

Second B. P.Th. (2012) Examination, Summer 2014
KINESIOLOGY

Total Duration: Section A + B + C = 3 Hours

Section B & C Marks

SECTION - B & SECTION - C

- Instructions:**
- 1) Use blue/black ball point pen only.
 - 2) Do not write anything on the blank portion of the question paper. If written anything, such type of act will be considered as an attempt to resort to unfair means.
 - 3) All questions are compulsory.
 - 4) The number to the right indicates full marks.
 - 5) Draw diagrams wherever necessary.
 - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
 - 7) Use a common answerbook for all sections.

SECTION - II

(30 Marks)

2. Answer the following (any five out of six):

(5×3=)

- a) Definition of Kinetics and Kinematics.
- b) Concave convex rule.
- c) Examples of synarthrodial and diarthrodial joints.
- d) Types of muscle contraction.
- e) Classification of muscles.
- f) Creep.

3. Answer the following (any three out of four):

(3×3=)

- a) Define Active insufficiency and passive insufficiency. Give one example of each.
- b) Stress-strain curve.
- c) Basic principles of connective tissue.
- d) Composition of a muscle fiber.

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SECTION - C

4. Discuss Kinetics and Kinematics of gait in detail.
5. a) Discuss the kinematics of hip joint. Discuss the role of abductors in stability of joint. Describe coxa vara and coxa valga. (3+3)

OR

5. b) Discuss the wrist joint under following heading.
- a) articular surfaces
 - b) kinematics of wrist and hand
 - c) role of intrinsic muscles
- (3+3)
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Second B.P.Th. (2012) Examination, Summer 2016
KINESIOLOGY

Duration : Section A + B = 3 Hours

Total Marks : 60

SECTION – A & SECTION – B

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SECTION – A
(SAQ)

(50 Marks)

Short answer question (any five out of six) :

(5x3=15)

- a) Q angle.
- b) Explain Length-Tension Relationship of muscle.
- c) Define the terms osteokinetics and arthokinematics.
- d) Enumerate classification of joints.
- e) Movements of thorax.
- f) Explain convex-concave rule.

Short answer question (any five out of six) :

(5x7=35)

- a) Explain Lumbar pelvic rhythm.
- b) Describe factors affecting muscle function. Describe any two with an appropriate example.
- c) Describe different types of grips and pinches of adult human hand.

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- d) Explain stress-strain curve
- e) Describe the role of Popliteus muscle in knee joint.
- f) Differentiate between type I and type II muscle fibers.

SECTION - B
(LAQ)

(30)

3. Long answer question (any one out of two) :

(1x)

- a) Enumerate Shoulder complex. Explain scapulo-humeral rhythm. Describe kinematics and kinematics of glenohumeral joint.
- b) Discuss factors affecting stability and mobility of Elbow joint. Write a note on Carrying Angle.

4. Long answer question (any one out of two) :

(1x15)

- a) Describe determinants of gait. Discuss kinetics and kinematics of normal human gait in stance phase.
- b) Describe the three different Lever Systems with appropriate example for each with respect to human body.



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Second B.P.Th. (2012) Examination, Summer 2018
KINESIOLOGY

Total Duration : Section A + B = 3 Hours

Total Marks : 80

SECTION – A and SECTION – B

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 - 3) **All** questions are **compulsory**.
 - 4) The number to the **right** indicates **full** marks.
 - 5) Draw diagrams **wherever** necessary.
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 - 7) **Use** a common answerbook for **all** Sections.

SECTION – A SAQ (50 Marks)

1. Short answer question (**any five** out of six) : (5×3=15)
 - a) Describe contractile unit of muscle.
 - b) Classification of muscles as per the fiber arrangement.
 - c) Moment arm of force.
 - d) Types of collagen.
 - e) Define stress and strain.
 - f) Define passive insufficiency of muscle.

2. Short answer question (**any five** out of six) : (5×7=35)
 - a) Describe arthrokinematics by giving example.
 - b) Write a note on prehensile function of hand.
 - c) Write the kinetics and kinematics of sit to stand.
 - d) Define coxa vara and coxa valga and explain effect of it on abductor muscle.
 - e) Describe closed and open chain exercises.
 - f) Describe kinetics and kinematics of TM joint.

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SECTION – B LAQ (30 Marks)

3. Long answer question (**any one** out of two) : (1×15=15)
- a) Describe cervical vertebra. Describe kinetics and kinematics of cervical spine. (3+6+6)
- b) Define Gait cycle. Describe kinetic and kinematics of gait. (3+12)
4. Long answer question (**any one** out of two) : (1×15=15)
- a) Describe kinetic and kinematics of ankle joint and write a note on arches of foot. (5+4+6)
- b) Describe the articular surfaces of elbow joint. Write the kinetics and kinematics of it. Write a note on carrying angle. (3+4+4+4)
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Second BPTH(2012), Winter 2015

KINESIOLOGY

Total Duration - Section A + B = 3 Hours

Total Marks : 80

Section - A & Section - B

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- 7) Use a common answerbook for all sections.

