

Jan-2023.

**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 Transcription

**Short Essays: (Any – 8)**

**5 X 8 = 40 Marks**

2. Semi conservative DNA Replication
3. Types of DNA Damage
4. Mismatch Repair
5. RNA polymerase
6. Role of Sigma factor in Transcription
7. Aminoacyl tRNA synthetases
8. Posttranslational modifications of proteins
9. Central Dogma of life
10. Structure and functions of mRNA

**Short Answers: (Any – 10)**

**3 X 10 = 30 Marks**

11. Types of DNA
12. Eukaryotic DNA polymerase
13. Photo reactivation
14. Inducible operon
15. RNA processing
16. Fidelity of Replication
17. Base excision Repair
18. Inhibitors of Protein synthesis
19. Prokaryotic and Eukaryotic ribosome's
20. Bidirectional replication
21. Mismatch DNA Repair

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# BLDE (DEEMED TO BE UNIVERSITY)

## B.Sc. in Biotechnology

[Time: 3 Hours]

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### IV SEMESTER

#### 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. Explain in detail about Auto-Immune diseases

#### Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Antibody affinity and class switching
3. What is Adaptive immunity?
4. Explain in short Class I and class II MHC molecules
5. Genomic rearrangements during B-Lymphocytes
6. Recombinant vaccines
7. What is ELISA and its principle?
8. What is the main function of mast cells
9. Which vaccines are DNA vaccines?
10. Components of immune system

#### Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. How do mast cells cause inflammation?
12. What are 3 disorders of the immune system?
13. Adaptive immunity
14. T-Lymphocytes and its types
15. somatic mutation
16. NK cells
17. Immunological memory
18. Humoral immune responses
19. Cytotoxic T-cells
20. Adaptive immunity
21. What triggers autoimmune disorders?

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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