

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

P. Pages : 2

GUG/S/25/12013

Time : Three Hours



Max. Marks :50

1. Explain in detail about Lac operon in E.coli. 10

OR

- a) Write about positive regulation. 2½
- b) Explain the nucleosome model of DNA. 2½
- c) Describe recon, muton and cistron. 2½
- d) Explain central dogma of gene action. 2½

2. Describe the DNA replication process in detail. 10

OR

- a) Write about missense mutation. 2½
- b) Write about the formation of thymine dimer. 2½
- c) Write about replica plating technique. 2½
- d) Describe the action of intercalating agent on mutation. 2½

3. Write in detail about translation process. 10

OR

- a) Write about m-RNA processing. 2½
- b) Write about RNA polymerase Enzyme. 2½
- c) Write any three characteristics of genetic code. 2½
- d) Write about alternate splicing. 2½

4. Write in detail about Generalized transduction. 10

OR

- a) Write about U tube experiment. 2½
- b) Explain the mechanism of conjugation. 2½
- c) Write about Griffith experiment. 2½
- d) Explain the formation of F prime cell. 2½

5. Answer **any ten** of the following (1 mark each)

10

- a) What is role of Histone protein?
- b) What is Induction?
- c) Name the structural genes present in the Lac operon?
- d) Give the example of base deaminating agents?
- e) What is transversion mutation?
- f) What is the role of SSB protein?
- g) Give the example of initiation codon?
- h) Name the first amino acid synthesized by translation.
- i) What is reverse transcription?
- j) What is F prime cell?
- k) What is transposon.
- l) What is conjugation?
