

R09

Code No: 54049

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech II Year II Semester Examinations, December - 2017

MOLECULAR BIOLOGY AND GENETICS

(Biotechnology)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Describe the process of DNA replication in detail.
- b) Write a note on telomere and mention how they replicate. [7+8]
- 2.a) Write a detailed account of transcription apparatus.
- b) Discuss the processing of all three RNAs. [8+7]
- 3.a) Compare protein synthesis in prokaryotes and eukaryotes.
- b) Describe genetic code. [8+7]
- 4.a) Describe the organisation of nucleosome.
- b) Explain basic laws of inheritance. [8+7]
- 5.a) Describe two point and three point crosses.
- b) Explain mapping of genes by tetrad analysis by mitotic crossing over. [7+8]
- 6.a) Write about methods of transduction.
- b) Elucidate lytic cycle of bacteriophages. [7+8]
- 7.a) Discuss various types of DNA damages and repair mechanisms.
- b) Give an account of mutations. [8+7]
- 8.a) Write a note on extrachromosomal inheritance with suitable examples.
- b) Describe uniparental inheritance. [8+7]

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