

FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

(CCSS)

Human Physiology

PSG 1C 03—GENERAL BIOCHEMISTRY AND METABOLISM

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

Draw neat labelled diagrams wherever necessary.

I. Long Essays. Answer any four :

- 1 Mention the reference value for plasma glucose in fasting and two hours post prandial state. List the hormones released in fasting and fed state. Explain in detail blood glucose maintenance in the fed state.
- 2 What is the normal serum calcium level? Mention six functions of calcium. Explain the mechanisms by which serum calcium is regulated. What are the causes and manifestations of hypocalcemia?
- 3 Name the site where beta oxidation of fatty acid occurs. Describe the steps involved in beta oxidation of fatty acids. Calculate the energy yield in the beta oxidation of one molecule of palmitic acid.
- 4 Write about the types, characteristics and metabolism of lipoproteins ?
- 5 Describe the sources, RDA, functions and deficiency disorders associated with Vitamin D.
- 6 What are ketone bodies ? Explain the reactions of ketogenesis and add notes on how they are utilized in the body.

(4 × 10 = 40 marks)

II. Write short notes on any eight :

- 7 Write short note on Porphyrias.
- 8 What is the normal serum level and discuss the formation of bilirubin.
- 9 Distinguish substrate level and oxidative phosphorylation with suitable example.
- 10 What is 'Folate trap' ?

Turn over

- 11 Define K_m and add note on its significance ?
- 12 Name different types of specificity shown by enzymes with examples.
- 13 Describe the Functions of phospholipids.
- 14 Discuss the transamination reaction.
- 15 Write short note on Wilson's disease ?
- 16 Define secondary structure of proteins and mention its types. Describe about alpha-helix.

(8 × 5 = 40 marks)

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Human Physiology

PSG 1C 02—MICROBIOLOGY, IMMUNOLOGY AND INFECTIOUS DISEASES

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

*Draw neat labelled diagrams wherever necessary.***I. Long Essays. Answer any four :**

- 1 Differentiate agglutination and precipitation reactions. Write in detail about agglutination reactions.
- 2 Explain in detail about the mechanism of antibody mediated immune response.
- 3 Describe health care associated infections and explain how to prevent them.
- 4 Explain in detail the various staining techniques adopted for microbial demonstration.
- 5 List the common etiological agents of blood stream infections. Explain in detail the pathogenicity and laboratory diagnosis of any one organism.
- 6 Define Hypersensitivity. Classify hypersensitivity reactions. Explain in detail type I hypersensitivity reaction.

(4 × 10 = 40marks)

II. Write short notes on any eight :

- 1 Western blotting.
- 2 Phagocytic cells.
- 3 Dark field microscopy.
- 4 Bacterial growth curve.
- 5 ELISA.
- 6 Delayed type hypersensitivity.
- 7 Contributions of Louis Pasteur.
- 8 Bruton's disease.
- 9 Bacterial flagella.
- 10 Anaerobic culture methods.

(8 × 5 = 40 marks)

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(CCSS)

Human Physiology

PSG 1C 01—GENERAL ANATOMY, GENERAL PHYSIOLOGY AND BLOOD

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

*Draw neat labelled diagrams wherever necessary.*I. Long Essays. Answer any *four* questions. *Each question carries 10 marks :*

- 1 Enumerate basic tissues of body, Classify epithelium and write a note on stratified squamous epithelium.
- 2 Describe different fluid compartments and their measurements.
- 3 Classify anemia. Describe nutritional deficiency anemia in details.
- 4 Define immunity. Describe humoral and cell mediated immunity.
- 5 Describe the mechanism of Blood coagulation. Add notes on disseminated intravascular coagulation.
- 6 ABO and Rh Blood group system. Add notes on transfusion reactions.

(4 × 10 = 40 marks)

II. Short Essays Answer any *eight* questions. *Each question carries 5 marks :*

- 7 Microscopic structure of lymph node.
- 8 Hyaline cartilage.
- 9 Active and passive transport.
- 10 Action potential of skeletal muscle and its ionic basis.

Turn over

- 11 Starling forces and its applications.
- 12 Neutrophils and its role in immunity.
- 13 Explain the negative feedback mechanism with suitable example.
- 14 Purpura.
- 15 Principles of immunizations.
- 16 Harversian system.

(8 × 5 = 40 marks)