BSc. March - 2025

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Biotechnology

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

VI SEMESTER

PAPER - I (Animal Biotechnology)

QP CODE: 8675

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

Long Questions **10X1 = 10 Marks**

1. Explain Animal cloning

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

2. What are stem cells and its applications
3. Explain different types of reproduction
4. How are retroviruses used for gene transfer
5. Write a note on sex hormone
6. Explain application of transgenic Pig, Sheep
7. Application of biotechnology in curing animal disease
8. Adeno associated viral vectors
9. Explain Microinjection
10. Explain Embryo transfer technique

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

11. Gene therapy
12. Gene gun
13. oxytocin and its role
14. Coccidiosis in cattle
15. Totypotencey
16. Pluripotency
17. HGP
18. Trypanosomiasis cattle
19. Blastocyst
20. Theileriosis
21. Artificial insemination

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VI SEMESTER

PAPER - II (Genomics & Proteomics)

QP CODE: 8676

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

Long Questions **10X1 = 10 Marks**

1. Write a note on Next Generation Sequencing (NGS)

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

2. Human Genome
3. Mitochondrial Genome
4. Rice Genome
5. Insertion Mutagenesis
6. Gene Expression
7. Fruit Fly Genome
8. Applications of Proteomics
9. T-DNA insertion
10. Quantitative Proteomics

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

11. Sequencing
12. Microarray
13. PCR
14. Whole Genome Sequencing
15. Proteomics
16. Genome
17. TILLING
18. DNA Chips
19. Proteins
20. Phylogenetic Trees
21. Transposable Elements

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VI SEMESTER

PAPER - III (Industrial Biotechnology)

QP CODE: 8677

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

Long Questions 10X1 = 10 Marks

1. Write the operation of conventional bioreactor

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

2. Types of fermentation process
3. Recovery of fermentation product
4. Production of breaker's yeast
5. Characteristic feature convectional bioreactor
6. Process of Alcoholic beverages
7. Parameters used to control fermentation process
8. Production of edible mushroom
9. Application of immobilized cell
10. Media used for fermentation process

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

11. Lyophilization techniques
12. List amino acid produced through fermentation technology
13. Homogeneously mixed bioreactor
14. Define flotation
15. Microbial strains used for citric acid
16. Application of breaker's yeast
17. Chemical used for cell disruption
18. Biosensors & its application in fermentation
19. Application of citric acid
20. Application of single cell protein
21. Types of mushroom

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

VI SEMESTER
PAPER - IV (Molecular Diagnostics)
QP CODE: 8678

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

Long Questions — 10X1 = 10 Marks

1. Write the principle, working and application of HPLC

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

2. Write the principle of flowcytometer
3. Explain the working procedure of PCR
4. Application of RFLP
5. Working procedure of ELISA
6. List the tests used for bactericidal activity
7. Principle and use of GLC
8. Types of PCR
9. Explain the concepts and methods in idiotypes
10. Applications of enzyme immunoassays in diagnostic

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

11. Application of monoclonal antibodies in ELISA
12. Types of enzyme immunoassays
13. List DNA Sequencing techniques
14. Structure of DNA
15. Application of idiotypes in diagnosis
16. Single nucleotide polymorphism (SNP)
17. Define the term 'nucleic acid amplification
18. Types of enzyme immunoassays
19. Application of PCR
20. Antiidiotypes and its type
21. Susceptibility tests