

[KD 916]

Sub. Code : 5213

**BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.**

Fourth Semester

(Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

1. Write an essay on any TWO of the following :

(2 × 15 = 30)

(a) What do you mean by proprioceptive Neuro muscular facilitation and with this how will you strengthen the muscle? Explain.

(b) Explain the factors governing posture and causes for Lordosis.

(c) Describe technique, principles and physiological effects of passive movements.

2. Write short notes on any FOUR of the following :

(4 × 5 = 20)

(a) Pendular suspension.

(b) II order lever and its uses.

(c) Relaxation exercises.

(d) Muscle work in kneeling.

(e) Free exercises for hip joint.

3. Write an essay on any TWO of the following :

(2 × 15 = 30)

(a) How will you prepare a patient for crutch walking and explain about the crutch gaits?

(b) What the factors governing co-ordination and explain the treatment for inco-ordination?

(c) Analyse the muscle work from supinely to high sitting position.

4. Write short notes on any FOUR of the following :

(4 × 5 = 20)

(a) Hemiplegic gait.

(b) Indications and contro indications for hydrotherapy.

(c) Stretch reflex.

(d) Pelvic tilt.

(e) Hook's law and its application.

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**BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.**

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

1. Write an essay on any TWO of the following :
(2 × 15 = 30)
 - (a) Write down the causes for a weakness of muscle. Discuss the programme you will plan for the patient whose plantar flexors are graded as 1+.
 - (b) Discuss the types of measurement for auxillary crutches. How you will train a patient for a 4 point crutch gait?
 - (c) Explain the technique, effects and uses of suspension therapy.
2. Write short notes on any FOUR of the following :
(4 × 5 = 20)
 - (a) Range of motion.
 - (b) Axis and plane.

- (c) Quadriceps gait.
- (d) Centre of gravity.
- (e) Technique of stretching of Ilio-tibial band.

3. Write an essay on any TWO of the following :
(2 × 15 = 30)

(a) What is force? Explain why the knowledge of force is necessary for the physiotherapist.

(b) What type of patients are suitable for Frenekel's exercise? How you will complicate the Frenekel exercise programme?

(c) Describe active exercises and explain the physiological and therapeutic effects of active exercises.

4. Write short notes on any FOUR of the following :
(4 × 5 = 20)

- (a) Endurance exercises.
- (b) Delormes techniques.
- (c) Heavy resisted exercise.
- (d) Starting position.
- (e) Equilibrium.

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BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.

Fourth Semester

(Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

Write Sections A and B in separate Answer Books.

1. Write an essay on any TWO of the following :
(2 × 15 = 30)
 - (a) Describe the complications of prolonged bed rest of a patient and its prevention.
 - (b) Explain the technique of progressive resisted exercises to strengthen quadriceps femoris muscle.
 - (c) Describe the method of manual muscle testing (0 to 5) for hip Flexor muscle.
2. Write short notes on any FOUR of the following :
(4 × 5 = 20)
 - (a) Rhythmic initiation
 - (b) Rectus Femoris Tightness
 - (c) Eccentric muscle work

(d) Levers

(e) Angle of pull.

3. Write an essay on any TWO of the following :
(2 × 15 = 30)
 - (a) Discuss the technique of assisted exercises to facilitate weak muscles.
 - (b) Describe the methods of inducing relaxation.
 - (c) Describe the progression of coordination exercises.
4. Write short notes on any FOUR of the following:
(4 × 5 = 20)
 - (a) Stretching of Sternomastoid
 - (b) Axial suspensions
 - (c) Agonists and Antagonists
 - (d) Isometric contraction
 - (e) Momentum

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**BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.**

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

1. Write an essay on any TWO of the following :
(2 × 15 = 30)
 - (a) What is the good posture? Describe the role of exercises to maintain and improve posture.
 - (b) Explain the causes of stiff joint. Discuss the technique of mobilising a stiff hip joint by therapeutic exercises.
 - (c) What are the complication of prolonged bed rest? Discuss the general maintenance exercises.
2. Write short notes on any FOUR of the following :
(4 × 5 = 20)
 - (a) abdominal exercises
 - (b) Inertia
 - (c) Assisted Exercises
 - (d) Line of gravity.
 - (e) Springs.

3. Write an essay on any TWO of the following :
(2 × 15 = 30)
 - (a) Discuss the various types and methods of giving resisted exercises.
 - (b) Write down the different principles and laws related to Hydrotherapy treatment. What safety precaution you will adopt during hydrotherapy treatment?
 - (c) Analyse the muscle work of
 - (i) Alternate sitting and standing up
 - (ii) Fundamental kneeling position.
 4. Write short notes on any FOUR of the following :
(4 × 5 = 20)
 - (a) Beurgers exercises
 - (b) Goniometry
 - (c) Gravity
 - (d) Passive movement
 - (e) Levers.
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B.P.T. DEGREE EXAMINATION.

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

1. Write an essay on any TWO : (2 × 15 = 30)

(a) In what circumstances would you use passive and active movements? Discuss their usefulness.

