

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

TEST -3 EXAMINATION- MAY-2025

M.Sc -4th Sem (Microbiology)

COURSE CODE(CREDITS): 21MS1MB412(3)

MAX. MARKS: 35

COURSE NAME: Plant &Agricultural Microbiology

COURSE INSTRUCTORS: Dr Hemant Sood

MAX. TIME: 2 Hours

Note: a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

| | Question | Marks |
|-----|---|-------|
| Q1 | Which micro-biotechnological interventions are required in the production of secondary metabolites from plants? Conceptualize a methodology for the production and utilization of any one of the products for human usage developed from herbal raw material. Which ethical consideration are required if GMO's are integrated in agricultural practises. | 7 |
| Q2 | How would you like to use fungicides for treating diseases that occur on different parts of the plants? Which formulations you would be using for the effective treatment? Do you think that chemical methods helping in the supplementation of these fungicides for the eradication of the diseases? | 6 |
| Q3. | How host plant resistance is utilized in disease management? Which methods of breeding played a great role in disease management? How PGPRs supports the process of crop growth and disease management? | 6 |
| Q4. | How Plant Protection Organizations worked for the development and enforcement of plant quarantine measures? Which different agencies are playing a regulatory role for the quarantine and certification of disease free planting material ? | 4 |
| Q5. | What are the general principles of plant disease management and how those are implemented? How are integrative management techniques used for crop improvement programs? Explain by citing an example | 6 |
| Q6 | How do plants respond to pathogen attacks? Explain by citing any mechanism for the same by mediating phytochemical-induced reactions. Do you think any conserved mechanism exists in plants against extreme environmental stress? If yes, how is it demonstrated in the plant system? | 6 |