



Name :

Roll No. :

Invigilator's Signature :

CS/B.Sc.(H)/GENETICS/MOL. BIO/SEM-6/MLG-603/2012

2012

MOLECULAR HUMAN GENETICS

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
10 × 1 = 10
- i) Who coined the term "Genome" ?
 - a) Bateson
 - b) Winkler
 - c) Johansson
 - d) Mendel.
 - ii) Which Human chromosome is the largest acrocentric chromosome ?
 - a) 13
 - b) 14
 - c) 15
 - d) Y.
 - iii) Which chromosome possesses lowest number/density of genes ?
 - a) 13
 - b) Y
 - c) 1
 - d) 22.
 - iv) Allelic heterogeneity means
 - a) existence of many different disease-causing alleles at same locus
 - b) same disease by mutations at different loci
 - c) variable expression of a gene in the same locus
 - d) complex patterns of inheritance occur from the same locus.



GROUP – C

(Long Answer Type Questions)

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

7. What is STS ? What are the type STSs available in Human Genome ? What are the vectors used as a Library in Human Genome Project ? Describe the Laboratory Protocol used in Human Genome Project. $2 + 3 + 3 + 7$
8. What are Genetic Markers ? What are the types of Genetic Markers used in Gene Mapping ? What is the molecular basis of DNA fingerprinting ? Who is the inventor of the same technology ? $2 + 3 + 8 + 2$
9. How do you sequence a whole Genome ? What is cDNA sequencing ? What is current status of DNA sequencing technology ? What is Bermuda agreement in HGP ?
10. What is Haplotype ? What is Genomic Variation ? How does Haplotype help in searching genes in Complex Genetic Disorders ?
11. What is Complex Genetic Disease ? Describe inheritance pattern in complex genetic disorders. What are the differences between monogenic and complex genetic disorders ? $3 + 6 + 6$

