Seat No. : _____

TF-104

May-2013

B.Sc. Sem. IV

204 : Biotechnology

(Basic Genetics)

Time : 3 Hours] **[Max. Marks : 70**

1. (a) Explain Sex linked inheritance in detail. **7**

   (b) Explain the 'Laws of Mendel'. **7**

   OR

   (a) Define Linkage. Explain complete and incomplete linkage with example.

   (b) Write a note on "Linkage Maps."

2. (a) Explain "Excision repair mechanism of DNA". **7**

   (b) Messelson and Stahl experiment. **7**

   OR

   (a) Give a brief account on Proteins for DNA replication.

   (b) Write a note on 'Translation in Prokaryotes'.

3. (a) Ame's test. **7**

   (b) Define Mutation. Explain Spontaneous mutation detail. **7**

   OR

   (a) Write a note on Induced Mutation.

   (b) Define Mutagen. "U.V. Rays act as mutagen" Justify this sentence.

4. (a) Write a note on "Homologous Recombination". **7**

   (b) Write a brief note on general properties of bacterial plasmid. **7**

   OR

   (a) Write a note on "Transposable Elements".

   (b) Define Transformation. Explain it in detail.

5. Answer in brief : **14**

(1) Define the term Dominant.

(2) Who is the father of Genetics ?

(3) What do you understand by "Lagging strand" ?

(4) Note the difference between transition and transversion mutation.

(5) Define : Primosome.

(6) What is F-factor ?

(7) Define Tn elements.

(8) What is Transduction ?

(9) Difference between Vertical and Horizontal gene transfer.

(10) Define : Non Homologous Recombination.

(11) Note the difference between "Gene" and "Allele".

(12) Give the full form of 5-BU.

(13) Define Test Cross.

(14) What is "Cris-cross Inheritance" ?

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