PD-500 CV-19
(544) M.Sc. BOTANY (FOURTH SEMESTER)
Examination JUNE- 2021
Compulsory/Optional
Group -
Paper - I

Name/Title of Paper- PLANT CELL, TISSUE & ORGAN CULTURE
Time:- Three Hours **Maximum Marks- 080**
Minimum Passing Marks-029

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

Section-A

(1) Answer the following in only short- **1x10=10**

a. Who is regarded as father of Plant Tissue Culture?
b. Name the phenomenon which describes that a cell has potency to develop into a new plant.
c. The value of which 50% of the data points are higher & 50% are lower is called.
d. Distance from lowest to highest value is known as-
e. In general how many types of sampling used in biostatistics.
f. Defined source of nutrion in plant tissue culture is called-
g. The science for improving the heredity of plants for the benefit of humankind is known as-
h. Flavr Saur is a variety of which vegetable fruit?
i. Define heterosis or hybrid vigour.
j. What is cryopreservation? Define.

(2) Answer very precisely and brief- **2x5=10**

a. Sterilization
b. Protoplast fusion
c. Haploid Plant
d. Central tendencies
e. Secondary metabolites

Section-B

3. Answer the following in detail- **15x4=60**

(1) What is somatic embryogenesis? Describe its technique and utility.

Or

Write an illustrated account on concept, principles and scope of biotechnology.

(2) Describe the technique involved in producing artificial seeds and point out its importance.

Or

Write notes on-
a) Somatic variations b)Transgenic Plants

(3) Write an explanatory account on steps and application of protoplast isolation, fusion and hybrid selection.

Or

Write notes on-
a) Cloud propagation b) Adventives embryogenesis

(4) Write a critical note on merits and demerits of MEDIAN with suitable examples.

Or

Calculate the arithmetic mean for the following distribution-

Plant height (in inch)	21	22	23	24	25	26	27
No. Of Plants	8	8	6	5	5	3	2