

MASTER OF SCIENCE (MICROBIOLOGY) (CBCS - 2018 COURSE)
M.Sc. (Microbiology) Sem-IV :SUMMER- 2022
SUBJECT : ADVANCED BIOTECHNOLOGY

Day : Tuesday
Date : 12/7/2022

S-18603-2022

Time : 03:00 PM-06:00 PM
Max. Marks : 60

N.B. :

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

Q.1 Explain in detail different types of Animal cell cultures with suitable examples. (15)

OR

Discuss applications of plant genetic engineering with reference to

- i) Insect Resistance
- ii) Fruit vaccine

- Q.2**
- a) What are the objectives and possible outcomes of different phases of clinical trials? (08)
 - b) Discuss Animal Propagation as an important application in Animal Tissue Culture. (07)

OR

- a) Explain in detail 'Micropropagation'. (08)
 - b) Describe culturing and sub culturing methods of Animal Tissue Culture. (07)
- Q.3** Attempt **ANY THREE** of the following : (15)
- a) Comment on valuable Germplasm.
 - b) Describe Growth curve in Animal Tissue Culture.
 - c) Justify 'Marine Organism can benefit terrestrial agriculture'.
 - d) IPR and ethical issues in patent filing.
 - e) Discuss plant tissue culture laboratory design.

- Q.4** Write short notes on **ANY THREE** of the following : (15)
- a) Biosafety Guidelines
 - b) Transgenic Fish
 - c) GMP
 - d) Biotransformation
 - e) Callus culture

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