

**BACHELOR OF PHYSIOTHERAPY (BPTH)****First Year BPTH : WINTER- 2022****SUBJECT : HUMAN ANATOMY**

3

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 7/11/2022

W-25044-2022

Max. Marks : 80

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use **blue / black** pen only
- 4) Draw neat and labelled diagram **WHEREVER** necessary.
- 5) Do not write anything on the blank portion of the question paper. This will be considered an unfair means
- 6) Section - **A** and Section - **B** should be written in **SEPARATE** answer sheets.

**SECTION - A****Q.1** Long answer questions (Solve any **TWO** out of **THREE**) **(20)****A)** Describe hip joint under - **(1+1+2+4+2)**

- i) Participating bones and articular surfaces
- ii) Classification of the joint
- iii) Relations
- iv) Movements and muscles causing movements
- v) Applied anatomy

**B)** Describe temporomandibular joint under- **(1+1+3+4+1)**

- i) Participating bones and articular surfaces
- ii) Classification of the joint
- iii) Ligaments
- iv) Movements and muscles causing movements
- v) Applied anatomy

**C)** Describe cubital fossa under - **(4+4+2)**

- i) Boundaries, roof, floor
- ii) Contents
- iii) Applied anatomy

**Q.2** Write short notes (Solve any **FOUR** out of **FIVE**) **(20)**

- a) Classification of synovial joints
- b) Biceps brachii muscle
- c) Relations of stomach
- d) Hamstrings muscles
- e) Carpal tunnel

**P.T.O.**

**BACHELOR OF PHYSIOTHERAPY**  
**First Year SUPPLEMENTARY : WINTER- 2022**  
**SUBJECT : HUMAN ANATOMY**

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 26-12-2022

W-25044-2022

Max. Marks : 80

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use **blue / black** pen only
- 4) Draw neat and labelled diagram **WHEREVER** necessary.
- 5) Do not write anything on the blank portion of the question paper. This will be considered an unfair means
- 6) Section - **A** and Section - **B** should be written in **SEPARATE** answer sheets.

**SECTION - A**

- Q.1** Long answer questions (Solve any **TWO** out of **THREE**) **(20)**
- A)** Describe muscles of mastication under **(5+2+3)**
- i) Origin and insertion
  - ii) Nerve supply
  - iii) Action
- B)** Describe Deltoid muscle under **(3+2+3+2)**
- i) Origin, insertion & nerve supply
  - ii) Actions of the muscle
  - iii) Structures under cover of the muscle
  - iv) Applied anatomy
- C)** Describe supports of uterus under **(6+2+2)**
- i) Primary supports
  - ii) Secondary supports
  - iii) Applied anatomy
- Q.2** Write short notes (Solve any **FOUR** out of **FIVE** ) **(20)**
- a) Sesamoid bone
  - b) Triceps muscle
  - c) Posterior relations of both kidneys
  - d) First carpometacarpal joint
  - e) Blood supply of stomach

**P.T.O.**

**BACHELOR OF PHYSIOTHERAPY (BPTH)**  
**First Year BPTH : WINTER- 2022**  
**SUBJECT : HUMAN PHYSIOLOGY**

Day : Wednesday

Date : 9/11/2022

**W-25045-2022**

Time : 02:00 PM-05:00 PM

Max. Marks : 80

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Section A and Section B should be written on **SEPARATE** answer sheets.
- 3) Draw neat and clean diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.

**Section A**

**Q.1 Long Answer Questions (Attempt Any Two):** (2 x 10 = 20)

- a) With the help of well labelled diagram, describe origin and spread of cardiac impulse. Add a note on P-R interval in electrocardiogram. (2+6+2)
- b) Draw and label respiratory membrane. Describe various factors affecting diffusion of gases across it. Add a note on types of hypoxia. (2+5+3)
- c) Define cardiac cycle. Enlist atrial and ventricular events during cardiac cycle. Elaborate in detail various phases in ventricular diastole. (1+3+6)

**Q.2 Short Essay Questions (Attempt Any Four):** (4 x 5 = 20)

- a) Cardiovascular changes in moderate exercise.
- b) Physiological actions of insulin.
- c) Composition and functions of pancreatic juice.
- d) Spermatogenesis.
- e) Surfactant.

