B.Sc. (CBCS Pattern) Semester - IV

USMBT08 - Microbiology Paper-II (Microbial Genetics and Molecular Biology)

P. Pages : 2 **GUG/S/23/12013**

Time : Three Hours * 2 0 5 7 * Max. Marks : 50

Note : All questions are compulsory and carries equal marks.
Draw the diagram wherever it is necessary.

1. Describe the concept of Lac operon. **10**

OR

a) Write about the structure of nucleosome model. **2.5**

b) Explain muton, recon and cistron. **2.5**

c) Write about central dogma of gene action. **2.5**

d) Explain repression and induction. **2.5**

2. Write about mechanism of DNA replication in detail. **10**

OR

a) Write about replica plating technique. **2.5**

b) Describe the effect of UV radiation on mutation. **2.5**

c) Describe the Ame's test. **2.5**

d) Explain frameshift mutation. **2.5**

3. Explain the process of translation. **10**

OR

a) Write about structure of RNA polymerase. **2.5**

b) Write about elongation step of translation. **2.5**

c) Give the different characteristics of genetic code. **2.5**

d) What is reverse transcription? Explain in brief. **2.5**

4. Explain the mechanism of Bacterial DNA transformation. **10**

OR

a) Explain Griffith experiment. **2.5**

b) Explain U tube experiment. **2.5**

c) Write about abortive and complete transduction. **2.5**

d) Discuss formation of Hfr cell. **2.5**

5. Solve **any ten**.

a) What is Genome? **1**

b) What is Polycistronic? **1**

c) What is Split gene. **1**

d) What is point mutation? **1**

e) What is nonsense mutation? **1**

f) What is transversion. **1**

g) What is the role of peptidyl transferase? **1**

h) What is the role of sigma factor. **1**

i) What is Pribnow box? **1**

j) What is transposon. **1**

k) Who discovered transduction? **1**

l) What is Hfr cell? **1**

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