

B.Sc. Sem III
BOT-63-T-201-Microbiology and Plant Pathology

Short Answer Type Questions-

1. What is systemic infection?
2. What symptoms are caused by a sexual stage of Albugo?
3. What are the primary and secondary inoculum of white rust of crucifers.?
4. What is biological specialization?
5. Give two important measures to control green ear disease of bajra.
6. Describe the symptoms in the ear in green ear disease of bajra.
7. What is called rust and why?
8. What is macrocyclic rust?
9. What is heteroecious rust?
10. Differentiate between rusts and smuts.
11. Differentiate between loose and covered smut.
12. Differentiate between alternate and collateral hosts.
13. Write control measures of black rust of wheat.
14. What are the characteristics of smut disease?
15. What is blossom infection?
16. Write the names of causal organisms of loose and covered smut of barley.
17. Write control measures of smut diseases.
18. What is Hot Water Treatment?
19. What are systemic fungicides?
20. Write the special characters of conidia of Alternaria.
21. What are dictyospores?
22. Describe the symptoms of early blight of potato.
23. Which environmental conditions favour early blight of potato?
24. Define galls.
25. What are nematodes?
26. Which disease is caused by Meloidogyne?
27. Differentiate between open and closed type of galls.
28. How many evolutionary stages are found in the life cycle of Meloidogyne?
29. Describe symptoms of insect infection in plants.
30. Name any two nematodes and diseases caused by them.
31. Define microbiology.
32. Write a short note on theory regarding the origin of life.
33. Write a short note on germ theory.
34. Write a short note on three domains of Carl Woese.
35. Define Koch Postulates.

36. Write the name of any four branches of microbiology.
37. What do you mean by pure culture?
38. What are the main differences between prokaryotes and eukaryotes?
39. Define Phycology.
40. What do you mean by Quorum sensing?
41. Define Biofilms.
42. What is the lytic cycle?
43. Define lysogenic cycle.
44. Write the main characteristics of the Pox virus.
45. Define viruses.
46. Who is the father of medical microbiology and industrial microbiology?
47. Name any two complex viruses.
48. Draw a well labelled diagram of Bacteriophage.
49. Write any two characteristics of the virus.
50. Why is mycoplasma known as Joker of the plant kingdom?
51. What type of microorganisms are mycoplasma?
52. Who named mycoplasma and what is the essential element for growth of mycoplasma?
53. Write the name of any two plant diseases caused by mycoplasma.
54. What is glycocalyx?
55. What type of cell wall is found in bacteria?
56. Write any two similarities between bacteria and blue Green algae.
57. Define plasmid.
58. What is endospore?
59. Write any two characteristics of bacteria, which resembles plants?
60. Differentiate between streptococci and staphylococci.
61. Write the component of the bacterial cell wall.
62. What do you mean by gram staining?
63. What is the difference between gram-positive and gram-negative bacteria?
64. Define nucleoid.
65. Which is the most accepted classification of bacteria and who gave this?
66. Define conjugation.
67. What do you mean by transformation in bacteria?
68. What is transduction?
69. What is viral therapy?
70. What is phage diagnostics?
71. Name any two virus infected plants and their disease.
72. What are the denitrifying bacteria?
73. Write the names of two bacteria which help in nitrogen fixation.
74. What is an attenuated vaccine?
75. Define conjugate vaccines.

76. Write a short note on uses of bacteria in biotechnology.
77. Write the full form of PPLO and MLO.
78. What is the genetic material of mycoplasma?
79. What is captured? What is its main function?
80. "Virus is a link between living and nonliving organisms". Explain it.
81. What are the differences between plant virus and animal virus?
82. What is the economic importance of Phages?
83. Define Prophage.
84. What is the Twort d' Herelle phenomenon?
85. Name any two bacteria, causing water pollution.
86. Write any two industrial uses of bacteria..
87. What is phage diagnostics?
88. Name any two virus infected plants and their disease.
89. Name any two bacteria, causing water pollution.
90. Write any two industrial uses of bacteria.
91. What is pathogen ?
92. What are endemic diseases ?
93. Define etiology.
94. What is pathogenicity?
95. What is the pH of acid rain water?
96. What are Herbicides?
97. Which bacterium causes Crown gold disease?
98. Potato scrub is caused by which pathogen?
99. What is canker?
100. What is epidemic disease?
101. Describe hypertrophy .
102. What is primary inoculum?
103. What is secondary inoculum?
104. Define smut.
105. Define Rust.
106. What is the causal organism of disease in Tobacco?
107. TMV belongs to which genus?
108. Which genome is present in TMV?
109. Mycoplasma is present in which plant part?
110. Which insects transmit mycoplasma?
111. Name the pathogen of citrus canker.
112. Name the pathogen for angular leaf spot of cotton.
113. Name the causal organism of the little leaf of brinjal.
114. What are galls?
115. Name some diseases caused by nematodes.

