May 2025

BLDE (DEEMED TO BE UNIVERSITY)

Master of Science in Microbiology

[Time: 3 Hours] [Max. Marks: 80]

III SEMESTER

PAPER – I (Microbial Diversity and Taxonomy)

QP CODE: 7631

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Question (Any – 3) 10 X 3= 30 Marks

1. Explain in detail the classification of the Systematic bacteriology according to Bergey's Manual.
2. Explain the Classical Taxonomy of Whittaker's Five Kingdoms concept with suitable examples.
3. Write a detailed explanation of which methods were used to study microbial taxonomy and diversity.
4. Explain Microbial interaction and types of interaction with suitable examples

Short Essays: (Any – 7) 5 X 7 = 35 Marks

5. Microbial diversity and taxonomy
6. Scope and concept of microbial diversity and recent trends
7. Molecular and serological methods used in microbial taxonomy
8. DNA and RNA Homology
9. Characterization of bacteria and viruses by different methods
10. Factors affecting microbial growth
11. Carl Woose of classification of microorganisms
12. Taxonomic ranks and nomenclature rules for identification of microorganisms.

Short Answers: (Any – 5) 3 X 5 = 15 Marks

13. Chemo-taxonomy
14. Characteristics of Fungi, Algae and Protozoa
15. Evolution of microbial diversity
16. RNA sequencing.
17. Cytochrome of microbial
18. Recent biotechnological approaches an microbial taxonomy

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Master of Science in Microbiology

[Time: 3 Hours] [Max. Marks: 80]

III SEMESTER

PAPER – II (Bacteriology and Mycology)

QP CODE: 7632

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions (Any – 3) 10 X 3= 30 Marks

1. Classification of Bacteria
2. Fungal Cell Structure
3. Chytridiomycota, Zygomycota, Basidiomycota.
4. Fungal Nutrition

Short Essays (Any – 7) 5 X 7 = 35 Marks

5. Acid fast bacteria
6. Genomic and Numerical Taxonomy
7. Pure Culture Method
8. Fungal Taxonomy
9. Classification of Media
10. Ergot Alkaloids
11. Zygomycota
12. Aflatoxin

Short Answers (Any – 5) 3 X 5 = 15 Marks

13. Cell Membrane Functions
14. Flagella
15. Halophiles bacteria
16. Mycology
17. Heterothallism
18. Mycelium

May-2025

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Master of Science in Microbiology & Biotechnology

[Time: 3 Hours] [Max. Marks: 80]

III SEMESTER

PAPER – III (Drug Design)

QP CODE: 7633/7833

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Question (Any – 3) **10 X 3= 30 Marks**

1. What is enzyme inhibition? Explain different types of enzyme inhibition.
2. Explain signal transduction mechanism of tyrosine kinase and guanylate-cyclase linked receptors.
3. Discuss the importance of partition coefficient and ionization in relation to biological activity.
4. Describe different methods used to lead discovery.

Short Essays: (Any – 7) **5 X 7 = 35 Marks**

5. Discuss medicinal use of enzyme inhibitors.
6. Enumerate the forces involved in drug-protein interaction.
7. What is hydrogen bonding? Classify different hydrogen bonding.
8. Discuss the Kinetic analysis of ligand receptor interactions using Hill plot.
9. Write a note on SAR.
10. Add a note on macro beads in solid phase synthesis.
11. How to identify pharmacophore in drug molecule? Explain.
12. Write the identification test for alkaloids.

Short Answers: (Any – 5) **3 X 5 = 15 Marks**

13. Define enzyme and classify them.
14. Describe antisense therapy.
15. Discuss the Hansch approach.
16. Define prodrug? Explain.
17. Efficacy and potency.
18. Significances of ionization.