2015

M.Sc.

3rd Semester Examination

MICROBIOLOGY

PAPER—MCB-303

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.

Group — A

[Marks : 20]

Answer any two questions.

1. (a) Point out the steps in nodule formation. Mention the Biochemical reaction that occurs in the root nodule. What is Photorhizobium? Define NOD factors and state its function.

(b) Mention the advantages of liquid biofertilizer.

\[(2+2+1+3)+2\]

(Turn Over)
2. (a) Mention the various type of Beneficial association between plant and micro-organisms.

(b) Briefly describe the methods of Composting. What is Super digested compost?

(c) What is Insecticidal Crystal Protein? State the mode of action of insecticidal Crystal Protein.

\[2+4+(1+3)\]

3. Write notes on any four of the following: \[4 \times 2\frac{1}{2}\]

(a) Vermicomposting;

(b) Protoplast technology;

(c) Biogas production;

(d) Production and use of Azotobacter;

(e) Nutrient transformation.

**Group — B**

[Marks : 20]

Answer any two questions.

4. (i) Make a remark on the following with special reference to substrate use and principle microbes responsible for fermentation:

(a) Cultured butter cream; (b) Sauerkraut.
(ii) How do you increase the shelf life of food materials? State the principle of food preservation.

(iii) Write the types of ionizing radiation that are appropriate for food irradiation and mention the attractive features of food preservation through radiation.

4+2+(1+3)

5. (i) Mention two micro-organisms each in vegetables & fish.

(ii) Give a flow sheet for the preparation of cheese. How cheese are ripened?

(iii) Briefly opine your view regarding acceptability of Genetically modified foods.

2+(3+1)+4

6. Write notes on (any four):

(a) Mycotoxin;

(b) Food safety;

(c) Govt. regulatory practices and policies;

(d) Spoilage of foods;

(e) LAB.