

BACHELOR OF SCIENCE (B.Sc.) FOURTH SEMESTER  
**B.Sc. 2461 - MICROBIOLOGY Paper-I (Microbial Genetics)**

P. Pages : 2

Time : Three Hours



**GUG/W/18/1298**

Max. Marks : 50

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1. Explain regulation of gene expression by Lac operon. **10**

**OR**

Write about different types of mutation in details. **10**

2. Describe the process of translation in detail. **10**

**OR**

Explain Griffith experiment? Write about process of transformation. **10**

3. a) Write about split genes. **2½**

b) Describe the formation of Thymine dimer. **2½**

c) Explain NER. **2½**

d) Write the methods of artificially induced competence. **2½**

**OR**

e) Write about muton, recon and cistron. **2½**

f) Explain Ames Test. **2½**

g) Describe the Modes of replication. **2½**

h) Describe the formation of F' (prime) cells. **2½**

4. a) Live the concept of Gene within Gene. **2½**

b) Write about base deaminating mutation. **2½**

c) Explain Wobble hypothesis of genetic code. **2½**

d) Describe the process of Generalized transduction. **2½**

**OR**

e) Live the concept of gene & Genome. **2½**

f) Describe elongation step in transcription. **2½**

g) Describe base analogue mutation. **2½**

h) Explain the process of sexduction. 2½

5. Write **any ten**.

- a) What is polycistronic gene? 1
- b) What is nucleosome? 1
- c) What is central dogma of life? 1
- d) Give the example DNA intercalating agents. 1
- e) What is induced mutation? 1
- f) What is carcinogen? 1
- g) What is the role of DNA polymerase? 1
- h) What is stop codon? Give example. 1
- i) What is reverse transcription? 1
- j) What is Hfr cells? 1
- k) What is IS elements? 1
- l) What is abortive transduction? 1

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