

MODEL QUESTION PAPER
BSC I YEAR
BIOTECHNOLOGY
FIRST PAPER
CELL BIOLOGY AND BIOCHEMISTRY

TIME: 2 HRS

MAXIMUM MARKS: 75

MINIMUM MARKS: 33

Note: The question paper consists of three sections: A, B and C. attempt all the questions according to the given instructions.

Section A

Very Short Answer Type Questions

Note: Attempt all questions. Each question carries three marks (3 X 3 = 09)

Q1. Write a short note on any three:

- a. Differentiate between prokaryotic and eukaryotic cells
- b. Differentiate between plant and animal cell
- c. Properties of water
- d. Differentiate between DNA and RNA
- e. Paper chromatography

Section B

Short Answer Type Questions

Note: Attempt all questions. Each question carries nine marks (4 X 9 = 36)

Q2. Write a brief note on different cell theories.

Or

Describe structure and functions of microtubules, microfilaments and centriole.

Q3. Explain principle and instrumentation of atomic adsorption spectrophotometer.

Or

Describe structure and functions of mitochondria and chloroplast.

Q4. Comment on any two:

- a. Acid and bases
- b. Covalent and Non-covalent bond
- c. Ionic and hydrogen bond
- d. Role of water in biomolecular structure

Q5. Explain the principle and application of light microscopy.

Or

Explain principle and applications of spectrophotometer.

Section C

Long Answer Type Questions

Note: Attempt all questions. Each question carries fifteen marks (2 X 15 = 30)

Q6. Write a detail note on mitosis.

Or

Write a detail note on meiosis.

Q7. Explain nomenclature, classification, structures, characteristics and functions of carbohydrates.

Or

Explain nomenclature, classification, structures, characteristics and functions of proteins.