

FYUG Microbiology EXAMINATION
FIRST SEMESTER
MG1DSCMBG100 –UNSEEN WORLD OF MICROBES

Time: 1.5 Hours

Max. Marks: 50

Part A

Answer any 10 out of 12, 2 mark each.

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

10x2=20

Part B

Answer any 4 out of 6, 5 marks each.

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

4x5=20

Part C

Answer any 1 out of 2, 10 marks each.

18. What are the differences between Archaeobacteria and Eubacteria? Explain?
19. Define AMP and explain AMP of Microbial origin..

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]

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

10x1=10

Part B

Answer any 3 out of 6, 5 marks each.

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

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?
20. Explain fermented foods, types and advantages.

10x1=10