

BSC
AMS

Jan-2023.

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Microbiology

[Time: 3 Hours]

[Max. Marks: 80]

II SEMESTER

PAPER - I (Biochemistry)

QP CODE: 8205

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Describe primary, secondary and tertiary structures of proteins and give examples with their functions.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Define phospholipids. Classify them with suitable examples and state their functions.
3. Discuss essential and non-essential fatty acids.
4. Explain the concept of reducing and non-reducing sugar.
5. Write a note on structural polysaccharides with suitable examples.
6. General structure, functions and properties of Lipids.
7. Discuss and elaborate the concept of pH scale.
8. Describe quaternary Structure of protein Hemoglobin.
9. Describe Lock and key hypothesis and Induced fit theory.
10. Effect of temperature and pH over enzyme activity.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Describe Saponification.
12. State the Laws of Thermodynamics.
13. Define Gibbs Free Energy and Enthalpy
14. Define apoenzyme and cofactor.
15. What are Amino-acids? Their role in formation of protein.
16. Define Enzymes and give examples.
17. Explain in brief about Carbohydrates.
18. Entropy and Standard free energy change.
19. Cellulose and its function.
20. What is a Zwitterion?
21. Induced fit hypothesis.

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II SEMESTER

PAPER - II (Environmental Microbiology)

QP CODE: 8206

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Explain in detail Solid waste and liquid waste management methods.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Describe microbial degradation of cellulose.
3. Discuss microbial habitats in extreme environments with suitable examples.
4. Write about Soil microflora and soil profile.
5. Explain about microbes and their habitats in aquatic regions.
6. Describe Nitrogen cycle. How microbes contribute towards the cycle.
7. Write about the importance of studying environmental microbiology.
8. Explain sulfur cycle. Microbes involved in the sulfur cycle.
9. Explain principle and degradation of common pesticides, organic and inorganic matter.
10. Describe the role of microbes in humans and the animal environment with suitable examples.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. What are extremophiles? Give examples.
12. Microbes thriving in extreme environments.
13. Write a note on cellulose and lignin.
14. Brief on synergism and competition associations.
15. Write a note on Bioremediation.
16. What is Bioleaching?
17. Microbe-animal interaction.
18. What is soil microbiology? Examples of soil microflora.
19. Define amensalism and commensalism.
20. Write a short note on Biogeochemical cycles.
21. Write a note on waste management. Give examples of important microbes involved.