

6. Write down a short notes on any **three** of the following. 5×3=15

- (a) Type of microbial contamination in animal cell culture
- (b) Ti plasmid-mediated transformation
- (c) Recombinant human growth hormone
- (d) Electroporation
- (e) Sterile insect technique

[This question paper contains 4 printed pages]

Your Roll No. :

Sl. No. of Q. Paper : **8155**

Unique Paper Code : 2233580029

Name of the Paper : Application of
Biotechnology for Pest
Management

Name of the Course : **B.Sc. (P) Applied Life
Science with
Agrochemicals & Pest
Management**

Semester : VIII

Time : 2 Hours **Maximum Marks : 60**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
- (b) Attempt any **FOUR** QUESTIONS in all and Question **NO.1** is Compulsory.

- (c) Begin your answer to a new question on a fresh page.
- (d) Draw a suitable well labeled diagram wherever necessary.
1. (a) Define the following Terms : 4
- (i) Resistome
 - (ii) Bioremediation
 - (iii) Lipofection
 - (iv) Antixenosis
- (b) Differentiate between the following : 8
- (i) Minimal media and Nutrient media
 - (ii) Prototrophs and Auxotrophs
 - (iii) Diagnostics and Therapeutics
 - (iv) Biostimulation and Bioaugmentation
- (c) Write down the significance of the following. 3
- (i) Cryopreservation
 - (ii) Transgenics
 - (iii) Function of CO₂ incubator in cell culture technique.

2. (a) What is the impact of viscosity and surface tension in cell growth ? 6
- (b) Discuss in details the principle of eukaryotic cell subculturing and its maintenance. 9
3. Design a workflow to identify pest species using DNA barcoding. 15
4. (a) Highlight the steps involved in extirpation of tissue and initiation of tissue culture. 6
- (b) How does the application of gene manipulation techniques help in the development of newer cultivars of crops ? Site example of plant varieties endowed with such improved traits. 9
5. (a) Enlist various types of vaccines. Explain any one type of vaccines in details. 6
- (b) Write an account on host plant resistance mechanisms. 9