



- ix) Repetitive sequence outside coding region causes
- a) Fragile X syndrome
 - b) Baker Muscular dystrophy
 - c) Huntington disease
 - d) Cystic fibrosis.
- x) Locus heterogeneity means
- a) Same disease by mutations at different loci
 - b) Existence of many different disease-causing alleles at same locus
 - c) Complex patterns of inheritance occurs from the same locus
 - d) Variable expressions of a gene in the same locus.
- xi) Allelic heterogeneity means
- a) Existence of many different disease-causing alleles at same locus
 - b) Same disease by mutations at different loci
 - c) Variable expressions of a gene in the same locus
 - d) Complex patterns of inheritance occurs from the same locus.
- xii) CFTR gene present in the chromosome number
- a) 7
 - b) 11
 - c) x
 - d) 2.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. What is single gene disorder ? State with example.
3. How does reporter gene help in Gene transfer methods ?
4. Describe the role of Non-Viral vectors in Gene therapy.
5. What is stem cell therapy today ?
6. What is the role of suicidal Gene in cancer Gene therapy ?

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. What are the goals of Human Genome Project ? What are some of the ethical considerations for using gene therapy ?
 $5 + 10$
8. Explain various approaches of Cancer Gene Therapy. What is Tumour Suicide Gene Therapy ? $10 + 5$
9. What is Tissue Engineering ? What are the approaches of Tissue Engineering in Regenerative Medicine ? Describe current status of clinical applications. $5 + 5 + 5$
10. What is Nanomedicine ? Define Nanometer scale. What are the Nano-Structured materials used in Medicine ? $5 + 5 + 5$
11. How do Molecular Biology and Biochemistry help in sub-unit vaccine production ? What are the advantages and disadvantages between recombinant vaccine and natural vaccine ?