116. What is infection?
117. Name some diseases caused by mycoplasma.
118. Name some diseases caused by virus.
119. What are lesions?
120. What is the disease cycle ?

Long Answer Type Questions-

1. Describe symptoms, etiology and control measures of white rust of Crucifers.
2. With the help of diagrams describe the life cycle of Albugo.
3. With the help of diagrams describe the life cycle of Sclerospora
4. Describe symptoms, etiology and control measures of Green Ear Disease of Bajra..
5. Describe disease cycle and control measures of Black rust of wheat.
6. Differentiate between three types of wheat rust.
7. Comment on annual recurrence of rust in India.
8. Describe different stages in the life cycle of Puccinia.
9. Give an illustrated account on covered smut of Barley.
10. With the help of diagrams describe the life cycle of Ustilago.
11. Describe dikaryotization in smuts.
12. Write an essay on important smuts, their causal organism and symptoms on the host..
13. Describe symptoms, disease cycle and control measures of loose smut of Barley.
14. Describe symptoms, disease cycle and control measures of Early Blight of Potato.
15. Write an essay on leaf gall of Pongamia.
16. Give an illustrated account on diseases caused by insects.
17. Give a detailed account and histopathology of the root knot of tomato.
18. Give an illustrated account on types of pathogenic insects.
19. Briefly describe the classification of the living world proposed by Whittaker.
20. Write an essay on history and development in the field of microbiology.
21. Write a detailed note on the contribution of Louis pasteur in the field of microbiology.
22. Explain the systematic position of microorganisms by Carl Worsley's domain system.
23. Give a detailed note on the contribution of Robert Koch in the field of microbiology.
24. Briefly describe the job theory of disease.
25. Give a detailed note on the golden age of microbiology.
26. Write an essay on general characteristics and structure of viruses.
27. Briefly describe the structure and composition of tobacco mosaic virus.
28. Write an essay on Pox virus and its types.
29. Write a detailed note on the lytic cycle and lysogenic cycle.
30. Write an essay on structure and reproduction of T4 phages.
31. Briefly describe various experiments performed by Louis pasteur which disprove the theory of spontaneous generation of organisms.
32. Explain the theory of spontaneous generation in detail.

33. What is quorum sensing how it is useful for microbes and us?
34. Write a detailed note on biofilms and its structure.
35. Write a detailed note on gram positive and gram-negative bacteria.
36. Briefly describe the classification of bacteria.
37. Describe the structure of bacterial cells in detail.
38. Give an account of the various types of nutrition in bacteria.
39. What is Gram's staining. briefly describes its mechanism.
40. Give the classification of bacteria on the basis of external structure.
41. Describe various methods of reproduction in bacteria.
42. Write an essay on the sexual reproduction in bacteria.
43. Give a detailed account on transduction bacteria.
44. "Bacteria are our greatest friends and enemies". Explain.
45. Explain the economic importance of bacteria.
46. How do bacteria play a major role in nitrogen cycle and soil fertility?
47. Write a detailed note of the role of bacteria in food processing in industries.
48. Describe the general characteristics of mycoplasma with suitable diagrams.
49. Write an essay on reproduction in mycoplasma.
50. Write a detailed note on classification and nomenclature of micro plasma.
51. Write general characteristics of viruses and explain if they are living or nonliving.
52. Describe transmission methods of plant viruses.
53. Write a detailed note on sexual and asexual reproduction in bacteria.
54. Explain the role of bacteria in agriculture.
55. Write a detailed note on harmful activities of bacteria.
56. What are the characteristic features of mycoplasma by which it can be differentiated from other prokaryotic organisms?
57. Give a detailed cellular structure of mycoplasma.
58. Write a detailed note on classification of viruses.
59. Write a detailed note on the discovery era and transition era in the field of microbiology.
60. Give a detailed account of citrus canker diseaseDescribe plant disease cycle.
61. Describe abiotic diseases.
62. What are biotic diseases? Explain.
63. Write a note on general symptoms caused by bacteria.
64. Write a note on general symptoms caused by fungi.
65. Describe the general symptoms caused by mycoplasma.
66. Explain the general symptoms of nematode disease.
67. Write a note on general symptoms caused by insects.
68. Describe pathogenicity and pathogenesis
69. Write a note on mosaic and vein clearing.
70. Explain Rust and smut.
71. Write a detailed account on tobacco mosaic virus.

72. Write about mycoplasmal disease.
73. Write a detailed account on primary and secondary inoculum
74. Describe plant disease cycle.
75. Describe an angular leaf spot of cotton.
76. Write about the disease symptoms of citrus canker
77. Write a short note on etiology of TMV.
78. Write disease symptoms of a little leaf of brinjal.
79. Write disease symptoms of angular leaf spot of cotton.