

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

P. Pages : 2

Time : Three Hours



GUG/S/19/12013

Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.

1. Write about regulation of gene expression by trp operon. **10**

OR

a) Explain Introus and Exous. **2½**

b) Explain positive regulation with example. **2½**

c) Write the structure of Lac Operon. **2½**

d) Explain repression and induction. **2½**

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

OR

a) Describe the Ame's test. **2½**

b) How mutation are caused by intercalating agents. **2½**

c) Explain frameshift mutation. **2½**

d) Explain modes of replication. **2½**

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

OR

a) Explain the removal of introus by splicesome complex. **2½**

b) Describe 5' and 3' modification of m-RNA. **2½**

c) Write about elongation step of transcription. **2½**

d) Write any two characteristics of genetic code. **2½**

4. Describe the process of transformation of DNA in bacteria. **10**

OR

a) Describe the methods of artificially induced competence. **2½**

- b) Explain U tube experiment. 2½
- c) Give the mechanism of conjugation. 2½
- d) Write about abortive and complete transduction. 2½

5. Attempt **any ten** questions.

- a) What is the role of histone protein? 1
- b) What is SiRNA? 1
- c) Name the gene which produce β -galactosidase. 1
- d) What is silent mutation. 1
- e) What is Thymine dimer. 1
- f) Give the example of deaminating agents. 1
- g) Name the first amino acid produce by translation. 1
- h) What is reverse transcription? 1
- i) What is the role of sigma factor subunit? 1
- j) What is transposable genetic elements? 1
- k) What is f' prime cell. 1
- l) What is the role of sex pilli. 1
