3/04/23
M.Sc Sem I

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M.Sc. Biotechnology, Semester I, Odd Semester-End Term Examination (2023)

Paper Name: **Practical: Biomolecules, genetic Engineering and Molecular Biology**
Paper Code: **MBT-CC105**
Time: **10 AM Onwards** Maximum Marks: **150**

Note: Answer all the questions; Draw suitable diagrams and write the equations/ calculations wherever required.

Q1. Provide short answers to the questions provided on the separate sheet. [20]

Q2. Perform the experiment given to you. List the requirements and describe the principle, methodology and precautions. Write the experimental result. [25]

Q3. Isolate plasmid (Even Roll No.) /genomic DNA (Odd Roll No.) from the given *E. coli* culture and write down its principle, procedure, result and precautions of the same. [25]

Q4. Write down the principle of Bradford's Assay. With the help of the flow chart write down the steps involved in isolation of protein form a given biological source. [15]

[50]

Q5. Viva –Voce [15]

Q6. Practical Record

Examination Roll No. _____

Q1: Provide short answers in the space provided **(2 marks each)**

1. What is Le Chatelier's principle?

2. Differentiate between a reducing and a non reducing sugar. Name the test for their identification.

3. Calculate the amount of salt required to prepare 100 ml of 2N NaOH solution (Mol. Weight of NaOH = 40).

4. Name the test used to detect the presence of aromatic amino acid? Write the reaction involved?

5. What is the role of an SDS in electrophoresis?

6. What is the principle of blue white screening?

7. Write down the principle of plasmid DNA isolation.

8. What is hyperchromicity?

9. Which method is used for RNA isolation? Write down $A_{260/280}$ for pure RNA.

10. Write down the principle of TA cloning?