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Roll No. ..............

B. Sc. (Biotech.)-II Year

# NS-3466

## B. Sc. (Biotechnology) Examination, May 2016

### MOLECULAR BIOLOGY

(B-203)

(New)

Time : Three Hours]          [Maximum Marks : 50

Note : Attempt any *five* questions. All questions carry equal

marks. Draw diagrams wherever necessary.

1. Differentiate between the structure of DNA and RNA.

    Describe the different types of RNA.          10

2. Discuss two experiments which prove that DNA

    replication is semiconservative.          10

3. Write short notes on the following :          2½×4=10

    (a)     Prokaryotic DNA polymerase

    (b)     Split genes

    (c)     Selfish DNA

    (d)     Spliceosomes.

4. Write short notes on the following :          2½×4=10

    (a)     Cryptic genes

    (b)     Reverse transcription

    (c)     Promiscous DNA

    (d)     C-value paradox.

5. Describe in detail the basic concept of nucleosome

    model for chromatin structure.          10

6. Differentiate between :          2=10

    (a)     Lac operon and tryptophan operon

    (b)     rho factors and sigma factors.

7. Describe the general properties of genetic code.

    Discuss the various codon assignments given by

    Nerenberg.

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8. Describe the structure and function of eukaryotic DNA polymerases. 10

9. Give an account of Britten-Davidson's model of regulation of gene activity in eukaryote. 10

10. What do you understand by the following? 5×2=10

(a) RNA editing

(b) Ribozymes.

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