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PG Agriculture
M.SC. Semester- III Examination, 2023
GENETICS AND PLANT BREEDING
PAPER: PGS 504 (Practical)
(BASIC CONCEPTS OF LABORATORY TECHNIQUES)

Full Marks: 80

Time: 3 Hours



The figures in the right-hand margin indicate full marks.
 Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **THREE** of the following questions: 5×3=15
 - a) Why safety measures in lab is important?
 - b) Why autoclaves are being used for media preparation?
 - c) Discuss on washing, drying and sterilization of glassware. Write its importance.
 - d) List five major glass goods with their uses in the laboratory.
 - e) How buffer solutions are prepared?
2. Answer any **ONE** of the following questions: 10×1=10
 - a) Describe one flowering plant with botanical descriptions in relation to taxonomy.
 - b) Estimate the leaf chlorophyll content by spectrophotometer.
3. Answer any **TWO** of the following questions: 10×2=20
 - a) Describe different steps of tissue culture.
 - b) Describe different parts of compound microscope.
 - c) Briefly discuss about handling techniques of chemical substances. Write down about five lab safety symbols with proper explanation. What are the first rules of chemical safety? 4+4+2
4. Answer any **TWO** of the following questions: 10×2=20
 - a) Mention the different instruments generally used in agricultural laboratories.
 - b) Define seed viability. Explain the process of determining the viability of seed.
 - c) How we sterilize the prepared media and in which condition? Why should agar plates be kept upside down while drying in the incubator? What are the advantages of autoclave? 4+4+2
 - d) Define paper chromatography. Explain the procedure of paper chromatography.
5. Practical notebook 5
6. Attending of Viva-voce 10
