

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.

$$2.5 \times 6 = 15$$

UNIT – I

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

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(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