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SCHOOL OF NURSING SCIENCES & ALLIED HEALTH

BPT 1st YEAR, ANNUAL EXAMINATION, MAY 2023
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. Humans have _____ lobes in the right lung.
a) 1 b) 2 c) 3 d) 4
- Q2. Duration of ventricular systole is:
a) 0.8 seconds b) 0.5 seconds c) 0.3 seconds d) 0.1 seconds
- Q3. Sphygmomanometer is used for measuring:
a) Heart rate b) Oxygen saturation c) Blood Pressure d) None of the above
- Q4. Name the three bones located in the middle ear.
- Q5. Light enters the eye through
a) Sclera b) Cornea c) Conjunctiva d) None of the above
- Q6. Define Tidal volume
- Q7. Blood flows from the right atrium into the right ventricle via:
a) The mitral valve b) The tricuspid valve
c) The semilunar valve d) The superior vena cava
- Q8. Following are true for cardiac muscle fibres, except
a) Striated b) Fibres connect to one another through intercalated disks
c) Nuclei are peripherally located d) None of the above
- Q9. What is the life span of RBCs?
a) 30 days b) 120 days c) 6 months d) One year
- Q10. Define referred pain

Part – II

Answer any **THREE** of the following:

(1 × 10 Marks = 10 Marks)

- Q1. Discuss in detail about the structure and function of nephron.
- Q2. Discuss in detail the various lung volumes and lung capacities.

Part - III

Answer any **TWO** of the following:

(2 × 15 Marks = 30 Marks)

- Q1. Discuss the conduction system of the heart in detail.
- Q2. Discuss the mechanism of skeletal muscle contraction.
- Q3. Discuss in Detail the Vestibular apparatus.

SECTION B – BIOCHEMISTRY

(25 Marks)

Part – I

MCQs and Short Answer Questions (All are compulsory)

(5 × 1 Mark = 5 Marks)

- Q1. Oxidation of which substance in the body yields the most calories
a) Glucose b) Protein c) Glycogen d) Lipids
- Q2. Invert sugar is
a) Lactose b) Hydrolytic products of sucrose c) Sucrose d) Fructose
- Q3. Two important byproducts of HMP shunt are
a) NADH and pentose sugars b) NADPH and pentose sugars
c) Pentose sugars and 4 membered sugars d) Pentose sugars and sedoheptulose
- Q4. Ehlers-Danlos syndrome characterized by hypermobile joints and skin abnormalities is due to
a) Abnormality in gene for procollagen b) Deficiency of lysyl oxidase
c) Deficiency of prolyl hydroxylase d) Deficiency of lysyl hydroxylase
- Q5. Translation results in the formation of
a) mRNA b) tRNA c) rRNA d) A protein molecule

Part - II

Answer any **TWO** of the following:

(2 × 10 Marks = 20 Marks)

- Q1. Write Short note on (5×2=10)
a) Diabetes mellitus b) Glycolysis
- Q2. Enzymes involved in prokaryotic DNA replication and their Functions?
- Q3. Name various types of vitamin B and Diseases associated with them.
