

Registration No.:

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Total number of pages-2

B.Tech

Fourth Semester Examination-2013

PCBT 4204 Molecular Biology

Full Marks-70

Time: 3 Hours

Answer Question No. 1 which is compulsory and any Five from the rest.

The figures in the right-hand margin indicate marks.

- 1) Answer the following questions [2X10]
- a) What is C-value paradox?
 - b) What is satellite DNA?
 - c) What is telomere?
 - d) What is phylogenetic tree?
 - e) What is split genes?
 - f) What is *Shine Dalgarno Sequence* ?
 - g) What is the need of DNA methylation?
 - h) What is RNA editing?
 - i) What is protein turn protein targeting?
 - j) What is the function of Alkaline Phosphatase and Taq DNA polymerase in molecular biology ?
- 1) a) What is genetic code? Explain the properties of genetic code. [6]
b) Explain Cytoplasmic inheritance with proper examples [4]
- 2) Explain the transcription in prokaryotes with proper diagram. How is it different from eukaryotes? [6+4]
- 3) a) "DNA replication is semiconservative" explain * with proper experimental example. [6]
b) What is gene silencing? [4]
- 4) a) Describe different methods of DNA repair. [6]
b) Capping and poly (A) tailing [4]
- 5) a) Describe the structure of t-RNA with proper diagram. [5]
b. Explain receptor mediated cell-cell signaling. [6]
- 6) Differentiate between [5X2]
a) Constitutive and Induced gene expression
b) 70S ribosome and 80S ribosome
- 7) Write notes on [5X2]
a) Replication fork
b) RNA splicing

