2025

(FYUGP)

(1st Semester)

BOTANY

(Major)

Paper Code : C–2 BCC–02

(Biomolecules and Cell Biology)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. What are nucleotides and nucleosides? Explain briefly the types of nucleic acid. 7½+7½=15

Or

Write notes on any *two* of the following : 7½×2=15

(a) Classification of lipids

(b) Types of protein structure

(c) Structure of tRNA.

2. Briefly describe the structure of an enzyme. Explain briefly the different mechanisms of enzyme action. 7½+7½=15

Or

What are endergonic and exergonic reactions? Explain the structure of ATP and its role as energy currency molecule. 5+10=15

3. Write notes on any *two* of the following : 7½×2=15

   (a) Structure and function of Golgi apparatus

   (b) Structure and function of nucleus

   (c) Structure and function of lysosomes

Or

Write a note on the characteristics of prokaryotic and eukaryotic cells. 15

4. Describe in detail the stages of meiosis. Write its significance. 10+5=15

Or

What are cell cycle checkpoints? Write briefly on the role of protein kinases. 7½+7½=15

5. Explain with illustration, the structure of DNA and its types. 15

Or

Write notes on any *two* of the following : 7½×2=15

(a) Laws of thermodynamics

(b) Cell as a unit of structure and function

(c) Phases of cell cycle

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