



SANJEEV AGRAWAL GLOBAL EDUCATIONAL (SAGE) UNIVERSITY, BHOPAL

Mid Semester Test - I
Spring 2023-24 (April 2024)

Name of Program-PhD
Course - Microbiology
Course Code - MB20P104

Maximum Durations: 1:5 Hrs.

Maximum Marks : 30

SECTION - A

1. Objective Type Questions (ALL QUESTIONS ARE COMPULSORY) (5X1 = 05)

- a** The first person to see a cell under the microscope was
- | | |
|--------------------|-------------------|
| (i) Darwin | (ii) Robert Hooke |
| (iii) Leeuwen Hock | (iv) Malpighi |
- b** Animal cell cultures are used widely for the production of
- | | |
|-------------|-------------------|
| (i) Insulin | (ii) Somatostatin |
| (iii) Mabs | (iv) Thyroxine |
- c** An explant is
- | | |
|--|---|
| (i) Dead Plant | (ii) Part of the Plant |
| (iii) Part of the Plant used in tissue culture | (iv) Part of the Plant that expresses a specific gene |
- d** What is the function of terpenoides in plants?
- | | |
|--------------------------------|----------------------|
| (i) Defense against herbivores | (ii) Photosynthesis |
| (iii) Nitrogen fixation | (iv) Water transport |
- e** How does plant tissue culture work?
- | | |
|--|---|
| (i) The method used to cultivate plants in gardens | (ii) The method of plant-cutting |
| (iii) The practice of keeping and developing cells <i>in vitro</i> | (iv) <i>In vivo</i> cell culture method |

SECTION - B

2. Short Answer Type Questions (Attempt any THREE) (3X5 =15)

- Write down classification of cell signalling.
- Discuss the key distinctions between transgenic technology and traditional breeding.
- Write any six applications of animal cell culture.
- Give a brief account of Bt gene.
- Differentiate between synthetic and complex medium used for microbial culture.

SECTION - C

3. Long Answer Type Questions (Attempt any ONE) (1X10=10)

- Explain the process or technique of generating mutants in detail.
- Explain the detailed procedure for the mass multiplication of plants through tissue culture.
