

2056
B.A./B.Sc. (General) Sixth Semester
Bio-Chemistry
Paper – A: Molecular Biology –II

Time allowed: 3 Hours

Max. Marks: 45

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

1. Give answer the following :-

- a) Give the name of two DNA binding proteins.
- b) What are elongation factors?
- c) What is the function of Trp operon?
- d) Write name of two types of regulatory RNAs.
- e) What is the DNA methylation?
- f) Write the functions of plasmids in rDNA technology.
- g) What is Genome?
- h) Give name of two genetic diseases.
- i) What is the ligation?

(9x1)

UNIT - I

2. (a) What is protein targeting? How proteins are targeted into mitochondria?

(b) Write about the Lac operon. How it regulates gene expression in bacteria? (5, 4)

3. (a) Define the lytic cycle. Write difference between lytic and lysogenic cycle in virus.

(b) What is protein proteolysis, explain with an example? (5, 4)

UNIT - II

4. (a) Describe the transcription bubble in the eukaryotic.

(b) What is the leucine zipper? How it regulated the gene expression process? (4,5)

5. (a) Write in brief about the how the steroid hormone control gene expression?

(b) What are the major role of RNAs in gene regulation. (5, 4)

P.T.O.

(2)

UNIT - III

6. (a) What are the cloning vectors? How the plasmid uses as gene vehicle in genetic engineering?

(b) What is the yeast Gal? Write their roles in molecular biology. (5, 4)

7. (a) Write in brief about roles of hormones in transcription regulation.

(b) Write the application of genetic engineering. (4,5)

UNIT - IV

8. (a) Write the main structural features of prokaryotic genome.

(b) What is the next generation sequencing (NGS)? Explain Sanger's method of genome sequencing. (5,4)

9. (a) Write the application of SNPs in diseases detection .

(b) What is the microarray? Write its role in genetic disease diagnostic. (4,5)

x-x-x