Seat No. : _____

DF-105

December-2021

B.Sc., Sem.-III

CC-202 : Biochemistry
(Cell Biology and Physiology)

Time : 2 Hours] **[Max. Marks : 50**

Instructions : (1) **All** Question in Section – I carries equal marks.
(2) Attempt any **THREE** questions in Section – I.
(3) Question – **9** in Section – II is Compulsory.
(4) Illustrate your answers with neat diagrams wherever necessary.

Section – I

Attempt any **three** :

1. (a) Discuss the technique of Cell Fractionation to study Cell organelles. **8**
   (b) Draw and explain the structure of Chloroplasts. **6**

2. (a) Describe in detail the structure of Endoplasmic reticulum. **8**
   (b) Discuss the functions of Cell wall. **6**

3. (a) Write a note on Transmission of Nerve impulse. **8**
   (b) Discuss the functions of Bone. **6**

4. (a) Explain the Sliding mechanism theory of Muscle contraction. **7**
   (b) Discuss the structure and functions of Nerve cells. **7**

5. (a) Discuss the two mechanisms of Hormone action in detail. **8**
   (b) Write the dietary sources, draw the structure of coenzyme form and state-any two roles of Pyridoxine. **6**

6. (a) Discuss the physiological action of Thyroid hormones. **7**
   (b) Draw the structure, name the dietary sources, deficiency disease, and state any two roles of Thiamine. **7**

7. (a) Discuss the two types of Blood circulation with the help of a diagram. **7**
   (b) What are junctional tissues? Discuss transmission of Cardiac impulse. **7**

8. (a) Discuss Ventricular events of Cardiac cycle. **7**
   (b) Write a note on ECG. **7**

Section – II

9. Attempt any **8** : (**All** questions are of **1** mark each) **8**

(1) State an important difference between a Prokaryotic and a Eukaryotic cell.

(2) Name the types of Secondary Lysosomes.

(3) State one important function of Golgi bodies.

(4) Draw and label structure of Ribosomes.

(5) Define Resting potential.

(6) What is a Neurotransmitter ? Give an example.

(7) Name a hormone and mineral involved in muscle contraction.

(8) Write the formula of Hydroxyapatite.

(9) Name the disease which occurs due to Insulin deficiency.

(10) State a physiological role of Glucagon.

(11) Name the coenzyme forms of Riboflavin.

(12) Write the deficiency disease of Niacin.

(13) Give normal value of following in a healthy heart :

(1) Heart rate (2) Cardiac cycle time

(14) Name the instrument used to measure Blood pressure in our body.

(15) Name the valves present in human heart.

(16) Define Artery and Vein.