

D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS),VELLORE-1.

BIOERTILIZER TECHNOLOGY

1. Define biological fertilizer
2. Different forms of fertilizer
3. Define biofertilizer
4. Define rhizosphere
5. Give few examples for Phosphate solubilizer
6. Morphological characteristic of Azospirillum
7. Specific media used for isolating Phosphate solubilizer
8. Define inoculants
9. Define Media
10. Define seed culture
11. Cover crops
12. Why biofertilizer are better than synthetic fertilizer?
13. Enumeration of *Rhizobium*
14. Vermicompost
15. Nitrogen fixation
16. N:P:K ratio
17. Symbiotic relationship
18. How you will characterize microbes?
19. Composting methods
20. Fermentation
21. Which species of Azotobacter occurs in acid soils?
22. Name the species of Azotobacter that occurs in neutral and alkaline soils.
23. Which are the species of Azotobacter that occur commonly in India?
24. What are the substitutes of calcium carbonate for pelleting?
25. Which is the suitable medium for Azotobacter?
26. What are the characteristics of the colonies of Azotobacter after incubation at 30°C for 3-4 days?
27. What are diazotrophs? Name some of them.
28. Name the species of Azospirillum.

29. Which are the major genera with maximum number of nitrogen fixing species?
30. Why should we use biofertilizers?
31. What is BGA?
32. Why we apply Azospirillum?
33. For which crop Rhizobium is used?
34. Whether biofertilisers are available for all primary nutrients?
35. Can one biofertiliser supply two major plant nutrients?
36. What nutrient is supplied by the algal group?
37. What nutrient is supplied by the fungal group?
38. What nutrient is supplied by the bacterial group?
39. Which is the most important source of N in nature?
40. What is symbiotic association?
41. Can one Rhizobium strain be used for all leguminous crops?
42. What is an Associative Symbiotic Bacteria?
43. What is non-symbiotic bacteria?
44. Name four phosphate solubilising microorganisms
45. How the phosphate solubiliser is functioning in the soil?
46. Whether phosphate solubilisers are crop specific?
47. What is VAM?
48. What is natural farming?
49. How do you know when compost is finished?
50. Can bones and meat scraps be composted?
51. How do you balance carbon and nitrogen to make a hot pile?
52. Should the compost pile/bin be placed in the shade or sun?
53. What is the easiest way to compost?
54. Should diseased materials be used to make compost?
55. Is it necessary to add lime (calcium) to the compost pile?
56. What is really meant by the process of composting?
57. What is called humus?
58. Define soil
59. What is the role of nitrogenase?
60. Define hydrogenase
61. What are the components of nitrogenase?

62. Explain leghaemoglobin
63. What are nod genes?
64. What are nif genes?
65. Define algalization
66. What is bacterization?
67. What types of microorganisms are used as microbial inoculants?
68. Define starter culture
69. Define pyrolysis
70. Give the disadvantages of an incinerator
71. Give the Advantages of an incinerator
72. What is called on-site incineration?
73. What is called incineration?
74. What is called composting pit?
75. What are the Character and Value of the Compost?
76. What are the factors that influence Composting system?
77. What is Haber Bosch process?

SECTION-B (4X5=20)

1. Your views about biofertilizers
2. What are the micro and macro nutrients necessary for plant growth?
3. Write short notes on carrier materials
4. Write short notes on organic fertilizers
5. Write short notes on isolation and culturing methods of *Azotobacter*
6. Write short notes on morphological and biochemical characterization of *Pseudomonas*
7. Write shorts on method of producing microbial inoculants
8. Write short notes on role of biofertilizers as plant growth promoters
9. Discuss the importance of soil microbes to maintain soil fertility
10. Types of fertilizer
11. Isolation and culturing methods of *Azospirillum*
12. Explain briefly about inoculants preparation
13. Advantages of biofertilizers with examples
14. Pros and cons of synthetic fertilizer

15. Write short notes on method of composting
16. Explain the general characteristics of archaeobacteria and cyanobacteria
17. What is the method of application of bio fertilizer in Sugarcane?
18. What are the benefits from using biofertilizers?
19. What are the advantages of bio-fertilizers?
20. What types of biofertilizers are available?
21. How biofertilizers are applied to crops?
22. How could one get good response to biofertilizer application?
23. What precautions one should take for using biofertilizers?
24. Why biofertilizers have not caught on if these are so good and something very new?
25. What is Azolla? How Azolla can be beneficial to us?
26. What precautions one should take for using biofertilizers?
27. What is organic farming?
28. Why biofertilizers are environmental friendly?
29. What is seed treatment and how it should be done with BF?
30. Does the soil fertility decline when fertilizers are not used?
31. How are crops protected in OF?
32. What are the strengths and weaknesses of OF?
33. Where is the large quantity of compost for OF?
34. What makes good quality compost?
35. Is compost a fertilizer? Discuss.
36. How long does the composting process take?
37. Can compost be used as a substitute for fertilizer in the garden?
38. What are the best materials for composting?
39. What is meant by Carbon to Nitrogen ratios? What are the reasons for modern compost systems are aerobic rather than Anaerobic compost systems?
40. If the C: N is too low what happened in the composting
41. Which Factors in Composting Operation?
42. What are the most important purposes for composting organic Wastes?
43. Write short notes on inorganic fertilizer?

SECTION-C **(2X5=20)**

1. Explain in detail about production synthetic fertilizer
2. Explain about production of *Rhizobium* biofertilizer
3. Describe in detail about method of producing Blue green algae at large scale
4. Explain in detail about application of biofertilizers and its crop response
5. Discuss about the advantages and limitation of biofertilizer
6. Write few words about,
 1. Micronutrients? (2 mark)
 2. Rhizosphere? (2 mark)
 3. Rhizobium biofertilizer? (6 mark)
7. Explain in detail about *Azospirillum* biofertilizer-isolation, characterization, mass production and inoculants preparation
8. Write detailed notes on *Cyanobacteria* Inoculants-isolation, characterization, mass production and inoculants preparation
9. Write detailed notes on microbial inoculants production and characteristics of carrier materials
10. Explain in detail about *Azolla* biofertilizer-isolation, characterization, mass production and inoculants preparation
11. Describe the method of Biofertiliser applications.
12. Scientifically, where crop nutrients come from in OF?
13. What are the different types of centralized composting processes?
14. Explain the composting process
15. Explain the types of composting and operation steps in composting
16. Explain the Factors in Composting Operation
17. Explain the Uses and Constraints of composting
18. Write shortly about Moisture Content of the Compost, Character and Value of the Compost.
19. Explain the incineration process.
20. Explain Pyrolysis process.
21. What is the role of PSM in phosphate solubilization?
22. Explain in detail about the properties of soil
