

JAN-2024

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Biotechnology

[Time: 3 Hours]

[Max. Marks: 80]

IV SEMESTER

Paper – I (Molecular Biology)

QP CODE: 8475

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Explain DNA Replication

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain Fidelity of DNA Replication
3. Explain DNA Damage
4. Base excision Repair
5. Nucleotide excision Repair
6. Helicase and Gyrase
7. Ribosome structure and function
8. Genetic code and its characteristics
9. Central dogma of Life
10. tRNA structure and function

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Nucleosides
12. Bi-directional replication
13. Primosome
14. DNA Repair System
15. Photo reactivation
16. operon
17. Eukaryotic RNA polymerase
18. Sigma Factor
19. Fidelity of Replication
20. Primosome
21. Central dogma of Life

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Paper – II (Immunology)

QP CODE: 8476

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Write about the molecular structure of Immunoglobulin

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. What is innate immunity?
3. Explain in brief about Cellular immune responses
4. Write about structure of B-Lymphocytes
5. Working principle & application of ELISA
6. What is Antibody diversity?
7. Explain different Immunodeficiency diseases
8. How pathogen defense strategies work?
9. Write in brief about Recombinant vaccines
10. T-Lymphocytes and its types

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define somatic mutation
12. Auto-Immune diseases
13. Mast cells
14. What are viral vaccines?
15. Role of Dendritic cells
16. Innate immunity
17. MHC molecules
18. AIDS
19. Macrophages
20. Autoimmune response
21. Hypersensitivity

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IV SEMESTER

PAPER III - (Genetics)

QP CODE: 8477

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Extra Chromosomal Inheritance

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Metaphase & Telophase in Mitosis
3. Genomic Imprinting
4. Deletion & Inversion
5. Monohybrid Cross
6. Dosage Compensation
7. Law of Segregation
8. Duplicate genes & Middle repetitive Sequences
9. Genetic Code
10. Population Genetics

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Functions of Genes
12. Cistron
13. Fragile X Syndrome
14. Expressivity
15. VNTR
16. Codominance
17. Autosomal Recessive
18. Aneuploidy & Euploidy
19. Structure of Chromosome
20. Turner Syndrome
21. Types of Linkage