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GIET UNIVERSITY, GUNUPUR – 765022

M. Sc. (Second Semester) Examinations, September – 2021
20LSPC201 – Molecular Biology and Instrumental Techniques
(Life Science)

Time: 2 hrs

Maximum: 50 Marks

(The figures in the right hand margin indicate marks.)

PART – A

Q.1. Answer **ALL** questions

(2 x 10 = 20 Marks)

- a. What is Chargaff's rule?
- b. What is Satellite DNA ?
- c. What do you mean by C-Value paradox?
- d. Justify gene as a muton.
- e. What are different factors needed for Chain Initiation during DNA replication?
- f. What do you mean by capping during Post transcriptional modifications?
- g. What do you mean by Nucleic acid hybridization?
- h. What is Beer-Lambert's Law?
- i. Write two application of Fluorescence spectrophotometer.
- j. Write two application of MASS spectrophotometer.

PART – B (6 x 5 = 30 Marks)

Answer ANY FIVE question

Marks

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| 2. What is the difference between nucleoside and nucleotide? Explain with structures. | (6) |
| 3. What do you mean by Genome? Explain the organization of Eukaryotic Genome. | (6) |
| 4. Explain DNA re-association kinetics with the help of Cot curve? | (6) |
| 5. What are Unique DNA sequences and Repetitive DNA sequences? Explain their importance. | (6) |
| 6. Explain Homologous Recombination and Site-specific Recombination. State their significance. | (6) |
| 7. Describe the principle and operation of Phase contrast Microscopy and Electron Microscopy. | (6) |
| 8. Explain principle and Instrumentation of Thin-layer chromatography and Affinity chromatography | (6) |

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