

**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. What is the normal blood calcium level and list the hormones regulating blood calcium level. Describe how these hormones help in regulating blood calcium level and add a note on tetany (1+3+8+2=14)

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

2. Define cardiac output and mention its normal value. Describe the factors regulating cardiac output.
3. Describe the pain pathway from the left foot with the help of a neat diagram and add a note on referred pain

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

4. Chemical regulation of respiration
5. Role of lymphocytes in immune functions
6. Mechanism of gastric acid secretion
7. Taste pathway and primary taste sensations
8. Spermatogenesis

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

1. What is the normal fasting blood glucose level and discuss its regulation in detail. Name the conditions that cause increase and decrease in blood glucose level. (2+8+4=14)

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

2. Explain the reactions of  $\beta$  – oxidation. Add a note on its energetics.
3. Define and mention the characteristic features of competitive inhibition. Explain its importance in clinical medicine with examples

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

4. Secondary structure of proteins
5. Blood buffers
6. Urea cycle reactions
7. Structure of DNA
8. Niacin

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