2010

M.Sc.

3rd Semester Examination

MICROBIOLOGY

PAPER—XV

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer any *two* questions from each group.

Group — A

[Marks : 20]

1. Give a brief idea about biopesticides Bacillus Thurengensis on the following aspects :
   (a) Crystalline inclusions ;
   (b) Molecular mechanism of Killing ;
   (c) Cry gene.

   Explain why in spite of their environmentally friendly reputation Bt sprays have never occupied a large share of the insecticide market. 2+4+2+2

2. (a) Briefly mention the steps of root nodule formation.
   (b) What is Symbiosome? State its function.
   (c) How pelleting is made? State its significance.

4+3+3

3. Write notes on (any *four*) : $2\frac{1}{2} \times 4$

(a) Super digested compost ;

(b) Vermi compost ;

(c) Micropropagation ;

(d) Beneficial association between plant and micro-organism ;

(e) Organic matter cycling.

Group — B

[Marks : 20]

4. Write notes on (any *four*) : $2\frac{1}{2} \times 4$

(a) Mycotoxin ;

(b) Host's resistance ;

(c) Systemic fungicide ;

(d) Plant's structural defence ;

(e) Vertical defence.

5. Name the different types of Spores found in Puccinia sp. and mention their characteristics. Name the hosts where these spores are found. Mention the control measures of the disease caused by the above pathogen.

$2\frac{1}{2}+2\frac{1}{2}+2\frac{1}{2}+2\frac{1}{2}$

6. Define disease and pathogen. Mention Koch's postulate and its significance. Write in brief the process of development of genetically engineered disease resistant plant. 2+2+6