

PG CBCS
M.Sc. Semester- I Examination, 2021
FOOD SCIENCE & NUTRITION
 PAPER CODE: FSN 103
(CELL BIOLOGY AND APPLIED PHYSIOLOGY)

Full Marks: 40**Time: 2 Hours****Answer any FOUR questions of the following:****4X10=40**

1. Describe the orientation of lipid bilayer in the cell membrane and state its functional significance. Enlist the functions of integral protein on cell membrane. Describe the structure and function of lysosome. (4+3+3)
2. What is arterial blood pressure? Describe the baroreceptor reflex to maintain the blood pressure. What is hypertension? (2+6+2)
3. Describe the digestion and absorption mechanism of carbohydrates in human. Name the intestinal glands. What is peptic ulcer? (6+2+2)
4. Write the comparison between type I and type II pneumocytes? Indicate the four steps of respiration. Describe the physiological significance of oxygen-haemoglobin dissociation curve and indicate the Bohr's effect on it. (2+2+6)
5. Discuss the characteristics of different developmental stages of erythropoiesis. Which are the three properties of platelets involved in haemostasis? (7+3)
6. What is JG apparatus? Discuss the role of kidney in body water balance. Illustrate the mode of action of thiazides and osmotic diuretics. (3+3+4)
7. Explain the mechanism of conduction of nerve impulses in myelinated and unmyelinated nerves. What is reflex arc? Add a note on vasovagal reflex. (6+2+2)
8. Classify GI hormone with examples. Discuss the neural mechanism of food intake. How does hypothalamus control the mechanism of hunger and satiety of food? (3+7)
9. Enlist the characteristics of adaptive immune response? Explain the sequential steps involved in a phagocytosis process. Why hinge region of IgG is is flexible? (2+6+2)
10. What is the tonicity of a fluid and how does it effect on RBC? Describe the physiological factors affecting the rate of diffusion. Describe the different types of Na⁺ transport through plasma membrane. (3+3+4)