2011

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. (a) Define the following with example :
(i) Syntrophism ; (ii) Commensalism. 3

(b) State the role of microbes with chemical reaction and enzyme involved in the following process :
(i) Proteolysis ; (ii) Ammonification ;
(iii) Nitrification ; (iv) Denitrification. 4

(c) What do you mean by Enrichment of Compost and how it differs from Super Digested Compost ? 3

2. (a) How will you produce and use BGA for cultivation of Rice? State its limitations. 4+1

(b) How is nodule formed? 2

(c) Give an idea about Proto-plast Culture. 3

3. Write notes on : $4 \times 2\frac{1}{2}$

(a) Importance of Mycorrhizae in nutrient transformation ;

(b) Methods of Composting ;

(c) FYM ;

(d) Bt toxin.

Group — B

[Marks : 20]

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

(i) Rice tungro virus ;

(ii) Systemic acquired resistance ;

(iii) Horizontal resistance and its pathological significance ;

(iv) Immunization of plants against pathogen ;

(v) Indirect path of infection ;

(vi) Necrotic symptoms.

5. Write a detailed note on chemical weapons of pathogens. Give a brief idea about phytoalexin. 7+3

6. Give example of a fungal, bacterial and viral disease, their causal organisms, symptoms and control measures.

$1\frac{1}{2}+4+1\frac{1}{2}+3$
