

NP-3331

M.Sc. Biotech. Examination, Dec. - 2020

Cytogenetics and Molecular Genetics

(H-102)

(New)

[M.Sc. (Bio-Tech.)]

Time : Three Hours] [Maximum Marks : 50

Note : Attempt all the sections as per instructions.

Section-A

Note : Attempt all five questions. Each question carries 2 marks. The answer should not exceed 75 words.

1. Explain how there is non-overlapping in Genetic code. 2
2. Discuss anaphasic chromosomal movement. 2

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3. Differentiate between Pseudogenes and Pseudoalleles. 2
4. What do you understand by C-value paradox? 2
5. Differentiate between kinetochore and Centromere. 2

Section-B

Note : Attempt any two questions out of three questions. Each question carries 5 marks. Answer should not exceed 200 words.

6. Describe structure and function of synaptonemal complex. 5
7. Discuss the role of proteins involved in prokaryotic DNA replication. 5
8. Differentiate between :
 - (a) RNA and DNA 2
 - (b) Frame shift and silent mutation 2

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Section-C

Note : Attempt any **three** questions out of the following **five** questions. Each question carries 10 marks. The answer in required in detail.

9. Discuss the role of different histones in organization of nucleosome. Also give an account on phasing of nucleosomes. 10
10. Give a detail account on meiotic pairing and crossing overing in Pericentric inversion heterozygote. 10
11. Illustrate multiple translocation by taking suitable example
12. Differentiate between Nullisomics and Nulliplex. Discuss the method of production and breeding behaviour in Nullisomics. 10

13. Give a detail account on:

- (a) Addition lines 5
- (b) Experimental evidence for DNA as genetic material. 5