

2316

20

Class – M.Sc. II Sem

Subject – Molecular Biology and rDNA Technology

Paper – BT - 521

Time Allowed : 3 Hours

Maximum Marks : 75

Section A

Q1. All the questions are compulsory. Each carries 1.5 marks.

- (a) What is Denaturation of DNA?
- (b) What is Semi - conservative replication of DNA?
- (c) What is Cot analysis?
- (d) What is Klenow fragment?
- (e) What is Rolling Circle Model of Replication?
- (f) How are the nicks produced in DNA for labelling by nick translation?
- (g) What is the role of UP element in transcription?
- (h) What is ribozyme? What is role of ribozyme?
- (i) What is gene splicing?
- (j) Define the term vector.

Section - B

Unit - I

Q2. Write about concept of DNA repair. Explain all the mechanisms of DNA repair. 12

OR

Q3. List the enzymes required for replication of DNA in Eukaryotes and also mechanism of Replication. 12

UNIT - II

Q 4. What are General Transcription factors? Describe the steps of transcription in eukaryotes with enzymes. 12

OR

Q 5. Explain the different types of RNA with structure. 12

UNIT - III

Q 6.(a) Write about Post transcriptional modifications of mRNA. 8

(b) What is ribozymes? What is its importance? 4

OR

Q 7.(a) What is the role of 16S rRNA in translation? Discuss the elongation. 7

(b) What modifications do proteins undergo in ER? 5

UNIT - IV

Q 8. Write about gene regulation in Prokaryotes. 12

OR

Q 9.(a) How does methylation and demethylation of DNA regulate gene expression? 6

(b) Write about Chromosomal Activation. 6

UNIT - V

Q 10.(a) What is rDNA technology? Write down its steps. 5

(b) Write about enzymes involved in rDNA technology. 7

OR

Q 11.(a) What are the characteristics of Genetic Code? 6

(b) Write about protein trafficking and sorting. 6
