

University 1st Year 2024

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: HUMAN ANATOMY

Day : Tuesday
Date : 11/06/2024

S-25044-2024

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 (Solve **ANY TWO** out of **THREE**) : (20)
- A) Describe post triangle of neck under --- (7+3)
- i) Boundaries, contents
 - ii) Applied anatomy
- B) Describe knee joint under --- (2+5+3)
- i) Classification, bones forming the joint
 - ii) Intra articular structures
 - iii) Locking and unlocking movement
- C) Describe cubital fossa under--- (5+5)
- i) Boundaries
 - ii) Contents
- Q.2 Write short notes (Solve **ANY FOUR** out of **FIVE**) : (20)
- a) Blood supply of heart
 - b) Hamstring muscles
 - c) Axillary nerve
 - d) Relations of spleen
 - e) Deltoid muscle

SECTION - B

- Q.3 Long Answer questions (Solve **ANY TWO** out of **THREE**) : (20)
- A) Describe tongue under--- (4+2+4)
- i) Gross anatomy
 - ii) Muscles of tongue
 - iii) Nerve supply
- B) Describe internal capsule of brain under--- (2+2+4+2)
- i) Parts
 - ii) Relations
 - iii) Fibers passing through
 - iv) Blood supply
- C) Describe thyroid gland under--- (5+2+3)
- i) Parts, relations
 - ii) Coverings
 - iii) Blood supply
- Q.4 Write short notes (Solve **ANY FOUR** out of **FIVE**) : (20)
- a) Root of lung
 - b) Sesamoid bone
 - c) Femoral artery
 - d) Supination pronation movements
 - e) Abdominal aorta

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: HUMAN PHYSIOLOGY

Day : Thursday
Date : 13/06/2024

S-25045-2024

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**) : (2x10=20)
- a) Describe cardiac output. Give its normal value. Describe various factors determining cardiac output. (1+1+8)
 - b) Describe in detail neural regulations of respiration. Add a note on hypoxic hypoxia. (6+4)
 - c) Describe origin and spread of cardiac impulse. Draw and label various waves of electrocardiogram in lead II. Mention cause of each wave. (5+2+3)
- Q.2** Short Essay Questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Respiratory changes in moderate exercise
 - b) Physiological actions of glucocorticoids.
 - c) Compositions and functions gastric secretion
 - d) Phases of menstrual cycle
 - e) Peculiarities of coronary circulation

SECTION - B

- Q.3** Long Answer questions (Attempt **ANY TWO**) : (2x10=20)
- a) Draw and label pyramidal tract. Describe origin, course, and termination of pyramidal tract. What is hemiplegia? (3+5+2)
 - b) With the help of diagram, explain transmission across neuromuscular junction. Add a note on myasthenia gravis. (2+5+3)
 - c) Define pain. Explain referred pain with theories and examples. Add a note on Brown Sequard Syndrome. (1+5+4)
- Q.4** Short Essay Questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Functions of WBC
 - b) Action potential in large myelinated nerve fiber
 - c) Types of deafness
 - d) Parkinson's disease
 - e) Micturition reflex

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: BIOCHEMISTRY

Day : Saturday
Date : 15/06/2024

S-25046-2024

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) Tricarboxylic Acid (TCA) Cycle.
- b) Phospholipids: Classification and Functions.
- c) Diagnostic applications of enzymes.
- d) Hemoglobin: Chemistry, Structure Types and Functions.
- e) Beta oxidation of fatty acids with energetics.

SECTION-B

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

- a) Atherosclerosis.
- b) Urea cycle.
- c) Calcium: Sources, Functions and Disorders.
- d) Vitamin A: Sources, Functions and Deficiency manifestations.
- e) ELISA: Principle, working and applications.

BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: FUNDAMENTALS OF KINESIOLOGY & KINESIOTHERAPY

Day : Tuesday
Date : 18/06/2024

S-25047-2024

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) Answers to both the sections should be written in **SEPARATE** answer book.
- 4) Draw neat labelled diagrams **WHEREVER** necessary.

SECTION-A

Q.1 Write any **TWO** out of **THREE**: **(20)**

- a) Define Axis and Planes. Discuss its types in detail with examples.
- b) Explain Sitting as a fundamental position. Describe any two derived position from Sitting.
- c) Define Suspension therapy. Explain different types of Suspension with examples in detail.

Q.2 Write any **FOUR** out of **FIVE**: **(20)**

- a) Describe Superficial Sensation.
- b) Describe individual and Group exercises.
- c) Describe Second Order lever and Mechanical advantage.
- d) Describe Centre of Gravity and Base of Support.
- e) Explain Isometric and Isotonic muscle work.