(b) How will you prepare for ambulation of a patient after prolonged bed rest?

(c) What are the causes of muscle weakness and how will you strengthen biceps from muscle power-1.

2. Write short notes on any FOUR : (4 × 5 = 20)

(a) Ilio-tibial tight

(b) Muscle contraction and muscle work

(c) Suspension therapy

(d) Hydrostatic pressure

(e) Axis and planes.

3. Write an essay on any TWO : (2 × 15 = 30)

(a) Discuss the factors which commonly cause limitation of Range of joint movement. Discuss the mobilisation methods which may be used to increase the range of movement in knee joint.

(b) Discuss the principle, technique, effects and uses of Hydrotherapy.

(c) Discuss the principles of proper technique of coordination exercises. Give a brief scheme of exercises to promote movements and rhythm in the legs with Incoordination.

4. Write short notes on any FOUR : (4 × 5 = 20)

(a) Hold Relax technique

(b) Pelvic tilt

(c) Muscle spasm

(d) Foot drop gait

(e) Trendelenburg gait.

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**BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.**

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(Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

1. Write an essay on any TWO : (2 × 15 = 30)

(a) Describe in detail the orders of lever with appropriate illustrations and give examples for each.

(b) Explain the Normal Pelvic tilt and deviations from it.

(c) Describe in detail the Re-education of Quadriceps Muscle.

2. Write short notes on any FOUR : (4 × 5 = 20)

(a) Line of gravity

(b) Physiological effects of Exercise

(c) Pendular suspension

(d) Floats in Hydrotherapy

(e) Types of crutch walking.

3. Write an essay on any TWO : (2 × 15 = 30)

(a) Principles, types of Gonio-metry and describe the techniques of Goniometric measurement for hip.

(b) Describe various muscle works and mechanical efficiency.

(c) Define Balance. Describe the inco-ordination due to cerebellar lesions and its management.

4. Write short notes on any FOUR : (4 × 5 = 20)

(a) Fixed and movable pulleys

(b) Indications and contra-indications for mobilisation

(c) Briefly outline the complications due to prolonged Bed rest

(d) Gluteus Medius gait

(e) Hold-Relax technique.

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Fourth Semester

(Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

Write an essay on any TWO of the following :

(2 × 15 = 30)

(a) Describe in detail the muscle strengthening proprioceptive neuromuscular facilitation (PNF) techniques.

(b) Analyse the muscle work going down in to squatting from standing.

(c) Describe the cycle of events that will occur in lower limb in normal gait. Give the muscle work involved (exclude trunk and upper limb).

4. Write short notes on any FOUR of the following :

(4 × 5 = 20)

(a) Slow Reversals

(b) Pelvic Tilt

(c) Rhythmic Stabilization

(d) Trick movements

(e) Macqueen's Power System.

3. Write an essay on any TWO of the following:

(2 × 15 = 30)

(a) Discuss the principles involved in good technique for giving relaxed passive movements. List down the effects and uses of relaxed passive movements.

(b) Describe briefly the principles of Hydrotherapy treatment.

(c) Describe Human Posture. What are the causes of faulty posture and how would you correct it?

4. Write short notes on any FOUR of the following:

(4 × 5 = 20)

(a) Limb Length Discrepancy

(b) Center of Gravity

(c) Traction and Approximation

(d) Foot Drop Gait

(e) Contraindications for mobilisation.

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B.P.T. DEGREE EXAMINATION.

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

1. Write an essay on any TWO : (2 × 15 = 30)

(a) What is generally understood by the term "Poor Posture"? (Analyse the posture in standing position) and discuss the effect of alteration in the pelvic tilt on the same.

(b) Write down the uses of Suspension therapy in Rehabilitation. (Discuss the basic conditions and additional methods for promoting Relaxation.)

(c) Differentiate between concentric, eccentric and static muscle work and state clearly when each is indicated.

2. Write short notes on any FOUR : (4 × 5 = 20)

- (a) Muscle strength Vs Endurance
- (b) Slow Reversal Technique
- (c) Levers of human body
- (d) Water buoyancy
- (e) Stress-Strain curve.

3. Write an essay on any TWO : (2 × 15 = 30)

(a) State the requirements for a systematic programme of crutch walking. Give a brief scheme of preparatory Exercise to a patient who has been in bed for many weeks and to be advised crutch walking.

(b) Describe the different techniques used to elongate muscle. Discuss the indications, contra-indications and preparation of patient when carrying out stretching exercise. Explain the stretching technique of Ilio Tibial Band.

(c) Analyse the Muscle work in

- (i) Hanging
- (ii) Alternate sitting and standing up
- (iii) Crook - half lying - single knee up drawing and down pressing.

4. Write short notes on any FOUR : (4 × 5 = 20)

- (a) Merits and demerits of muscle testing
- (b) In co-ordination
- (c) Compare and contrast Mobilisation and Manipulation
- (d) Free Exercise for Trunk
- (e) Foot drop gait.

