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J.P.S. Pharmaceutical College
Murali Nagar, Ghazipur-201206

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

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? $5 \times 2 = 10$

- (a) RNA editing
- (b) Ribozymes.

Also several

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