

PC – 500 CV-19
(544) M.Sc. BOTANY (FOURTH SEMESTER)
Examination JUNE 2020
Compulsory Paper -I
PLANT CELL, TISSUE & ORGAN CULTURE

Time : Three Hours]

[Maximum Marks : 080
[Minimum Pass Marks : 029

नोट : दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।
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) On Which basic concept the tissue culture technique is based?
- (b) Which Chemical is used to induce Protoplast fusion in plant tissue culture studies.
- (c) Which is a naturally occurring Cytokinin.
- (d) who obtained haploid plants for the first time from Anther culture?
- (e) What is a callus?
- (f) Which kind of filter is used in Laminar Air flow?
- (g) Who has shown the Artificial Seed formation" to the world for the first time?
- (h) Who produced "Golden Rice" for the first time?
- (i) What is a mean? Define it?
- (j) Name the Cryoprotectant used in "in-vitro" germ plasma Storage?

2. Answer Very precisely and brief 2X5=10

- (a) What is Organ culture?
- (b) Write Scope of Biotechnology in a point wise manner.
- (c) Define Androgen sis?
- (d) Give two examples of 'Hybrids'? How they are obtained?
- (e) Define the Biostatistics with example?

SECTION - B

3. Answer the following in detail. 15X4=60

Draw a well labeled diagram of a plant cell and describe the organelle involved in synthesis of food in Plants.

Or

Write a Critical note on concept of cellular differentiation and "totipotency".

4. What do you know about "Somatic Hybridization"? Describe the methods used for it.

Or

Write Notes on -

- (a) Androgen sis [mechanism only]
- (b) Limitations of Protoplast Research.

5. Describe the techniques involved in producing Soma clones.

Or

Write an article on "preservation" and "Germ plasma Storage".

6. Write the importance of "Biostatistics and its Scope in Research of plant Science.

Or

Comment upon-

- (a) Statistic.
- (b) Median.
- (c) Mean from transformed data.
- (d) Mode of a grouped data.
- (e) Sample.