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MCC/22/M.Sc./Sens-

PG AGRICULTURE M.Sc. Semester-II Examination 2023 PAPER: BIOCHEM 505 (THEORY) (TECHNIQUES IN BIOCHEMISTRY)



Time: 3 Hours

Full Marks: 50

GROUP-A

Answer any <u>FIVE</u> of the following questions:

2×5=10

4×5=20

- 1. What is stationary phase and mobile phase.
- 2. What is Retention factor (R_f) ?
- 3. Differentiate between normal and compound microscope.
- 4. What are the requirements of TLC?
- 5. Differentiate between normality and molarity
- 6. Write down the chemicals used for SDS page.
- 7. Write down the function of EtBr and bromophenol blue in Gel electrophoresis.
- 8. Define sedimentation.
- Calculate the amount of NaCl required for preparation of 3M of NaCl for 200 ml (MW of NaCl= 58.44 g/mol).
- 10. What is cryopreservation?

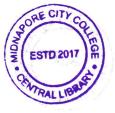
GROUP-B

Answer any <u>FOUR</u> of the following questions:

- 1. What is the principle of spectrophotometer? Differentiate between colorimeter and spectrophotometer
- 2. Write down the precautionary measures for laboratory use.
- 3. Differentiate between SDS page and native page.
- 4. Describe the procedure of DNA gel electrophoresis.
- 5. Write down the different parts and functions of compound microscope.
- 6. Write down the procedure of western blotting.
- 7. Explain the principle of flame photometer.
- 8. Explain any one hydrodynamic method of separation of biomolecules.

(P.T.O.)

 $10 \times 2 = 20$



GROUP-C

(2)

Answer any <u>TWO</u> of the following questions:

1. Write down the principle, procedure and application of paper chromatography.

- 2. What are the basic principles of sedimentation? Write down the safety aspects of centrifuge use.
- 3. Briefly describe the principle and function of Atomic absorption spectrophotometry.
- 4. Write down the different steps and mechanism of HPLC.