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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY)

23UBY6E8

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : APRIL - 2026

B.Sc.-BOTANY **MAXIMUM MARKS: 75**

SEMESTER: VI **TIME : 3 HOURS**

PART - III
BIOFERTILIZERS

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. **K1**

1. Which of the following is not used as a bio-fertiliser?
   a) Bacteria b) Algae c) Cyanobacteria d) Fungi
2. *Azolla*, a fern, serves as a biofertilizer due to its association with:_____.
   a) Nitrogen-fixing bacteria b) Mycorrhizal fungi
   c) Nitrogen-fixing blue-green algae (Anabaena) d) Phosphorus-solubilizing bacteria
3. Which of the following is a non-symbiotic nitrogen-fixing bacterium?
   a) *Rhizobium* b) *Azospirillum* c) *Nostoc* d) *Glomus*
4. Name the bacteria which is commonly known as phosphate solubilizer_____.
   a) *E. coli* b) *Salmonell* c) *Bacillus megaterium* d) *Staphylococcus*
5. Which of the following is a major scheme implemented by the Government of India to promote biofertilizers and organic farming?
   a) Green Revolution Mission b) National Highway Development Project
   c) Paramparagat Krishi Vikas Yojana (PKVY) d) Swachh Bharat Abhiyan

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. **K2**

6. Why are biofertilizers eco-friendly?
7. What is the role of blue-green algae in agriculture?
8. Is Rhizobium a friendly bacteria?
9. Why are phosphate solubilizers important for plants?
10. How many components are in integrated nutrient management?

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K3

11. a) Find out the scope and advantages of bio fertilizers in agriculture .

(OR)

b) Identifythe factors affecting nutrient use efficiency in plants.

12.a) Select the role of nitrogen fixing bacteria in the soil .

(OR)

b) How does Anabaena azollae fix nitrogen? Discuss.

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13.a) Determine the importance of Azotobacter as biofertilizer.

(OR)

b) How is Klebsiella isolated and identified? – Explain in detail

14.a) Compute the roles of mycorrhizae in growth and yield of crop plants.

(OR)

b) Write the factors affecting phosphate solubilizing activity of micorbes.

15.a) Construct the application methods in biofertilizers.

(OR)

b) Discuss the commercialization and marketing perspectives of bioferitlizers

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Examine the advantages of using biofertilizers over chemical fertilizers.

(OR)

b) **"**Microbes as biofertilizers, a potential approach for sustainable crop production" – Explain in detail

17.a) How is Azolla used as a biofertilizer in rice field?

(OR)

b) Evaluate the significance of nitrogen fixation in Nostoc and Anabaena

18. a) Simplify the isolation procedure of Rhizobium from root nodule

(OR)

b) Infer the mass multiplication and advantages of Azospirillum

19.a) Write down the isolation and inoculum production of VAM.

(OR)

b) Classify the types and importance of phosphate solubilizing bacteria

20.a) Catagorize the role of the government in promoting agricultural development

(OR)

b) Integrated nutrient management enhances the yield and improves the soil quality in agriculture – Justify

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