

Roll No.

OLE-3018

B. Tech. 3rd Semester (Bio-Tech.)

Examination – April, 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. All parts carry equal marks : $2.5 \times 6 = 15$

- (a) What is cell theory ?
- (b) What is allele ?
- (c) Explain concept of central dogma.
- (d) What are carbohydrates ?
- (e) What are plasmids ?
- (f) Define enzyme.

UNIT – I

2. (a) Describe the structure of eukaryotic cell. $7.5 \times 2 = 15$
- (b) What are differences between animal and plant cell ?
3. (a) Describe Mendel's Law of inheritance. $7.5 \times 2 = 15$
- (b) What is evidence of nucleic acid as a genetic material ?

UNIT – II

4. Discuss the important functions of carbohydrates and lipids. 15
5. (a) Describe double helix model of DNA. $7.5 \times 2 = 15$
- (b) Discuss the secondary and tertiary structure of proteins.

UNIT – III

6. (a) What is genetic engineering and what are main steps involved in it ? $7.5 \times 2 = 15$
- (b) Write note on types of restriction enzymes.
7. (a) What are desirable characteristics of good cloning vector ? $7.5 \times 2 = 15$
- (b) What are different tools used in genetic engineering ?

UNIT – IV

8. Discuss the role of biotechnology in environment. 15
9. Discuss the role of biotechnology in medicine. 15
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