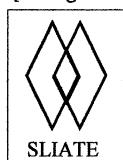


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SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

**Higher National Diploma in (Agriculture)
Second Year 2nd Semester Examination – 2016
AG2213- Principles of Biotechnology**

Instructions for Candidates:

Answer all questions from part I and any two (02) from part II
All questions do not carry equal marks

Time allowed : 1 ½ Hrs.
No. of pages : 03
No. of questions : 05

Index Number:

PART-I

Q1: (Total 20 marks)

- i. Define the term “Bioreactor”?

.....
.....
..... (06 marks)

- ii. Name three 03 basic types of bioreactors based on their mode of operation?

.....
.....
..... (06 marks)

- iii. List four uses of bioreactors?

.....
.....
.....
..... (08 marks)

Q. (Total 20 marks)

- i. Define the term “Bio-Fertilizer”

.....
.....
.....
.....

(06 marks)

- ii. Name three (03) bacteria used to improve the fertility of an agriculture soil?

.....
.....
.....

(06 marks)

- iii. Name two (02) “disease diagnosis techniques” derived from bio-technology?

.....
.....

(04 marks)

- iv. Name two (02) applications of animal cell culture?

.....
.....

(04 marks)

PART- II

Q3. (Total 30 marks)

- i. Briefly explain the term “Recombinant DNA Technology”? (10 marks)
- ii. What are the uses of recombinant DNA technology? (10 marks)
- iii. Why aseptic (sterile) condition is important in plant and animal cell culture? (10 marks)

Q4. (Total 30 marks)

- i. Define the term “Plant tissue culture”? (05marks)
- ii. What are the uses of plant tissue culture? (10 marks)
- iii. Briefly explain the major steps involved in plant tissue culture? (15 marks)

Q5. (Total 30 marks)

- i. Briefly explain the following terms in relation to Bio- technology. (15 marks)
 - a. Genetically Modified Foods (GMF)
 - b. Bio-Degradation.
 - c. Plant Tissue culture medium.
- ii. Briefly explain why Bio-technology is not developed in Sri Lanka? (15 marks)