

2 0 2 3

(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*

UNIT—I

- 1. (a) Explain briefly the structure and properties of water. 15**

Or

- (b) Describe the classification and structure of carbohydrates with suitable examples. 15**

UNIT—II

2. (a) Describe the primary, secondary, tertiary and quaternary of protein with labelled diagrams. 15

Or

- (b) Write short notes on the following :
7½×2=15

(i) Protein denaturation and biological role of proteins

(ii) Structure of A, B and Z types of DNA

UNIT—III

3. (a) State the laws of thermodynamics. Explain the structure of ATP and its role as an energy currency molecule. 3+12=15

Or

- (b) Write short notes on the following :
7½×2=15

(i) Michaelis-Menten equation

(ii) Factors affecting enzyme activity

UNIT—IV

4. (a) What is cell cycle? Describe the different phases of mitosis with neat labelled diagrams. 3+12=15

Or

- (b) Write short notes on the following : 7½×2=15

- (i) Facilitated transport
- (ii) Characteristics of eukaryotic cells

UNIT—V

5. (a) What are cytoskeletons? Describe the structure and role of microtubules, microfilaments and intermediate filaments. 3+12=15

Or

- (b) Write short notes on the structure and functions of the following : 7½×2=15

- (i) Chloroplast
- (ii) Mitochondria

★ ★ ★