2009

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 an idea about somatic embryogenesis. How it helps in developing synthetic seeds ?

   How do you develop plants through protoplast technology ?

   What do you mean by cross inoculation group relating to nodule formation.

   Why do we need Rhizobia inoculation in Indian agroclimatic condition — though lot of Rhizobia are present in Indian Soil. 2+2+2+2+2

2. State the role of microorganisms in N_2–cycling.

   Briefly discuss the mechanism of N_2–fixation with special emphasis on associative N_2 fixation. 10

3. Write notes on (any *four*) : 2·5×4

(a) Micropropagation;

(b) *Azolla* as a biofertilizer;

(c) Anaerobic compossing;

(d) PGPR;

(e) Nitrogenase.

Group—B

[Marks : 20]

4. Write notes on (any *four*) : 2·5×4

(a) Detoxification of pathogen toxin;

(b) Significance of plant disease;

(c) Local & systemic acquired resistance;

(d) Fusarium;

(e) GMO in disease resistance plant.

5. (a) Describe structural and chemical defenses of Plants with figures and examples.

(b) How chemical weapons of the pathogens helps them in disease development. 6+4

6. What do you mean by systemic acquired resistance ? Give and example. Describe the process of immunization of plants against pathogens. 2+1+7

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