

D 110104

(Pages : 2)

Name.....

Reg. No.....

**FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2024**

Botany

BOT 5B 09—CELL BIOLOGY AND BIOCHEMISTRY

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

Section A*Answer all questions.**Each question carries 2 marks.**Ceiling : 20 Marks.*

1. Mitochondria is the power house of the cell, why ?
2. What is Vacuole ? Comment on its functions.
3. Distinguish between polyploidy and aneuploidy.
4. What are Lipids ? Give an example for simple lipids.
5. Which are the different phases of interphase ? Comment on its significance.
6. What are the significance of crossing over ? Name the meiotic stage at which it happens.
7. Write the roles of centrioles in a cell.
8. Define Nucleotide. What are its components ?
9. What is Coenzyme ? Give an example.
10. What are Dipeptides ?
11. Name the major classes of enzymes based on IUB nomenclature.
12. How does monosaccharide differ from oligo saccharide ?

Turn over

Section B

Answer all questions.

Each question carries 5 marks.

Ceiling : 30 Marks.

13. Draw the structure of chromosome and explain the various types of chromosomes based on morphology.
14. With a suitable labelled diagram, explain the fluid mosaic model of plasma membrane.
15. Explain the types of enzyme inhibition.
16. With a labelled diagram, explain the structure and significance of polytene chromosome.
17. Write an account on secondary metabolites in plants and their roles.
18. Describe the structural levels of proteins. Give any one example for each.
19. Explain the classification of amino acids.

Section C

Answer any one question.

The question carries 10 marks.

20. Explain the various phases of mitosis with labelled diagram of each stage. Mention its significance.
21. Write an essay on the classification and chemistry of carbohydrates.

(1 × 10 = 10 marks)