B.Sc. 1st Semester (Honours) Examination, 2022 (CBCS)

Subject : Nutrition

Course : CC-I

Nutritional Physiology 1

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions: 2×5=10

(a) What is polycythemia?

(b) Where do you find oxyntic cells? Mention its function.

(c) Define the term 'tachycardia'.

(d) What are anticoagulants? Name one natural anticoagulants.

(e) Name any two muscles assisting in the process of breathing.

(f) What is 'chyme'?

(g) Where do you find Kupffer cell? Write any one function of it.

(h) Define 'Rigor mortis'.

2. Answer *any two* questions: 5×2=10

(a) How unidirectional flow of blood is maintained through heart? Name the major blood vessels which carry blood to and from the heart. 3+2

(b) Write the composition and functions of pancreatic juice. 2½+2½

(c) What are the different types of membrane proteins found on the plasma membrane? What is glycocalyx? 4+1

(d) Write short notes on: 2½+2½

(i) Tidal volume

(ii) Vital capacity

3. Answer *any two* questions: 10×2=20

(a) Define coagulation. Why is calcium ion necessary for blood coagulation? Illustrate the intrinsic and extrinsic pathway of blood coagulation schematically. 2+4+4

(b) Describe the different types of 'passive transport' across the plasma membrane. How does passive transport differ from active transport? 8+2

(c) Describe in brief the mechanism of skeletal muscle contraction with diagram. What is myoglobin? (6+2)+2

(d) Briefly discuss the process of breathing in brief. Write the process of O_2 transport from lung to tissue. What is 'Bohr effect'? 5+4+1
