



Faculty of Science

End Semester Examination May 2025

BT3CO05 Microbiology

Programme	: B. Sc.	Branch/Specialisation	: -
Duration	: 3 hours	Maximum Marks	: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))

Marks CO BL

Q1. Which of the following is an example of Gram positive bacteria?

1 1 1

Rubric	Marks
Bacillus subtilis	1

- ☒ Bacillus subtilis
 ☐ E. coli
☐ Proteus
 ☐ Klebsiella

Q2. Which of the following scientist contributed in the taxonomy?

1 1 1

Rubric	Marks
Corl Woese	1

- ☐ Alexander Flaming
 ☒ Corl Woese
☐ Louis Pasteur
 ☐ Swaminathan

Q3. Bacteriophage is a type of virus which infect-

1 1 1

Rubric	Marks
Bacteria	1

- ☐ Plants
 ☒ Bacteria
☐ Virus
 ☐ Algae

Q4. Which of the following instruments is not used for sterilization?

1 1 1

Rubric	Marks
Incubator	1

- ☐ Hot Air Oven
 ☐ Autoclave
☒ Incubator
 ☐ All of the above

Q5. MacConkey media is an example of-

1 1 1

Rubric	Marks
Selective media	1

- ☐ Enrich media
 ☐ Natural media
☒ Selective media
 ☐ None of the above

Q6. Full form of CFU is-

1 1 1

Rubric	Marks
Colony forming Unit	1

- ☐ Central forming unit
 ☒ Colony forming Unit
 ☐ Colony Fixed Unit
 ☐ Colony forming Union

Q7. Which of the following organisms is an example of fungi?

1 1 1

Rubric	Marks
Aspergillus	1

- ☐ Red Algae
 ☒ Aspergillus
 ☐ Actinomycetes
 ☐ None of the above

Q8. Stolen is found in-

1 1 1

Rubric	Marks
Fungi	1

- ☐ Bacteria
 ☒ Fungi
 ☐ Viruses
 ☐ All of the above

Q9. The union between algae and fungi is called-

1 1 1

Rubric	Marks
Lichen	1

- ☒ Lichen
 ☐ Mycorrhiza
 ☐ Proto bacteria
 ☐ Red Algae

Q10. Prions are made-up of-

1 1 1

Rubric	Marks
Proteins	1

- ☐ Nucleic Acids
 ☐ Amino Acids
 ☒ Proteins
 ☐ Both Proteins and nucleic acids

Section 2 (Answer all question(s))

Marks CO BL

Q11. Write any contributions of Louis Pasteur.

2 1 1

Rubric	Marks
1 mark for each contribution	2

Q12. Write the properties of viruses.

3 2 2

Rubric	Marks
0.5 marks for each property.	3

Q13. (a) Explain Whittaker five Kingdom classification.

5 2 2

Rubric	Marks
Introduction and parameters of 5 kingdom classification -2 marks Details explanation with diagram- 3 marks	5

(OR)

(b) Write a detailed note on applications of Microbiology.

Rubric	Marks
Each application will carry one mark	5

Section 3 (Answer all question(s))

Marks CO BL

Q14. Write principle of acid fast staining.

2 2 2

Rubric	Marks
Principle with example 2 marks	2

Q15. (a) Write a detailed note on physical and chemical methods of sterilization.

8 2 2

Rubric	Marks
Physical methods: 4 marks Chemical methods : 4 marks	8

(OR)

(b) Explain the principle and method of gram's staining techniques.

Rubric	Marks
Principle- 4 marks method-4 marks	8

Section 4 (Answer all question(s))

Marks CO BL

Q16. Explain freeze drying preservation method.

3 2 2

Rubric	Marks
Freeze Drying principle : 3 marks	3

Q17. (a) Write a detailed note on factors affecting microbial growth.

7 2 2

Rubric	Marks
Each factors carry 1.5 mark	7

(OR)

(b) Explain continuous and synchronous culture growth with suitable diagram.

Rubric	Marks
Continuous growth -3.5 marks Synchronous growth -3.5 marks	7

Section 5 (Answer all question(s))

Marks CO BL

Q18. Explain morphology of Penicillium and Aspergillus.

4 2 2

Rubric	Marks
Penicillium morphology -2 marks Aspergillus morphology-2 marks	4

Q19. (a) Write the general characteristics and importance of Mycorrhiza.

6 2 2

Rubric	Marks
General Characteristics= 3 Importance =3	6

(OR)

(b) Write a detailed note on classification of fungi.

Rubric	Marks
Classification - each class with example -1.5 marks	6

Section 6 (Answer any 2 question(s))

Marks CO BL

Q20. Explain Lytic cycle with well labelled diagram.

5 2 2

Rubric	Marks
Lytic cycle explanation -2.5 marks Diagram-2.5 marks	5

Q21. Explain lysogenic cycle with well labelled diagram.

5 2 2

Rubric	Marks
Lysogenic cycle explanation -2.5 marks Diagram- 2.5 marks	5

Q22. Write a note on Bacteriophage detection assay.

5 2 2

Rubric	Marks
Bacteriophage detection assay -5 marks	5
