

July - 2022

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Biotechnology

[Time: 3 Hours]

[Max. Marks: 80]

III SEMESTER

PAPER - I (Bioanalytical Tools)

QP CODE: 8375

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 principle and application of ion exchange chromatography

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Fluorescence Microscopy
3. Density centrifugation
4. Molecular weight determination by Gel filtration chromatography
5. Agarose gel electrophoresis
6. Scope of nanotechnology in medicine
7. Explain Cell Fractionation Techniques
8. UV Visible spectroscopy
9. Microscopy
10. Principle of Layer Chromatography

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. SDS Phage electrophoresis
12. Application of Gas Chromatography
13. Law of absorption
14. Paper chromatography
15. Application of Biosensors
16. Scanning electron Microscopy
17. Ion exchange chromatography
18. Biosensors
19. TEM
20. Starch gel electrophoresis
21. Agarose gel electrophoresis

III SEMESTER

PAPER - II (General Microbiology)

QP CODE: 8376

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Explain Bacterial Reproduction- Transformation, Transduction and Conjugation with neat labelled diagram

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Describe the structure of virus.
3. Chemical techniques of sterilization
4. Write about classification of microorganism
5. Describe the special media with examples
6. Explain principle and procedure of ZN staining technique
7. ^{Bacterial} Growth curve and define generation time
8. Write in brief about lyophilization
9. Application of microorganism in various field
10. What are factors affecting growth of bacteria

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Write short note on electron microscope
12. Write distinguishing characteristic of protozoa
13. Give detail structure of eukaryotic ^{cell} with neat labelled diagram.
14. Explain importance of algae.
15. Describe in brief about isolation of bacteria from various culture
16. Describe types of microbial culture. ^{methods ;}
17. Explain synchronous batch and continuous culture
18. Serial dilution technique
19. What is endospore and write its importance.
20. Explain procedure of gram staining technique.
21. Different techniques used to preserve to microbial culture.

B.Sc. in Biotechnology

[Time: 3 Hours]

[Max. Marks: 80]

III SEMESTER

PAPER - II (Mammalian physiology)

QP CODE: 8377

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Discuss oxygen transport in blood

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Give different types and functions of plasma proteins
3. Explain all or none property of the skeletal muscle.
4. Define cardiac output. Give its normal value and Explain variations in cardiac output.
5. Describe digestion and absorption of proteins
6. Neurotransmitter. Give its types with examples.
7. Enlist types of WBC. Explain structure and function of Neutrophil.
8. Explain saltatory conduction with neat diagram.
9. Explain single muscle twitch with neat diagram.
10. Explain conducting system of heart with neat labelled diagram.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define Cardiac Cycle. Give its normal value.
12. Enlist types of fats
13. Draw a neat labelled diagram of neuron.
14. Give types of blood cells with their normal values.
15. Draw a neat labelled diagram of Nephron.
16. All or none law
17. Define muscle tone. What is hypertonicity and hypotonicity.
18. Define synapse. Give its types.
19. What is normal range of Haemoglobin. What is anaemia.
20. Give composition of bile.
21. What is Gigantism and Dwarfism.