

**General Human Physiology and Biochemistry****Time: 3 Hours****Max Marks: 100**

- Answer all questions
- Draw diagrams wherever necessary
- Write **SECTION A** and **SECTION B** in separate Answer books. Do not mix up questions from Section A and Section B.

QP CODE:102002**Section A - PHYSIOLOGY****Marks: 50****Essay****(14)**

1. Define hemostasis. Enumerate the steps of hemostasis. Explain in detail the mechanisms of clotting and add a note on hemophilia (1+2+6+3+2=14)

Short essays**(2x8=16)**

2. Describe the composition and functions of gastric juice.
3. Enumerate the hormones secreted by the anterior pituitary. Describe the actions of growth hormone.

Short notes**(5x4=20)**

4. Factors influencing spermatogenesis
5. Sinoatrial reflex
6. Surfactant
7. Active transport
8. Functions of middle ear

QP CODE:103002**Section B - BIOCHEMISTRY****Marks: 50****Essay****(14)**

1. 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. (1+3+6+4=14)

Short essays**(2x8=16)**

2. Explain briefly about the enzymes that show variations in the serum level in the following diseases. • myocardial infarction • liver disease
3. Describe the role of carnitine in fatty acid oxidation. Narrate the steps of beta oxidation of Palmitic acid. Add a note on its energetics

Short notes**(5x4=20)**

4. What is the normal pH of blood. Explain the role of kidney in acid base balance.
5. Significance of HMP shunt pathway.
6. Importance of dietary fibre
7. Name the specialized products synthesized by tyrosine. Mention the defect in phenylketonuria and albinism.
8. Name four biologically important nucleotides. Mention their functions

