

**PG CBCS**  
**M.SC. Semester-III Examination, 2021**  
**BOTANY**  
**PAPER: BOT 395**  
**(PRACTICAL)**

Full Marks: 50

Time: 4 Hours

**Write the answer for each unit in separate sheet**

**BOT 395.1**

CELL BIOLOGY, GENETICS AND BIOTECHNOLOGY

- 1. Answer any ONE of the following:** **1 X 15=25**
- A. Write the identifying characters of different stages of meiosis-I cell division. Mention the staining procedure for study of mitotic cell division? 10+5
- B. i) Write a short note on Gel electrophoresis. 8
- ii) Write down the identifying characters of following abnormalities of chromosome:
- ◆ Lagged chromosome
  - ◆ Ring chromosome 7
- C. a) Write short note on different component of tissue culture media. 5
- b) Write a short note on principle and utility of laminar air flow. 5
- c) Write a short note on Standard Deviation. 5
- 2. Answer any ONE of the following:** **1 X 10=10**
- A. Perform the experiment of biometry of supplied seed material. 10
- i) Large –grid –coat pattern: 19
  - ii) Small –grid –coat pattern: 5
  - iii) Light –diamond –coat pattern: 7
- B. What is karyotype? Write the basic methods of karyotype of a mitotic metaphase chromosome. 2+8

**BOT 395.2**

PLANT PHYSIOLOGY, BIOCHEMISTRY & MOLECULAR BIOLOGY

- 1. Answer any ONE question from the following.** **1 X 15= 15**
- A. Define isoelectric point of amino acid. How it is determined? Write its importance. Write the principle and procedure of estimation of amino acids by Ninhydrin method. 2+3+2+8

**(P.T.O.)**

(2)

- B. What do you mean standard curve? How to prepare Salkowsky reagent in laboratory?  
Write the principle and procedure of IAA estimation using Salkowsky reagent. 2+3+10
- C. Write the material and method of extraction and comparative study of chlorophyll levels in leaves of different chronology ages. Write the principle of demonstration of 'Hill Reaction' 10+5

**2. Answer any ONE question from the following****1 X 10= 10**

- A. Write a short note on paper chromatography. Write the procedure of paper chromatography for separation of amino acids. 4+6
- B. Write the function of catalase and amylase enzyme. Write the principle and procedure of estimation of carbohydrates using anthrone reagent. 2+2+6

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