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DEGREE EXAMINATION

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(Modified Regulations)

Paper I - EXERCISE THERAPY

Time: Three hours

Maximum: 100 marks

Write essay on any TWO of the followings:

(2 X 15 = 30)

- Discuss in detail about group action of muscle work?
- What is normal pelvic tilt? Discuss the significance of anterior, posterior and lateral pelvic tilt in ambulation?
- Discuss the starting position from kneeling to standing. Explain the muscle work taking place in this process?..

2. Write short notes on any FOUR

(4 X 5 = 20)

- Hypertrophy
- End-Feel
- Mechanical advantage
- Freedom of movement
- Centre of gravity

3. Write essay on any TWO of the followings:

(2 X 15 = 30)

- What is lever? Explain how the order of lever affect the effort required to move a load?
- Write a note on surface anatomy of wrist complex? Write about the steps of strengthening the wrist muscles?
- Explain the exercise procedure to stretch the Lumbar Erector Spine Muscle and soft tissues posterior to the spine to achieve trunk flexion?

4. Write short notes on any FOUR

(4 X 5 = 20)

- Strengthening exercise procedure for cervical flexors and cervical extensors
- Stretching of scalene muscle
- Oxford training of resistance exercise
- Magnitude of movement
- Indications for joint mobilisation.

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DEGREE EXAMINATION.**

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours

Maximum : 100 marks

Write an essay on any TWO : (2 × 15 = 30)

(a) Give the principles of manual muscle testing. Discuss its merit and demerits giving examples.

(b) List down the causes of weakness of muscles. Discuss the principles of exercise therapy to increase the strength and function.

(c) Discuss briefly the various pathological gaits noticed in lower limbs.

2. Write short notes on any FOUR : (4 × 5 = 20)

(a) Walking cycle ✓

(b) Equivinus gait

(c) Mechanism of Neuro-Muscular co-ordination

(d) Temporal summation

(e) Centre of gravity.

3. Write an essay on any TWO : (2 × 15 = 30)

(a) Analyse the muscle work of walking.

(b) What do you understand by levers? How levers are used therapeutically.

(c) What is a good posture? Describe the role of exercises to maintain and improve posture.

4. Write short notes on any FOUR : (4 × 5 = 20)

(a) Buoyancy ✓

(b) Sternocleidomastoid ✓

(c) Equilibrium ✓

(d) De'lormes technique ✓

(e) Intrinsic foot muscle exercises. ✓

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**BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.**

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

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

M.C.Q. must be answered **SEPARATELY** on the
answer sheet provided as per the instructions on
the first page of M.C.Q. Booklet.

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay Questions : (2 × 15 = 30)

1. Discuss the possible causes of limitation of range
of motion in a joint.

Mention the various measures which increase the
knee joint range of motion. (5 + 10 = 15)

2. Write down the causes for weakness or paralysis
of muscle.

Discuss the measures used to obtain initiation of
muscle contraction. (5 + 10 = 15)

II. Short notes :

(10 × 5 = 50)

- (a) Muscle work
- (b) Assisted exercise
- (c) Muscle grading
- (d) Base
- (e) Forced passive movement
- (f) Slow reversal
- (g) Starting position
- (h) Auto resistance exercise
- (i) Temporal summation
- (j) Sternomastoid muscle stretching.

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EXAMINATION.**

Fourth Semester

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Paper I — EXERCISE THERAPY

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.

I. Essay Questions :

(2 × 15 = 30)

(1) Describe "Joint Ranges" causes of Joint range limitations, prevention of joint stiffness, indications and contra indications for mobilisation exercises.

(2) Discuss in detail the various progressive resisted exercises and their advantages and disadvantages.

II. Short Notes :

(10 × 5 = 50)

- (a) Muscle fatigue.
- (b) Bed rest complications.
- (c) Whirl pool bath.
- (d) Types of suspension therapy.
- (e) Spatial and temporal summation.
- (f) Gutch measurements.
- (g) Strategies of neck muscle strengthening.
- (h) Pelvic tilt.
- (i) Accessory movements.
- (j) Principles of frenkles exercises.

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BACHELOR OF PHYSIOTHERAPY DEGREE
EXAMINATION.

Fourth Semester

(New Modified Regulations)

Paper I — EXERCISE THERAPY

Time : Three hours Maximum : 100 marks

Theory : Two hours and Theory : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : (2 × 15 = 30)

(1) Mention the principles of manual muscle testing. (Oxford Technique). Discuss its merits and demerits. (8 + 4 + 3)

(2) Explain the technique, effects and uses of suspension therapy. State, how will you strengthen the right shoulder abductor by using suspension therapy. (4 + 3 + 8)

II. Short Notes : (10 × 5 = 50)

- (a) Pelvic floor muscle exercise.
- (b) Maintenance exercise.
- (c) Hard test.
- (d) Foot drop gait.
- (e) Frenkels exercise.
- (f) Bouyancy.
- (g) 3 point gait (crutch).
- (h) Good posture.
- (i) Pelvic tilt.
- (j) Free exercise.