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PG AGRICULTURE
M.Sc. in Genetics and Plant Breeding
Semester-II Examination, 2023
PAPER: **BIOCHEM 505 (THEORY)**
(TECHNIQUES IN BIOCHEMISTRY)

Full Marks: 50 **Time: 3 Hours**

GROUP-A

Answer any FIVE of the following questions: **2×5=10**

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.
9. 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 FOUR of the following questions: **4×5=20**

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 hydrodyanmic method of separation of biomolecules.

GROUP-C

Answer any TWO of the following questions: **10×2=20**

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

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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.

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