

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: HUMAN ANATOMY

Day : Tuesday
Date : 10/06/2025

S-25044-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answer book.

- SECTION - A

- Q.1 Long Answer Questions (Attempt ANY TWO) :** (20)
- A) Describe Shoulder Joint under. (1+1+2+4+2)
- i) Participating bones and classification of the joint
 - ii) Articular surfaces
 - iii) Factors giving stability to the joint
 - iv) Movements and muscles causing movements
 - v) Applied Anatomy
- B) Describe Arches of foot under the following headings. (2+3+2+1+2)
- i) Classification of Arches
 - ii) Add note on Medial Longitudinal Arch
 - iii) Factors responsible for Maintenance of Arches
 - iv) Functions of Arches
 - v) Applied Anatomy
- C) Describe the Face under the following headings. (3+3+2+2)
- i) Name the group of muscles
 - ii) Nerve supply
 - iii) Blood supply
 - iv) Applied Anatomy
- Q.2 Short Essay Questions (Attempt ANY FOUR) :** (4x5=20)
- a) Classification of Bones
 - b) Movements of Eyeball
 - c) Right Atrium
 - d) Relations of Kidney
 - e) Supports of Uterus

SECTION - B

- Q.3 Long Answer Questions (Attempt ANY TWO) :** (20)
- A) Describe boundaries of Fourth Ventricle. Add a note on its applied importance. (8+2)
- B) Describe Hypoglossal Nerve under. (4+4+2)
- i) Extracranial course and branches
 - ii) Muscles supplied by the nerve
 - iii) Applied Anatomy
- C) Describe Superolateral surface of Cerebrum under the following. (4+3+2+1)
- i) Sulci and gyri
 - ii) Functional areas
 - iii) Blood supply
 - iv) Applied Anatomy
- Q.4 Short Essay Questions (Attempt ANY FOUR) :** (4x5=20)
- a) Adductor canal
 - b) Axillary artery
 - c) Sciatic nerve
 - d) Muscles of mastication
 - e) Deltoid muscle

SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: HUMAN ANATOMY

Day : Thursday
Date : 28/08/2025

S-25044-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answer book.

SECTION - A

- Q.1** Long Answer Questions (Attempt **ANY TWO**) : (20)
- A)** Describe Hip Joint under following headings. (2+2+4+2)
- i) Participating bones, Classification of the joint and articular surfaces
 - ii) Ligaments
 - iii) Movements and muscles causing movements
 - iv) Applied Anatomy
- B)** Describe Popliteal fossa under following headings. (4+4+2)
- i) Boundaries
 - ii) Contents
 - iii) Applied Anatomy
- C)** Describe the Deltoid under the following heads. (2+1+3+3+1)
- i) Origin and insertion
 - ii) Nerve supply
 - iii) Actions
 - iv) Structures under Deltoid muscle
 - v) Applied Anatomy
- Q.2** Short Essay Questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Classification of Muscles
 - b) Stomach-parts and blood supply
 - c) Bronchopulmonary segments
 - d) Contents of Spermatic cord
 - e) Coronary arteries

SECTION - B

- Q.3** Long Answer Questions (Attempt **ANY TWO**) : (20)
- A)** Describe Cerebellum under the following heads (6+3+1)
- i) Functions, Lobes, Fissures, Surfaces
 - ii) Cerebellar peduncles
 - iii) Applied Anatomy
- B)** Describe Oculomotor nerve under (4+4+2)
- i) Extracranial course and branches
 - ii) Muscles supplied by the nerve
 - iii) Applied Anatomy
- C)** Describe Brachial plexus under following headings (4+3+3)
- i) Formation and Parts
 - ii) Branches
 - iii) Applied Anatomy
- Q.4** Short Essay Questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Sternocleidomastoid muscle
 - b) Carotid triangle
 - c) Axillary artery
 - d) Ulnar Nerve in hand
 - e) Quadriceps muscle

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: HUMAN PHYSIOLOGY

Day : Thursday
Date : 12/06/2025

S-25045-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answerbook.

SECTION - A

- Q.1** Long Answer questions (Attempt **ANY TWO**) : (20)
- a) Explain the structure of sarcomere. Add a note on red and pale fibers. (6+4)
 - b) Define cardiac cycle. Enlist atrial and ventricular events during cardiac cycle. Elaborate in detail various phases in ventricular diastole. (1+3+6)
 - c) Draw and label respiratory membrane. Describe various factors affecting diffusion of gases across it. Add a note on type of hypoxia. (2+5+3)
- Q.2** Short Essay Questions (Write **ANY FOUR**) : (20)
- a) Cardiovascular changes in moderate exercise
 - b) Middle ear functions
 - c) Surfactant
 - d) Spermatogenesis
 - e) Functions of salivary secretion