**Section B**

**Q.3 Long Answer Questions (attempt Any Two):** (2 x 10 = 20)

- a) Describe in detail connections and functions of cerebellum. Describe any two signs of cerebellar dysfunction. (4+4+2)
- b) With the help of flow chart, write in detail events during transmission of impulse across neuro- muscular junction in skeletal muscle. Add a note on myasthenia gravis. (7+3)
- c) Enlist various ascending tracts in spinal cord. Describe origin, course and termination of spinothalamic tracts. Enumerate the sensations carried by them. (2+6+2)

**Q.4 Short Essay Questions (Attempt Any Four):** (4 x 5 = 20)

- a) Antibody mediated immunity
- b) Juxtaglomerular apparatus
- c) Errors of refraction.
- d) Active transport across cell membrane
- e) Properties of synapse (any two)



**BACHELOR OF PHYSIOTHERAPY**  
**First Year SUPPLEMENTARY : WINTER- 2022**  
**SUBJECT : HUMAN PHYSIOLOGY**

Day : Tuesday

Date : 27-12-2022

**W-25045-2022**

Time : 02:00 PM-05:00 PM

Max. Marks : 80

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Section A and Section B should be written on **SEPARATE** answer sheets.
- 3) Draw neat and clean diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.

**Section A**

**Q.1 Long Answer Questions (Attempt Any Two): (2 x 10 = 20)**

- a) Define cardiac output. Describe various factors determining cardiac output. Add a note on ejection fraction. (1+7+2)
- b) Describe in details chemical regulation of respiration. Add a note on hypoxia. (7+3)
- c) Describe origin and spread of cardiac impulse. Draw a well labelled diagram of normal electrocardiogram in lead II. (7+3)

**Q.2 Short Essay Questions (Attempt Any Four): (4 x 5 = 20)**

- a) Respiratory changes during moderate exercise.
- b) Deglutition reflex.
- c) Ovarian changes in menstrual cycle.
- d) Physiological actions of growth hormone.
- e) Peculiarities of pulmonary circulation.

**Section B**

**Q.3 Long Answer Questions (attempt Any Two): (2 x 10 = 20)**

- a) Enlist various ascending tracts. Describe origin, course and termination of dorsal column tracts. What are the effects of damage to dorsal column tracts? (2+6+2)
- b) Describe the events occurring during transmission of impulse across neuromuscular junction in a skeletal muscle. Add a note on myasthenia gravis. (7+3)
- c) Enlist various functions of hypothalamus. Describe any four functions in detail. (4+6)

**Q.4 Short Essay Questions (Attempt Any Four): (4 x 5 = 20)**

- a) Functions of basal ganglia.
- b) Micturition reflex.
- c) Action potential in a large myelinated nerve fiber
- d) Types of deafness
- e) Functions of platelets

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**BACHELOR OF PHYSIOTHERAPY (BPTH)**  
**First Year BPTH : WINTER- 2022**  
**SUBJECT : BIOCHEMISTRY**

Day : Friday

Time : 02:00 PM-04:00 PM

Date : 11/11/2022

W-25046-2022

Max. Marks : 40

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagrams **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) Glycogen: Glycogenesis and Glycogenolysis.
- b) Electron Transport Chain (ETC) and its inhibitors.
- c) Lipoproteins : Classification and functions.
- d) Hemoglobin : Chemistry, types and functions.
- e) Isoenzymes .

**SECTION B**

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

- a) Vitamin D: Sources, Biochemical functions and deficiency manifestations.
- b) Starvation: Metabolic changes in early and prolonged stages.
- c) Radioimmunoassay: Principle, working and applications.
- d) Transamination and Transmethylation.
- e) Formation of Uric acid and Gout.

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**BACHELOR OF PHYSIOTHERAPY**  
**First Year SUPPLEMENTARY : WINTER- 2022**  
**SUBJECT : BIOCHEMISTRY**

Day : Wednesday

Date : 28-12-2022

Time : 02:00 PM-04:00 PM

Max. Marks : 40

**W-25046-2022**

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Draw neat diagrams **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: aerobic and anaerobic with energetics.
- b) HMP shunt: Important steps and significance.
- c)  $\beta$  oxidation of Palmitic acid (16 C) with energetics.
- d) Heme catabolism and excretion of bilirubin.
- e) Enzymes: Definition and factors affecting enzyme activity.

**SECTION B**

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

- a) Laboratory diagnosis and monitoring of Diabetes Mellitus.
- b) BMR(Basal Metabolic Rate, SDA ( Specific Dynamic Action).
- c) Colorimetry : Principle, working, and application.
- d) Tyrosine : Metabolism ,important compounds formed
- e) Calcium: Sources, functions and disorders.

