

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter 2022-23 Examination

Semester: 1
Subject Code: 303111101
Subject Name: Biology

Date: 31/01/2023
Time: 02:00 pm to 04:30 pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - (All are compulsory, Each Question carry one mark) (15)

1. The largest structure in the cell is _____.
(a) The Golgi apparatus (b) The nucleus
(c) The ribosome (d) The mitochondrion
2. The cell membrane is a “sandwich” of _____.
(a) lipid–protein–lipid (b) lipid–lipid–protein
(c) protein–protein–lipid (d) protein–lipid–protein
3. Epithelia are involved in all the following except _____.
(a) Protection (b) Secretion
(c) Connection (d) Absorption
4. Intercalated discs are found in _____.
(a) Cardiac muscle tissue (b) Movable joints
(c) The vertebral column (d) Bone tissue
5. The general term for reactions that prevent or minimize loss of blood from the vessels if they are injured or ruptured is _____.
(a) Stabilization energy (b) Homeostasis
(c) Syneresis (d) Hemostasis
6. What role do carbohydrates play in the body?
7. Explain the difference between purines and pyrimidines.
8. Chromosome duplication takes place during _____ Phase.
9. _____ muscle tissue is composed of multinucleated, striated, cylindrical fibers arranged into fasciculi.
10. _____ are the building blocks of proteins.
11. Endoplasmic reticulum (ER) with attached ribosomes is called _____.
12. What do you mean by Histology?
13. What is the blood volume of an average person?
14. Blood functions in transport, pH balance, thermoregulation, and immunity mechanisms. True/False?
15. Neuroglia are specialized cells of nervous tissue that react to stimuli. True/False?

- Q.2 Answer the following questions. (Attempt any three) (15)**
- (A) Enlist and Explain the types of cell Junctions with its function.
 - (B) What is Neuron? Explain the types of neurons using suitable diagram.
 - (C) Draw and Explain Golgi Apparatus in detail.
 - (D) Give the Difference between DNA & RNA.

- Q.3 (A) Draw and Explain Plasma Membrane with its functions. (07)**
(B) Draw and Explain Mitochondria in detail. (08)

OR

- (B) Draw and Explain the types of Epithelial Tissue with its Functions. (08)**

- Q.4 (A) What is Blood Group System? Explain it in detail. (07)**

OR

- (A) What is Mitosis? Enlist and Explain the stages of Mitosis using suitable diagram. (07)**

- Q.4 (B) What is Blood? Enlist and Explain the Components of Blood in detail. (08)**