C 1108   (Pages : 2)   Name...................................

Reg. No...................................

SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, MARCH 2021

Botany

BOT 6B 11—CELL BIOLOGY AND BIOCHEMISTRY

Time : Three Hours   Maximum : 80 Marks

Section A

Answer all questions.
Each question carries 1 mark.

1. The type of ribosome and its subunits in prokaryotes.

2. The infoldings of the inner membrane in mitochondria.

3. The membrane delimiting vacuole in a plant cell.

4. The chromatin that is in a dispersed state in interphase.

5. A chromosome without a centromere.

6. Name an acidic amino acid.

7. Name two polysaccharides.

8. Write the names of two triose sugars.

9. The term used for molecules having same formula, but different structures.

10. Write the name of a co enzyme.

(10 × 1 = 10 marks)

Section B

Answer at least five questions.
Each question carries 4 marks.
All questions can be attended.
Overall Ceiling 20.

11. Write a brief account on the chemical composition of chromatin.

12. Distinguish centromere from telomere.

13. List out four important functions of plasma membrane.

14. Differentiate between euploidy and aneuploidy.

15. Write about the significance of meiotic division.

16. Write an account on heteropolysaccharides citing any one example.

Turn over

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17. What are sphingolipids ? Give an example.

18. Classify amino acids based on polarity.

19. Write an account on renaturation of proteins.

20. Draw the structure of a deoxyribonucleotide.

$(5 \times 4 = 20$ m

Section C

*Answer at least **five** questions.*
Each question carries 7 marks.
All questions can be attended.
Overall Ceiling 35.

21. Describe the structure of mitochondrion with the help of a diagram.

22. Write an account on cytoskeleton.

23. Explain the events taking place during prophase I.

24. Write an account on flavonoids and tannins as secondary metabolites in higher plants.

25. Give an account of disaccharides found in plants.

26. Explain the structure of proteins.

27. How lipids are classified ?

28. Describe the basic concept of allosteric enzymes. What are cofactors ?

$(5 \times 7 = 35$ n

Section D

*Answer at least **one** question.*
The question carries 15 marks.

29. Illustrate structural aberrations of chromosomes. What genetic effects are brought about by changes ?

30. Write an essay on special types of chromosomes.

31. Describe the chemical nature, mechanism of action and properties of enzymes.

$(1 \times 15 = 15$ r