

## 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. List the steps involved in hemostasis. Name the clotting factors. Explain the intrinsic mechanism of blood coagulation and add a note on hemophilia. (4+3+5+2=14)

#### Short essays

(2x8=16)

2. Explain the renin- angiotensin -aldosterone mechanism for the regulation of blood pressure.
3. Draw a normal spirogram. Define the lung volumes and lung capacities with its normal values. Add a note on significance of vital capacity.

#### Short notes

(5x4=20)

4. Define anemia. Classify anemia based on etiology.
5. Describe the composition and functions of pancreatic juice.
6. Explain the structure of a chemical synapse and transmission of impulses across synapse.
7. Describe the stages of spermatogenesis. Add a note on factors influencing spermatogenesis.
8. Mention the normal blood calcium level. Discuss the actions of parathormone

QP CODE:103002

### Section B - BIOCHEMISTRY

Marks: 50

#### Essay

(14)

1. Define transmethylation. Discuss about the synthesis, functions, catabolism of amino acid involved in transmethylation reactions and disorders associated with its metabolism. (2+2+4+3+3=14)

#### Short essays

(2x8=16)

2. Explain the role of insulin and glucagon in regulation of normal blood glucose level.
3. Explain biochemical functions and deficiency manifestation of vitamin C.

#### Short notes

(5x4=20)

4. Dietary fibers.
5. Gout.
6. Ketoacidosis
7. Absorption and transport of iron.
8. Normal serum level and formation of bilirubin.

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