Section "A" SAQ (50 Marks)

1. Short answer question (any five out of six) : (5x3=15)
 - a) Define motor unit.
 - b) Moment arm of force
 - c) Anatomical pulley
 - d) Force velocity relationship
 - e) Starling's law
 - f) Enumerate 3 functions of synovial joints.
2. Short answer question (any five out of six) : (5x7=35)
 - a) Explain types of joints with appropriate examples
 - b) Stress strain curve
 - c) Types of muscle contraction
 - d) Classification of muscles
 - e) Explain active and passive insufficiency
 - f) Mobility and stability of muscles

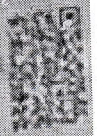
Section "B" LAQ (30 Marks)

1. Long answer question (any one out of two) : (1x15=15)
 - a) Describe wrist joint biomechanics under following headings

Anatomy	(5 Mks)
Kinetics	(5 Mks)
Kinematics	(5 Mks)
 - b) Define gait. Describe the gait variables in details. (1+7+7)

4. Long answer question (any one out of two):

- a) Define Posture. Enumerate factors affecting posture. Analysis of standing Posture in a) Describe motor strategies to control posture.
- b) Indications and contraindications of postural drainage. Describe the postural drainage for right and left lower lobes.



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Second B.P.Th. (2012) Examination, Winter 2016
KINESIOLOGY

Duration : Section A + B = 3 Hours

Total Marks : 80

SECTION – A and SECTION – B

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3) All questions are **compulsory**.

4) The number to the **right** indicates **full marks**.

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7) Use a common answer book for all sections.

SECTION – A (SAQ) (50 Marks)

Short answer question (any five out of six) :

(5×3=15)

- Name Ligaments of ankle joints.
- Note on Locking and unlocking of knee.
- Lumbo pelvic rhythm.
- Describe weight bearing structure of hip joint.
- Define step length and stride length.
- Enumerate Static stabilizers of glenohumeral joint.

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2. Short answer question (any five out of six) :

- a) Concave Convex Rule and its application.
- b) Note on different types of muscle contractions in detail.
- c) Write note on active and passive insufficiency with examples.
- d) Write an note on types of muscle fibres and their properties.
- e) Classification of joints and write note on Osteokinematics of wrist joint.
- f) Define Arthrokinematics and note on Gliding.

SECTION – B (LAQ) (30 Marks)

3. Long answer question (any one out of two) :

- a) Write in brief biomechanics of knee joint. Describe in details the tibio femoral complex with mediolateral joint stability.
- b) Describe in detail the functions of the ligaments of spinal column. Describe kinematics and kinetics of lumbar spine.

4. Long answer question (any one out of two) :

- a) What are phases of normal gait cycle ? Write note on gait determinants.
- b) Write a note on Kinetics and Kinematics of gait.

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Second B.P.Th. (2012) Examination, Winter 2017
KINESIOLOGY

Total Duration : Section A + B = 3 Hours

Total Marks : 80

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SECTION – A SAQ (50 Marks)

1. Short answer question (any five out of six) : (5×3=15)
 - a) Anatomical pulley.
 - b) Define shunt and spurt muscle.
 - c) Define Motor unit. State size principle of motor unit recruitment.
 - d) Define Close and Open kinematic chain and give one example of each.
 - e) State concave convex rule with example.
 - f) Define active insufficiency of muscles with example.

2. Short answer question (any five out of six) : (5×7=35)
 - a) Describe kinetics and kinematics of sit to stand from a chair without armrest.
 - b) Enlist the movements at temporomandibular joint. Explain the kinematics and kinetics of opening and closing of mouth.
 - c) Describe Nutation and Counternutation. Write function of pelvic floor muscles.
 - d) If a person has left painful hip in which hand he should hold the cane. Explain the reason for your answer.
 - e) Define carrying angle. Explain the muscle work during push up.
 - f) Describe archs of foot and explain it's function.

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SECTION – B LAQ (30 Marks)

3. Long answer question (any one out of two) : (1×15=15)
- a) Define Gait cycle. Describe determinants of gait. Describe the kinetics and kinematics of gait in sagittal plane. (2+5+8)
 - b) Describe Q angle along with its importance. Describe kinetics and kinematics of tibiofemoral joint. (5+5+5)
4. Long answer question (any one out of two) : (1×15=15)
- a) Describe kinetics and kinematics of glenohumeral joint. Explain scapulohumeral rhythm. (6+6+3)
 - b) Describe the kinetics and kinematics of thoracic spine. Write the importance of intervertebral disc. (5+5+5)