

B.Sc. DEGREE EXAMINATION
FIRST SEMESTER
MG1DSCMBG100 –UNSEEN WORLD OF MICROBES

Time: 2.0 Hours

Max. Marks: 50

Part A

Answer any 10 out of 12, 2 mark each.

1. Define probiotic. Give two examples [K] [1]
2. State germ theory of disease [K] [1]
3. Mention any two Biofertilizers. [K] [1]
4. List out fermented milk products [K] [1]
5. What is Slime layer in Bacterial cell? [U] [3]
6. What are viral capsids? [U] [3]
7. Give two examples of harmful bacteria? [U] [3]
8. Give notes on prokaryotic ribosomes [U] [3]
9. Give an example for an acidic stain and basic stain [U] [3]
10. What is binary division explain? [U] [3]
11. What are the limitations of two kingdom classification? [K] [2]

10x2=20

Part B

Answer any 4 out of 6, 5 marks each.

12. Describe the significance of microbes in agriculture field [K] [1]
13. Describe Whittaker's five kingdom classification? [K] [2]
14. Mention the Golden era of Microbiology. [K] [1]
15. List out the contributions of Robert Koch [K] [1]
16. State Spontaneous generation theory. Mention any one experiment which disproved the theory. [K] [1]
17. Explain the morphological characteristics of Protozoa? [U] [3]

4x5=20

Part C

Answer any 1 out of 2, 10 marks each.

18. What are the differences between Archaeobacteria and Eubacteria? Explain? [U] [3]
19. Define AMP and explain AMP of Microbial origin. [K] [2]

10x1=10

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

MGU-UGP (HONOURS)

FIRST SEMESTER EXAMINATION

(2024 ADMISION ONWARDS)

MG1DSCMBG101 – Wonders of the Microbial World

Duration: 1½ hrs

Maximum Marks: 50

Students should attempt atleast one question from each course outcome to enhance their overall outcome attainability

Part A

Multiple Choice Questions

Answer **All** Questions

Each question carries **1** mark

1. Who developed vaccination against rabies? [K] [1]
a) Louis Pasteur b) Robert Koch c) Edward Jenner d) Paul Ehrlich
2. Which part of the microscope holds the objective lenses? [K] [1]
a) Body tube b) Nose piece c) Condenser d) Stage
3. Select the primary stain used in endospore staining. [K] [2]
a) Crystal violet b) Carbol fuchsin c) Methylene blue d) Malachite green
4. The protein coat of virus is called [U] [3]
a) nucleoid b) viroid c) capsid d) plasmid
5. Select the target site of penicillin in the bacterial cell. [A] [4]
a) Cell wall b) cell membrane c) DNA synthesis d) protein synthesis
6. Who among the following is not a supporter of spontaneous generation theory? [K] [1]
a) Aristotle b) Epicuris c) Louis Pasteur d) Needham
7. Which of the following microscopes is the best suited for observing *Treponema pallidum*? [K] [2]
a) Fluorescence microscope b) Bright field microscope
c) Phase contrast microscope d) Dark field microscope
8. Select the magnification power of oil immersion objective. [A] [2]
a) 10 X b) 40 X c) 100 X d) 1000 X

9. What are prions? [K] [3]

- a) plasmid proteins b) infectious proteins c) virus proteins d) fungal proteins

10. Select the temperature-time used in autoclave sterilization. [A] [4]

- a. 72 C, 15 sec b. 170 C, 1 hr c. 121 C, 15 min d. 100 C, 20 min

[1 x 10 =

10]

Part B

Fill in the blanks

Answer **All** Questions

Each question carries **1** mark

11. is an example of a basic stain. [K] [2]

12. Fungi that have no known sexual state in their life cycle are called [K] [3]

13. The locomotor organ in bacteria is [U] [3]

14. is known as the Father of antiseptic surgery. [K] [1]

15. The lowest concentration of an antibiotic that can inhibit the growth of microorganisms is called [U] [4]

[1 x 5 =

5]

Part C

State whether True or False

Answer **All** Questions

Each question carries **1** mark

16. The extra-chromosomal DNA in bacteria are called plasmids. [U] [3]

17. The primary stain in Gram stain is safranin. [U] [2]

18. Salvarsan is the first magic bullet developed against syphilis bacteria. [K] [1]

19. Erythromycin inhibits protein synthesis in bacteria. [U] [4]

20. Hot air oven works on the principle of moist heat. [U] [4]

[1 x 5 =

5]

Part D

Very Short Answer Type Questions

Answer **10** Questions

Each question carries **1** mark

21. What are viroids? [U] [3]

22. Define prokaryotes. [K] [3]

23. Explain the use of biofertilizers. [U] [1]
24. Explain theory of spontaneous generation. [U] [1]
25. What role does an exciter filter play in a fluorescence microscope? [K] [2]
26. Explain resolution of a microscope. [U] [2]
27. Compare microbicidal and microbistatic agents. [U] [4]
28. Define sterilization. [K] [4]
29. Explain wet mount. [U] [2]
30. Explain pasteurization method. [U] [4]
31. Who is known as the father of antibiotics? [K] [1]
32. What are bacteriophages? [K] [3]

[1 x 10 = 10]

Part E

Short Answer Type Questions

Answer **4** Questions

Each question carries **3** mark

33. Summarize the contributions of Louis Pasteur in developing Microbiology as an applied branch of science. [U] [1]
34. Find out the role of microorganisms in improvement of soil fertility. [K] [1]
35. Explain the working of dark field microscope. [U] [2]
36. Outline the steps in lytic cycle. Explain each step. [U] [3]
37. Explain disc diffusion method. [U] [4]
38. Explain the principle and working of an autoclave. [U] [4]

[3 x 4 =

12]

Part F

Long Answer Type Questions

Answer **1** Question

The question carries **8** marks

39. Analyze the ultra structure of a bacterial cell. [An] [3]
40. Outline the principle and organize the steps in the procedure of Gram's staining. [U] [2]

[1 x 8 =

8]

MGU-UGP MICROBIOLOGY DEGREE EXAMINATION

FIRST SEMESTER

MG1MDCMBG100 – FASCINATING WORLD OF MICROBES

Time: 1.5 Hours

Max. marks: 35

Part A

Answer any 10 out of 12, 1 mark each.

1. Name the person who is known as the father of Modern Microbiology? [K][1]
2. State the Spontaneous generation theory? [K][1]
3. Name the scientist who discovered Animalcules? [K][1]
4. Who developed the smallpox vaccine? [K][1]
5. Define normal flora.[K][2]
6. What is Penicillin? [K][2]
7. Name any one vaccine and the disease it prevents. [K][2]
8. Name a phosphate solubilizing bacteria. [K][2]
9. Name one bacterial pesticide. [K][2]
10. Define pathogen. [K][2]
11. Name the organism which cause chicken pox. [K][2]
12. What is sour milk? [K][2]

10x1=10

Part B

Answer any 3 out of 6, 5 marks each.

13. State Koch's postulates and its importance. [K][1]
14. Describe Whittaker's five kingdom classification? [K][1]
15. Explain leavening of bread? [U][2]
16. Summarize the advantages of Biofertilizers. [U][2]
17. Explain Candidiasis. [E][2]
18. Explain microbial spoilage of fish. [U][2]

3x5=15

Part C

Answer any 1 out of 2, 10 marks each.

19. Write about the contributions of any three scientists in the field of microbiology?
[K][1]
20. Explain fermented foods, types and advantages. [E][2]

10x1=10