SECTION - B

- Q.3** Long Answer questions (Attempt **ANY TWO**) : (20)
- a) Enlist various ascending tracts in spinal cord. Define origin, course and termination of spinothalamic tracts. Enumerate the sensations carried by them. (2+6+2)
 - b) Describe the functions of cerebellum. Mention any four signs of cerebellar dysfunction. (6+4)
 - c) Enlist various functions of hypothalamus. Describe any four functions in detail. (4+6)
- Q.4** Short Essay Questions (Write **ANY FOUR**) : (20)
- a) Erythroblastosis fetalis
 - b) Acromegaly
 - c) Antibody-mediated immunity
 - d) Properties of nerve fibers
 - e) Negative feedback mechanisms

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: BIOCHEMISTRY

Day : Saturday
Date : 14/06/2025

S-25046-2025

Time : 10:00 AM-12:00 PM
Max. Marks : 40

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicates **FULL** marks.
- 3) Draw neat and labelled diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answer book.

SECTION-A

Q.1 Short Answer Questions (Attempt ANY FOUR) (4x5=20)

- a) Glycolysis.
- b) Lipids: Definition, Classification and Biomedical importance.
- c) Diagnostic applications of enzymes.
- d) Jaundice: Definition, Types, Causes and Laboratory findings.
- e) Basal Metabolic Rate (BMR)

SECTION-B

Q.2 Short Answer Questions (Attempt ANY FOUR) (4x5=20)

- a) Metabolism of Phenylalanine.
- b) Lipid profile.
- c) Vitamin C: Sources, Functions and Deficiency manifestations.
- d) Iron: Sources, Functions and Deficiency.
- e) ELISA: Principle, Working and Applications.

**SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: BIOCHEMISTRY**

Day : Saturday
Date : 30/08/2025

S-25046-2025

Time : 10:00 AM-12:00 PM
Max. Marks : 40

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answerbook.

SECTION - A

Q.1 Short Answer Questions (Attempt **ANY FOUR**) : (4x5=20)

- a) Hormonal regulation of blood glucose level.
- b) Cholesterol: - Structure and function.
- c) Plasma proteins: - Types and functions.
- d) Oxidative Phosphorylation.
- e) Liver function Tests based on synthetic and detoxification functions.

SECTION - B

Q.2 Short Answer Questions (Attempt **ANY FOUR**) : (4x5=20)

- a) Vitamin C: - Sources, functions and deficiency manifestations.
- b) ELISA: - Principle, working and applications.
- c) Dietary fibers.
- d) Laboratory investigations for Diagnosis and monitoring of Diabetes Mellitus.
- e) Role of calcium in muscle contraction.

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: FUNDAMENTALS OF ELECTROTHERAPY

Day : Wednesday
Date : 18/06/2025

S-25048-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are COMPULSORY.
- 2) Figures to the RIGHT indicate FULL marks.
- 3) Draw neat diagram WHEREVER necessary.
- 4) Both the sections should be written in SEPARATE answer book.

SECTION - A

- Q.1 Long Answer questions (Attempt ANY TWO) : (20)
- a) Explain construction of whirlpool bath with a neat labelled diagram. Add a note on indications and contraindication. (4+3+3)
 - b) Explain the Lewis-Hunting reaction with a suitable diagram and describe various methods of application of Cryotherapy, including indications and contraindications. (3+5+2)
 - c) Describe construction of Hydro collator unit with diagram. Write indications and contraindications and of hydro collator pack. (4+3+3)
- Q.2 Short Answer questions (Attempt ANY FOUR) : (4x5=20)
- a) Describe physiological effects of Short Wave Diathermy with its dangers.
 - b) Define skin resistance. Write down methods to reduce skin resistance.
 - c) Mention different types of fuse with neat labelled diagram.
 - d) Define resistance. Explain types of arrangement of resistance in a circuit with example.
 - e) Define cosine law and Inverse Square Law with its uses.

SECTION - B

- Q.3 Long Answer questions (Attempt ANY TWO) : (20)
- a) Explain various types of low frequency currents used in Physiotherapy with their parameters. Draw the panel diagram for Electrical muscle stimulator. (7+3)
 - b) What is Piezo-electric effect? Describe how ultrasound is produced and write any one methods of Testing of Ultrasound apparatus. (2+5+3)
 - c) Write physical characteristics of Infrared Rays. Write about Luminous and non-luminous IR generators. Add a note on its contraindications. (2+6+2)
- Q.4 Short Answer questions (Attempt ANY FOUR) : (4x5=20)
- a) Describe cloverleaf pattern and vector mechanism of IFT with a neat labelled diagram.
 - b) State any three Home remedies, write their advantages and disadvantages.
 - c) Describe physiological effects of Ultraviolet Rays.
 - d) Define Action potential. Add a note on resting membrane potential and Saltatory conduction.
 - e) Describe properties of LASER.

SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year. : SUMMER : 2025
SUBJECT: FUNDAMENTALS OF ELECTROTHERAPY

Day : Wednesday
Date : 03/09/2025

S-25048-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both sections should be written in **SEPARATE** answer book.

SECTION - A -

- Q.1** Attempt any **TWO** of the following: (20)
- a) Explain in detail about physiological & therapeutic effects of paraffin wax bath (PWB). Describe various methods of application of paraffin wax bath. (6+4).
 - b) Enlist various superficial heating agents. Describe construction of Hydro collator pack. Write in detail contraindication of moist heat therapy. (2+5+3)
 - c) Explain in detail about whirlpool baths. Describe Physiological effects of same. (5+5)
- Q.2** Write any **FOUR** of the following: (20)
- a) Describe Transformer and explain its various types.
 - b) Describe electromagnetic induction.
 - c) State laws governing radiation.
 - d) Explain various types of TENS.
 - e) Discuss vector modulation in IFT.

SECTION - B

- Q.3** Attempt any **TWO** of the following: (20)
- a) Describe different types of electrodes used for low frequency currents. Discuss different wave form of interrupted direct current. (5+5)
 - b) Describe production of Short Wave Diathermy (SWD). Draw panel diagram of SWD. (6+4)
 - c) Describe the construction and production of UVR lamp. (5+5)
- Q.4** Write any **FOUR** of the following: (20)
- a) Describe various methods of Cryotherapy
 - b) Explain properties of LASER.
 - c) Explain in detail about Biofeedback loop
 - d) Describe Surging in Faradic currents and explain its importance.
 - e) Write in detail about production of Ultrasound.

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BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: FUNDAMENTALS OF KINESIOLOGY & KINESIOTHERAPY

Day : Monday
Date : 16/06/2025

S-25047-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answer book.

SECTION - A

- Q.1** Long Answer questions (Attempt **ANY TWO**) : (20)
- a) Describe standing as fundamental position. Explain Any Three Derived positions from standing. (7+3)
 - b) Describe Axis and Plane with its appropriate examples of movements. (5+5)
 - c) Describe suspension therapy. Enumerate types of suspension. Explain elbow flexion-extension movements in terms of vertical suspension. (3+2+5)
- Q.2** Short Essay questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Describe effects of massage. Add indications
 - b) Describe components of fitness
 - c) Explain Newton's laws of motion with examples
 - d) Describe parallel bar with diagram. Write its uses
 - e) Explain Paschimottanasan with its benefits and indications

SECTION - B

- Q.3** Long Answer questions (Attempt **ANY TWO**) : (20)
- a) Describe Laura mitchell's method of relaxation with principles, procedure and effects. (3+5+2)
 - b) Define Goniometer. Describe its principles. Explain types of Goniometer. (2+5+3)
 - c) Define Yogasana. Explain principles of Yogasana. (2+8)
- Q.4** Short Essay questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Explain mechanical and anatomical pulley with examples
 - b) Describe muscle action with respect to Agonist, antagonist, Fixator and synergist
 - c) Define COG, LOG and BOS. Write their inter-relation
 - d) Explain principles of Hydrotherapy
 - e) Explain active and passive insufficiency with example

SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2025
SUBJECT: FUNDAMENTALS OF KINESIOLOGY & KINESIOTHERAPY

Day : Tuesday
Date : 02/09/2025

S-25047-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answer book.

SECTION - A

Q.1 Long Answer questions (Attempt **ANY TWO**) : (2X10=20)

- a) Write the classification of Massage and Explain massage techniques for face.
- b) Define derived positions. And write the muscle work of ride sitting and wing standing positions.
- c) Define suspension, and explain its principles and types of suspension.

Q.2 Short Essay Questions (Attempt **ANY FOUR**) : (4X5=20)

- a) Enumerate the steps involved in a back massage.
- b) Explain how does the base of support influence balance.
- c) Differentiate between Petrissage and Friction.
- d) Enumerate the uses of swiss ball.
- e) Define center of gravity and enumerate factors influencing it.

SECTION - B

Q.3 Long Answer questions (Attempt **ANY TWO**) : (2X10=20)

- a) Explain effects of massage on the circulatory, musculoskeletal, and lymphatic systems.
- b) Explain the principles of passive movements and enumerate its effects.
- c) Discuss the principles, physiological effects, and clinical applications of hydrotherapy in rehabilitation.

~~**Q.4** Short Essay Questions (Attempt **ANY FOUR**) : (4X5=20)~~

- a) Differentiate between passive and active assisted movements.
- b) What are physiological effects of passive movements.
- c) Explain the accessory movements.
- d) Define therapeutic gymnasium and write the uses of shoulder wheel.
- e) Differentiate between linear and angular motion.
