

92273

B.Sc. 4th Semester (New Scheme) Examination,

May-2017

BIOTECHNOLOGY

Paper-BT-402

Molecular Biology

Time allowed : 3 hours]

[Maximum marks : 40

Note : Question No. 1 is compulsory and attempt any four questions selecting one question from each unit given below. All questions carry equal marks.

1. Write notes on following :

1×8=8

- (a) Sense strand
- (b) Nucleotide
- (c) Mutation
- (d) Gene
- (e) Poly A tail
- (f) Sigma factor
- (g) Stop codon
- (h) Operon

Unit-I

2. What is genetic material ? Describe in detail structure and types of DNA.

8

3. Write notes on any two :

8

- (a) DNA Polymerase
- (b) Prokaryotic DNA Replication
- (c) Primosomes

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Unit-II

4. Describe the molecular mechanism of DNA repair and why it is needful for us. 8
5. Write the notes on any *two* : 8
- (a) Mechanism of DNA Repair
 - (b) Translesion synthesis (TLS)
 - (c) Homologous recombination repair of DNA

Unit-III

6. What are the differences between the prokaryotic and eukaryotic transcription ? 8
7. Write notes on any *two* : 8
- (a) RNA polymerase
 - (b) Eukaryotic transcriptional factors
 - (c) RNA Splicing.

Unit-IV

8. What is translation ? Describe the molecular mechanism of protein synthesis in eukaryotic system. 8
9. Write the notes on any *two* : 8
- (a) Ribosome
 - (b) Genetic code
 - (c) Inhibitor of translation.