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**BACHELOR OF PHYSIOTHERAPY (BPTH)**  
**First Year BPTH : WINTER- 2022**  
**SUBJECT : FUNDAMENTALS OF KINESIOLOGY & KINESIOTHERAPY**

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 14-11-2022

W-25047-2022

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 Gravity. Discuss Centre of Gravity and Line of Gravity. Discuss Equilibrium with its types in detail.
  - b) Explain Standing as a Fundamental Position. Describe any two derived position from standing.
  - c) Define Suspension therapy. Describe Vertical Suspension with example. Write uses of ropes and 'S' shaped hook.
- Q.2** Write any **FOUR** out of **FIVE**: (20)
- a) Describe Deep Sensation.
  - b) Write method of chest expansion measurement.
  - c) Discuss First order Lever with examples.
  - d) Describe Frontal plane and Frontal axis.
  - e) Discuss forces and composition of forces.

**SECTION-B**

- Q.3** Write any **TWO** out of **THREE**: (20)
- a) Define passive Movement. Explain its principles. Enumerate uses of Passive movements.
  - b) Define Relaxation. Enumerate different types of relaxation. Explain Jacobson's technique of Relaxation.
  - c) Define Yoga. Write principles of Yoga. Describe any two Asanas in standing positions.
- Q.4** Write any **FOUR** out of **FIVE**: (20)
- a) Describe Deep Tendon Reflexes.
  - b) Discuss technique of Kneading in Massage and its effects.
  - c) Describe advantages and disadvantages of Group exercises.
  - d) Describe Isometric and Isotonic muscle work with examples.
  - e) Describe Shoulder Wheel and its uses.

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University  
Exam

**BACHELOR OF PHYSIOTHERAPY (BPTH)**  
**First Year BPTH : WINTER- 2022**  
**SUBJECT : FUNDAMENTALS OF ELECTROTHERAPY**

Day : Wednesday  
Date : 16-11-2022

**W-25048-2022**

Time : 02:00 PM-05:00 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) Discuss in detail physiological effects and therapeutic effects of heat therapy. Add a note on various methods of application of Paraffin wax bath.
  - b) Discuss physiological effects of Contrast Bath. Discuss indications and contraindications. Add a note on method of application of Contrast Bath.
  - c) Explain the construction of Whirlpool bath with a neat and label diagram. Add a note on contraindications of the same.
- Q.2** Write **ANY FOUR** of the following : (20)
- a) Tridymite formation.
  - b) Explain Electrical skin resistance and methods of reducing Electrical Skin resistance.
  - c) What is Strong surged faradic current? And waveforms of original faradic current.
  - d) Functions of transformer.
  - e) Semiconductor.

**SECTION - B**

- Q.3** Attempt **ANY TWO** of the following : (20)
- a) Differentiate in between Luminous and Non-luminous IRR. Add a note on laws governing radiation.
  - b) Discuss production of Ultrasound therapy. Draw a neat labeled panel diagram. Discuss different methods of testing Ultrasound.
  - c) Write principles and production of IFT. Draw and label panel diagram for of IFT and explain amplitude modulation in IFT.
- Q.4** Write **ANY FOUR** of the following : (20)
- a) Methods of applications of cryotherapy.
  - b) Types of electrodes in SWD.
  - c) Explain the construction of hydrocollator unit.
  - d) Explain in detail types of TENS.
  - e) Properties of laser.

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Repeaters  
B.C.W.

**BACHELOR OF PHYSIOTHERAPY**  
**First Year SUPPLEMENTARY : 'VINTER- 2022**  
**SUBJECT : FUNDAMENTALS OF ELECTROTHERAPY**

Day : Friday

Time : 02:00 PM-05:00 PM

Date : 30-12-2022

W-25048-2022

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 about physiological and therapeutic effects of paraffin wax bath (PWB). Describe various methods of applications of paraffin wax bath. Add a note on its contra-indication.
- b) What is Cryotherapy? Write down the physiological and therapeutic effects of Cryotherapy. Add a note on various methods of application of cryotherapy.
- 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 Lenz's law and add a note on strength and direction of induced EMF.
- b) What is piezo and reverse piezo electric effect? Explain methods of testing Ultrasound.
- c) Write about Kromyer lamp and high pressure mercury vapour lamp.
- d) Condenser.
- e) Types of electrodes in Short Wave Diathermy.

**SECTION - B**

**Q.3** Attempt **ANY TWO** of the following : (20)

- a) Explain in detail about Pain gate theory. Discuss types of TENS.
- b) Write principles and production of IFT. Draw and label panel diagram for of IFT and explain amplitude modulation in IFT.
- c) Discuss physical characteristics of IRR. Write about production of Luminous and Non-Luminous generators.

**Q.4** Write **ANY FOUR** of the following : (20)

- a) Explain modes and transmission of heat.
- b) Electromagnetic induction
- c) Properties of laser.
- d) Whirlpool bath
- e) Electric shock

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