SECTION-B

Q.3 Write any **TWO** out of **THREE**: **(20)**

- a) Define Active movements. Enumerate its classification. Explain Free Active exercises in detail.
- b) Define Goniometry. Write types of Goniometer. Discuss technique of application for Hip flexion.
- c) Define Relaxation. Discuss techniques of General Relaxation in detail.

Q.4 Write any **FOUR** out of **FIVE**: **(20)**

- a) Describe normal end feels with examples.
- b) Discuss fluid mechanics related to Hydrotherapy.
- c) Explain any two Asanas from sitting position.
- d) Describe Pulley with examples.
- e) Describe shoulder Wheel and its uses.

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BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: FUNDAMENTALS OF ELECTROTHERAPY

Day : Thursday
Date : 20/06/2024

S-25048-2024

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 Attempt **ANY TWO** of the following : (20)
- a) Explain in detail different methods of application of cryotherapy. Write a note on Louise Hunting reaction.
 - b) Explain the contents of paraffin wax bath with its proportion and write methods of applications in detail.
 - c) Discuss in detail Physiological effects and Therapeutic effects of heat-therapy. Add a note on the construction of a Hydrocollator unit.
- Q.2 Write **ANY FOUR** of the following : (20)
- a) Define resistance. Explain factors determining the resistance. Write about resistance in series and resistance in parallel.
 - b) Properties of laser.
 - c) Biophysics of Ultrasound.
 - d) Describe types of IRR. Add a note on flaw detection principle.
 - e) Earth shock

SECTION - B

- Q.3 Attempt **ANY TWO** of the following : (20)
- a) Describe different type of electrodes used for low frequency currents. Discuss different wave forms of Faradic current and importance of surging.
 - b) Describe production of Short Wave Diathermy (SWD). Draw panel diagram of SWD and describe testing of SWD.
 - c) Write principles and production of IFT. Explain vector rotation in IFT.
- Q.4 Write **ANY FOUR** of the following : (20)
- a) Contrast bath
 - b) Theraktin tunnel
 - c) Testing of ultrasound
 - d) ~~Properties of laser.~~ Describe various types of TENS
 - e) Grid system

Supplementary

SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: HUMAN ANATOMY

Day : Tuesday
Date : 13/08/2024

S-25044-2024

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 (Solve **ANY TWO** out of **THREE**) :

- A) Describe shoulder joint under --- (2+2+2+4) (20)
- i) Classification
 - ii) Bones forming joint
 - iii) Stability and mobility
 - iv) Movements and muscles producing movements
- B) Describe the Boundaries and contents of Popliteal fossa. (5+5)
- C) Describe brachial plexus under --- (3+4+3)
- i) Formation
 - ii) Branches and distribution
 - iii) Applied Anatomy

Q.2 Write short notes (Solve **ANY FOUR** out of **FIVE**) :

- a) Relations of Right kidney
 - b) Classification of bones
 - c) Relations of stomach
 - d) Fallopian / uterine tube
 - e) Arterial supply of heart
- (20)

SECTION - B

Q.3 Long Answer questions (Solve **ANY TWO** out of **THREE**) :

- A) Describe cerebellum under --- (3+3+4) (20)
- i) Gross structure
 - ii) Nuclei
 - iii) Applied anatomy
- B) Describe the parotid gland under--- (3+4+3)
- i) Borders, surfaces
 - ii) Relations
 - iii) Nerve supply
- C) Classify white matter of brain. Describe corpus callosum in detail. (3+7)

Q.4 Write short notes (Solve **ANY FOUR** out of **FIVE**) :

- a) Extra ocular muscles of eyeball
 - b) Contents of inguinal canal
 - c) Adductor canal
 - d) Differences between right and left lung
 - e) Tendocalcaneus
- (20)

SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: HUMAN PHYSIOLOGY

Day : Wednesday

Date : 14/08/2024

S-25045-2024

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**) : (2x10=20)
- a) Define cardiac cycle. Enlist ventricular events during cardiac cycles. Elaborate in details various phases in ventricular diastole. (1+3+6)
 - b) Describe transport of oxygen. Add a note on hypoxia and its types. (6+4)
 - c) Define blood pressure. Enumerate mechanisms for blood pressure regulation. Explain long term regulation in detail. (1+3+6)
- Q.2** Short Essay Questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Surfactant
 - b) Acromegaly
 - c) Composition and functions of pancreatic juice
 - d) Positive feedback mechanism
 - e) Peculiarities of pulmonary circulation

SECTION - B

- Q.3** Long Answer questions (Attempt **ANY TWO**) : (2x10=20)
- a) Define synapse. Explain steps of transmission. Enumerate properties of synapse. (2+5+3)
 - b) Define pain. Name the pathway. Describe pain analgesia system. (1+1+8)
 - c) Define sarcomere. Draw neat labelled diagram of sarcomere. Describe ratchet's theory of muscle contraction. (2+2+6)
- Q.4** Short Essay Questions (Attempt **ANY FOUR**) : (4x5=20)
- a) Parts of nephron
 - b) Functions of basal ganglia
 - c) Myasthenia gravis
 - d) Visual pathway
 - e) Erythroblastosis foetalis

SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: BIOCHEMISTRY

Day : Friday
Date : 16/08/2024

S-25046-2024

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 and labelled diagrams **WHEREVER** necessary.
- 4) Both the sections should be written in **SEPARATE** answer book.

