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(20516)

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

(2)

3. Write short notes on the following: $2\frac{1}{2} \times 4 = 10$
- (a) Prokaryotic DNA polymerase
 - (b) Split genes
 - (c) Selfish DNA
 - (d) Spliceosomes.
4. Write short notes on the following: $2\frac{1}{2} \times 4 = 10$
- (a) Cryptic genes
 - (b) Reverse transcription
 - (c) Promiscuous 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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(3)

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

⑧ Give an account of Britten-Davidson's model of regulation of gene activity in eukaryote. 10

10/2 What do you understand by the following? $5 \times 2 = 10$

(a) RNA editing

(b) Ribozymes.

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