regulations)

Second Year

**Paper II — BIOMECHANICS AND APPLIED
ANATOMY**

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions :

(1) Explain the various types of joints in Man. Describe the different planes of motion in the shoulder joint and the forces acting on it. (20)

(2) Differentiate between :

- (a) Eccentric and concentric contractions
- (b) Agonistic and antagonistic muscles
- (c) Various types of lever systems.

(5 + 5 + 5 = 15)

(3) Describe the wrist complex including radio carpal joint and the ligaments of the wrist complex. (15)

I. Six short notes :

(6 × 5 = 30)

- (a) Normal gait cycle.
 - (b) Torque.
 - (c) Muscle tension.
 - (d) Pelvic tilt.
 - (e) The intervertebral disc.
 - (f) Closed kinematic chain.
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Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : (2 × 15 = 30)

(1) Explain the structure, configuration of hip joint in relation to weight bearing in unilateral and bilateral stance along with factors contributing for its stability.

(2) Describe the normal curves of vertebral column and discuss the factors responsible for its mobility and stability.

II. Short notes : (10 × 5 = 50)

- (a) Law of inertia
- (b) Scapulo humeral rhythm
- (c) Determinants of gait
- (d) Bursae around knee
- (e) Talocalcaneo navicular joint
- (f) Optimal posture
- (g) Reverse action
- (h) Precision handling
- (i) Spurt and shunt muscle
- (j) Amphiarthrodial joints.

FEBRUARY 2008

[KS 1002 X]

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BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.

Second Year

(Revised Non-Semester Regulations)

Paper II — BIOMECHANICS AND APPLIED
ANATOMY

Q.P. Code : 746215

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Essay :

(2 × 15 = 30)

1. Describe the basic principles of joint design.
Classify the joints with examples.

2. Explain in detail about the structure and
functions of tibio-femoral joint and its effects on injury
and disease causing disturbance in biomechanical
factors.

II. Short notes :

(10 × 5 = 50)

1. Isokinetic exercises

2. Carrying angle

3. Anatomical pulleys

4. Thoracolumbar fascia
5. Scoliosis
6. Coraco acromial arch
7. Prehension
8. Metatarsal break
9. Parameters of gait
10. Unilateral stance.

AUGUST 2008

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EXAMINATION.**

Second Year

(Revised Non-Semester Regulations)

**Paper II — BIOMECHANICS AND APPLIED
ANATOMY**

Q.P. Code : 746215

Time : Three hours

Maximum : 100 marks

I. Long Essay : (2 × 15 = 30)

1. Explain the forces acting on the hip joint and methods of reducing them.

2. Sagittal and frontal plane analysis of posture.

II. Short notes : (10 × 5 = 50)

1. Semilunar cartilages.

2. Equilibrium.

AUGUST 2008

3. Scapulo humeral rhythm.
4. Ankle joint axis.
5. Actions of trapezius and deltoid.
6. Pulled elbow.
7. Stress strain curve.
8. Types of levers.
9. Acromio clavicular joint disk.
10. Variables of gait.

III. Write short answers :

(10 × 2 = 20)

Define the following :

- (a) Concurrent force systems.
- (b) Stress and strain.
- (c) Active insufficiency.
- (d) Q' angle.

- (e) Supinator twist.
 - (f) Double support time.
 - (g) Lumbo sacral angle.
 - (h) Kinetics and kinematics.
 - (i) Close packed position.
 - (j) Coupled motion.
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