1/7/24

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 about types of layer chromatography.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Write in detail about Sample preparation for bright field microscope.
3. Explain differential centrifugation with application.
4. Describe the principle of electron microscope.
5. Define beers-lambert's law with equation
6. Write in detail about working of gel electrophoresis
7. What is electron gun? Write its uses.
8. Describe instrumentation of colorimeter.
9. Define following
   d) Sedimentation rate
   e) Relative centrifugal force
   f) Sevedberg unit
10. Application of SDS-PAGE electrophoresis.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Define electromagnetic spectrum
12. Write about working of phase contrast microscope.
13. Staining techniques used in electrophoresis
14. Application of GC-MS
15. What is blotting techniques
16. How sample is prepared for bright field microscope?
17. Write about different types of rotar used in centrifuge.
18. Write application of thin layer chromatography
19. Write various types zone electrophoresis
20. Application of electron microscope in various field of biology
21. Principle of FT-IR spectrophotometer.

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7/24

B.Sc. in Biotechnology

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

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 Physical and chemical techniques to control microorganisms.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Explain bacterial growth curve.
3. Difference between coliforms and non coliforms.
4. Describe Conjugation.
5. General characteristics of virus.
6. Important microbes involved in Food microbiology.
7. Difference between prokaryotes and eukaryotes.
8. Explain Transformation.
9. Factors affecting growth of bacteria.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

10. Stain.
11. Bacteria.
12. What is microbiology?
13. Name different growth factors affecting microbes.
14. Virus.
15. Mold.
16. What are endospores?
17. Give examples of Gram positive and Gram negative organisms.
18. Transformation.
19. Transduction.
20. Batch culture.

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5/07/2024

B.Sc. in Biotechnology

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

III SEMESTER

PAPER - III (Bioinformatics)

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. Write in detail about biological databases

Short Essays: (Any – 8) 5 X 8 = 40 Marks

2. Application of bioinformatics
3. Multiple Sequence alignment
4. Secondary Structure of protein
5. Specialized database
6. Enterz tool
7. FASTA Sequence
8. Global sequence alignment
9. Sequence database with example
10. Types of BLAST

Short Answers: (Any – 10) 3 X 10 = 30 Marks

11. Define Homologous protein
12. Define Mutation & its effect
13. Phylogenetic analysis
14. Bibliographic database
15. Primary Sequence
16. Central dogma of life
17. Conserved domain
18. E-value
19. Scoring matrices
20. cladogram
21. Sequence similarity