

Roll No. ....

**3018**

**B. Tech. 3rd Semester (Bio-Tech.)  
Examination – March, 2021**

**BIOLOGY**

**Paper : BSC-BIO-201-G**

*Time : Three Hours ]*

*[ Maximum Marks : 75*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

*Note : Attempt five questions in all, selecting one question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.*

1. (a) Define biology.
- (b) What is allele ?
- (c) Explain concept of dominance.
- (d) What are carbohydrates ?
- (e) Explain gene cloning.
- (f) Define vector.

2.5 × 6 = 15

**UNIT – I**

2. (a) What are characteristic features of living organisms ?

7.5

- (b) What are differences between animal and plant cell? 7.5
3. (a) Describe Mendel's Law of Inheritance. 7.5
- (b) What are characteristics of genetic code? 7.5

### UNIT – II

4. Discuss the structure and important functions of carbohydrates. 15
5. (a) Describe Watson and Crick Model of DNA. 7.5
- (b) What are different types of RNA and their functions? 7.5

### UNIT – III

6. (a) Write note on restriction enzymes and their role in genetic engineering. 7.5
- (b) What is genetic engineering and its main aims? 7.5
7. (a) What are desirable characteristics of good cloning vector? 7.5
- (b) What are transgenic plants and their importance? 7.5

### UNIT – IV

8. Write down the applications of biotechnology in agriculture. 15
9. Discuss the role of biotechnology in environment. 15