SECTION-A

Q.1 Short Answer Questions: (Attempt any **FOUR**) (4×5=20)

- a) Glycolysis.
- b) Lipids: Definition, classification and biomedical importance.
- c) Hemoglobin: Chemistry, structure and functions.
- d) Diagnostic and therapeutic applications of enzymes.
- e) Urea cycle.

SECTION-B

Q.2 Short Answer Questions: (Attempt any **FOUR**) (4×5=20)

- a) Calcium: Sources, functions and disorders.
- b) Atherosclerosis.
- c) Colorimetry: Principle, working and applications.
- d) Vitamin A: Sources, functions and deficiency manifestations.
- e) Protein Energy Malnutrition.

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SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: FUNDAMENTALS OF KINESIOLOGY & KINESIOTHERAPY

Day : Saturday
Date : 17/08/2024

S-25047-2024

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) Answers to both the sections should be written in **SEPARATE** answer book.
- 4) Draw neat labelled diagrams **WHEREVER** necessary.

SECTION-A

- Q.1** Attempt any **THREE** out of **FOUR**: (20)
- a) Define lever and explain different types of levers with example. (2+8)
 - b) Write equipment used in suspension therapy. Explain axial suspension in detail. (4+6)
 - c) Describe kneeling as a fundamental position with muscle work and explain any two derived position from the same. (6+4)
- Q.2** Attempt any **FOUR** out of **FIVE**: (20)
- a) Explain chest expansion and chest excursion.
 - b) Describe deep sensations.
 - c) Describe Newton's law of motion.
 - d) Describe axis and planes.
 - e) Write advantages and disadvantages of group therapy.
 - f) Describe active and passive insufficiency.

SECTION-B

- Q.3** Attempt any **THREE** out of **FOUR**: (20)
- a) Write a principles goniometry. Describe technique of application in Radio ulnar joint. (8+2)
 - b) Describe active resisted movements. Explain progressive resisted exercises. (2+8)
 - c) Define relaxation. Describe Laurel Michael technique of relaxation. (2+8)
- Q.4** Attempt any **FOUR** out of **FIVE**: (20)
- a) Describe any two asana from supine in detail.
 - b) Describe kneading manipulation in massage.
 - c) Write the indications and contraindications of hydrotherapy.
 - d) Define 1 RM and 10 RM. Enumerate different equipments used in strengthening.
 - e) Describe active and passive insufficiency.
 - f) Describe types of equilibrium.

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SUPPLEMENTARY
BACHELOR OF PHYSIOTHERAPY
First Year : SUMMER : 2024
SUBJECT: FUNDAMENTALS OF ELECTROTHERAPY

Day : Monday
Date : 19/08/2024

S-25048-2024

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) Discuss in detail physiological effects and therapeutic effects of heat therapy. Add a note on various methods of application of Paraffin wax bath. (5+5)
- b) Discuss physiological effects of contrast bath. Write about its indications and contraindications. Add a note on method of application. (2+4+4)
- c) Describe Whirlpool therapy unit. Describe any two Whirlpool Baths. Explain the therapeutic effects; enlist indications and contraindications of same. (2+6+2)

Q.2 Short Essay Questions (Write **ANY FOUR**) : (20)

- a) Make a check list of testing Nonluminous IRR lamp.
- b) Vapocoolant sprays
- c) State inverse square law and cosine's law.
- d) Lewis hunting reaction
- e) Importance of Tuning in SWD

SECTION - B

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

- a) Describe physiological and therapeutic effects of Direct Current (D.C.) and Interrupted Direct Current (I.D.C.). Explain various wave forms if IDC. (5+5)
- b) Explain with a labelled diagram the production of Ultra Violet Radiation Lamp. Add a note on tridymite formation. (7+3)
- c) Define TENS. Describe types of TENS with its parameters. Add a neat labeled Panel diagram. (1+6+3)

Q.4 Short Essay Questions (Write **ANY FOUR**) : (20)

- a) Methods of testing ultrasound apparatus
- b) Methods of rectification of alternating current
- c) Grid system
- d) Glove method in Paraffin Wax bath therapy
- e) Define IFT. Draw a neat labeled Panel diagram
