

Roll No.

3018

**B. Tech. 4th Semester (EE)
Examination – July, 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 Number 1 is *compulsory*. All questions carry equal marks.

1. Write the short notes on the following : $1.5 \times 10 = 15$

- (a) Father of biology
- (b) Central Dogma
- (c) Gene
- (d) Allele

- (e) Enzyme
- (f) Starch
- (g) Glycoprotein
- (h) Cholesterol
- (i) Clone
- (j) Golden rice

UNIT - I

2. What is biology ? Why should an engineer study biology ?
15
3. Write the short notes on any *two* :
7.5 × 2 = 15
 - (a) Cell theory
 - (b) Mendel's laws of inheritance
 - (c) Economic importance of microorganism

UNIT - II

4. Write the short notes on any *two* :
7.5 × 2 = 15
 - (a) Amino acids
 - (b) Structure and function of lipids
 - (c) Types and function of RNA

3018-1500-(P-3)(Q-9)(21) (2)

5. What is nucleic acid ? Describe the Watson and Crick model of DNA in detail.
15

UNIT - III

6. Write the short notes on :
7.5 × 2 = 15
 - (a) Restriction enzymes
 - (b) Steps of gene cloning

7. What are the transgenic animals ? What is the importance of transgenic animals in modern era ?
15

UNIT - IV

8. Write the short notes on :
7.5 × 2 = 15
 - (a) Enzyme technology
 - (b) Role of biotech in medicine
9. What is Biotechnology ? What are pre-requirements for the biotechnology ?
15

3018-1500-(P-3)(Q-9)(21) (3)

3018

B.Tech. (EE) 4th Semester (G-Scheme)

Examination, July-2022

BIOLOGY

Paper- BSC-BIO-201-G

Time allowed : 3 hours]

[Maximum marks : 75

Note : Question No. 1 is compulsory and attempts four more questions by selecting one question from each unit. All questions carry equal marks (15 each).

1. Write the short notes on the following. $6 \times 2.5 = 15$

- (a) Difference between plant & animal cells**
- (b) Phenotype and Genotype**
- (c) Adaptor and linker**
- (d) Cholesterol**
- (e) Monoclonal antibody**
- (f) Indicator plants**

Unit - I

2. What are organisms? Detail description of the characteristic feature of a living organism? 15

3. Write the short note on any two: $2 \times 7.5 = 15$

- (a) Gene interaction**
- (b) Mendel's laws of inheritance**
- (c) Cell cycle**

Unit - II

4. Write the short note on any *two*: $2 \times 7.5 = 15$
- (a) Carbohydrates
 - (b) Types of RNA
 - (c) Functions of proteins
5. What are lipids? Describe the structure and functions of lipids in detail. 15

Unit - III

6. Write the short note on any *two*: $2 \times 7.5 = 15$
- (a) Restriction enzymes
 - (b) Transgenic plants
 - (c) Transgenic animal
7. What are the cloning vectors? Describe properties, functions of various types of cloning vectors? 15

Unit - IV

8. Write the short note on $2 \times 7.5 = 15$
- (a) Production and uses of therapeutic agents
 - (b) Biotech in sewage treatment
9. What is Biotechnology? What is the importance of Biotechnology in the modern era of sciences? 15