BBG-003-001632 Seat No. _____

Third Year B. Sc. (Sem. VI) (CBCS) Examination

July – 2021

MB-602 : Molecular Bio. & Genetic Engg.

(Old Course)

Faculty Code : 003
Subject Code : 001632

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Objectives : **20**

(1) First amino acid incorporated during translation in prokaryotes is _____.

(2) What is spontaneous mutation ?

(3) Enlist various physical agents of mutation.

(4) Define : Plasmid.

(5) What is electroporation ?

(6) Who si the father of Genetics ?

(7) What are introns ?

(8) What is the contribution of Watson and Crick ?

(9) What is okazaki fragment ?

(10) What is Mutation ?

(11) Define : Stop codon.

(12) Define the term operon.

(13) Explain : AP site.

(14) Process of Synthesis of c-DNA is known as _____.

(15) Define : Cosmid.

(16) What is transduction ?

(17) Chemical nature of genetic material was detected by _____.

(18) If percentage of Cytosine in DNA is 25% what is the percentage of Adenine ?

(19) The repressor protein binds at _____.

(20) _____ acts as initiator codon.

2 (a) Answer in brief : (3 out of 6) **6**

(1) What are molecular chaperons ?

(2) What mismatch repair ?

(3) Define : Mutation.

(4) What is Molecular biology ?

(5) Define : Gene

(6) Explain : Monohybrid and dihybrid cross.

(b) Answer in brief : (3 out of 6) **9**

(1) Explain : SOS repair.

(2) Explain in brief : Ames test.

(3) Give applications of genetic engineering.

(4) Site specific recombination.

(5) Explain : Post translational modification.

(6) What is role of mesosome in transformation ?

(c) Short notes on : (2 out of 5) **10**

(1) Molecular chaperon.

(2) Biochemical basis of mutation.

(3) Explain : Transduction.

(4) Explain : Lac Operon.

(5) Mechanism of DNA replication.

3 (a) Answer in brief : (3 out of 6) **6**

(1) What is phenotypic and phenomic lag ?

(2) Define : Conjugation.

(3) Give law of co-dominance.

(4) What is shuttle vector with example ?

(5) What is photoreactivation ?

(6) What is cistron ?

(b) Answer in brief : (3 out of 6) **9**

(1) Biological mutagenesis.

(2) Explain : pBR322 as vector for r-DNA technology.

(3) Explain : Transposable elements.

(4) Give role of ribosome in translation.

(5) Explain about genetic code.

(6) DNA is universal genetic material.

(c) Short notes on : (2 out of 5) **10**

(1) Induced mutation.

(2) Explain : Site directed mutagenesis.

(3) Short note on Conjugation.

(4) Explain : Transcription.

(5) Mendelian laws of inheritance.
