

**JAMIA HAMDARD
DEPARTMENT OF PHYSIOTHERAPY
SCHOOL OF NURSING SCIENCES & ALLIED HEALTH**

**BPT 1st YEAR, ANNUAL EXAMINATION, MAY 2024
PHYSIOLOGY AND BIOCHEMISTRY (THEORY)
PAPER CODE: BPT – 163**

Time: 3 hours

Maximum Marks: 75 Marks

(Write your Roll No. on top of the paper immediately)

Instructions:

- (i) Attempt Section A - Physiology and Section B - Biochemistry in separate main sheets
- (ii) Attempt ALL questions. Choices are mentioned wherever applicable
- (iii) Parts of a question must be answered together
- (iv) Draw diagrams wherever necessary and Give examples wherever necessary

SECTION A – PHYSIOLOGY (50 Marks)

Part – I

MCQs and Short Answer Questions (All are compulsory) (10 × 1 Mark = 10 Marks)

Q1. Define Pain

Q2. Bones in the ear are

- | | |
|---------------------------------|---------------------------------|
| a) Malleus, incus, and stapes | c) Mallet, phalanx, and stapes |
| b) Malleus, inductus and stupor | d) Mallet, phalanx and inductus |

Q3. Vestibular apparatus helps in

- | | | | |
|-------------------|----------|----------|----------------------|
| a) Proprioception | b) Taste | c) Smell | d) None of the above |
|-------------------|----------|----------|----------------------|

Q4. Define cell membrane.

Q5. Conduction system of heart is composed of

- a) Sinoatrial node, atrioventricular node, bundle of His and alveoli
- b) Sinoatrial node, atrioventricular node, bundle of His and Purkinje fibers
- c) Sinoatrial node, atrioventricular node, pores of Kohn and alveoli
- d) Sinoatrial node, atrioventricular node, pores of Kohn and Purkinje fibers

Q6. Pituitary gland secretes the following hormones, except

- | | |
|---------------------------------|--------------|
| a) Growth Hormone | c) Prolactin |
| b) Follicle Stimulating Hormone | d) Cortisol |

Q7. Function of saliva is

- | | |
|-----------------------|----------------------------------|
| a) Aids in digestion | c) Maintains pH balance in mouth |
| b) Protects the teeth | d) All of the above |

Q8. Which blood group is called as the Universal recipient

- a) A+ b) B+ c) AB+ d) O+

Q9. Life span of RBC is

- b) 15 days b) 90 days c) 120 days d) 150 days

Q10. Pancreas help in

- a) Releasing enzymes for digestion
b) Release hormones to control blood sugar levels
c) Both a and b
d) None of the above

Part – II

Answer any **ONE** of the following:

(1 × 10 Marks = 10 Marks)

Q1. What are the properties of cardiac muscle?

Q2. What are the various lung volumes and capacities?

Part - III

Answer any **TWO** of the following:

(2 × 15 Marks = 30 Marks)

Q1. Discuss the structure and function of Nephron.

Q2. Discuss the structure and function of Neuron.

Q3. Discuss cardiac cycle in detail.

SECTION B – BIOCHEMISTRY (25 Marks)

Part – I

MCQs and Short Answer Questions (All are compulsory) (5 × 1 Mark = 5 Marks)

Q1. Deficiency of Vitamin A causes

- a) Xerophthalmia
- b) Megaloblastic anemia
- c) Hypoprothrombinemia
- d) Pernicious anemia

Q2. Which test is used to detect the presence of Carbohydrates

- a) Iodine test
- b) Molish test
- c) Chloride test
- d) None

Q3. Which statement about enzymes is true

- a) enzymes accelerate reactions by lowering the activation energy
- b) enzymes are proteins whose three-dimensional form is key to their function
- c) enzymes do not alter the overall change in free energy for a reaction
- d) all of these

Q4. Which of the following is the most important essential fatty acid present in the diet.

- a) Linoleic acid
- b) Arachidonic acid
- c) Oleic acid
- d) Palmitic acid

Q5. Which hormone is essentially required for the implantation and maintenance of the pregnancy.

- a) Estrogen
- b) Oxytocin
- c) Progesterone
- d) Prolactin

Part - II

Answer any *TWO* of the following:

(2 × 10 Marks = 20 Marks)

Q1. Discuss in detail about glycolysis and its regulation?

Q2. Define Enzymes and its classification. Discuss the factors affecting enzyme activity.

Q3. Classify proteins on the basis of function and nutritional status. Also discuss the function of proteins in our body.
