SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

M.Sc. Molecular Biology & Human Genetics (Semester-III)
March -2016 Examination

Time: 3.00 Hrs.   [Max. Marks: 100]

Paper-I

MEDICAL GENETICS

Q.P. Code: MBHG - 113

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY   2 X 10 = 20 Marks

1. Explain the various types of inheritance patterns.

2. Explain the organization of human genome.

SHORT ESSAY   10X 5 = 50 Marks

3. Fragile X syndrome.

4. Chromosome Banding.

5. Reciprocal translocation.

6. Maternal serum screening.

7. Duchene muscular dystrophy.

8. Trisomy of sex chromosomes.

9. ARMS-PCR.

10. Pedigree drawing.

11. Linkage analysis.

12. Genetic heterogeneity.

SHORT NOTE   10 X 3 = 30 Marks

13. Array CGH.

14. Ag-NOR staining.

15. Monogenic genetic disorder.

16. Mitochondrial inheritance.

17. Amniocentesis.

18. Polygenic traits.

19. Duplication aberration.

20. FISH.

21. Patau syndrome.

22. Ethics and genetic counseling.

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Paper-II

MOLECULAR BASIS OF HUMAN DISEASE-I

Q.P. Code: MBHG-114

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY   **2 X 10 = 20 Marks**

1. Describe in detail Beta- oxidation of fatty acid and its regulations. Add a note on carnitine uptake disease.

2. Enumerate the epigenetic changes in carcinogenesis.

SHORT ESSAY   **10X 5 = 50 Marks**

3. Lipoproteins and their functions.

4. Mechanism of insulin action.

5. Urea cycle.

6. Maple syrup urine disease.

7. Activation mechanism of proto-oncogenes.

8. Viral oncogenes.

9. Molecular defects in Xeroderma pigmentosum.

10. Classification of thalassemia.

11. Glycogen storage disease.

12. Hyperureamia and clinical findings.

SHORT NOTE   **10 X 3 = 30 Marks**

13. PRPP Biosynthesis.

14. Phenylketonuria.

15. Gaucher's disease.

16. Philadelphia chromosomes.

17. Cystic fibrosis.

18. Fumarase deficiency.

19. Histones.

20. Bile acids and their functions.

21. Sickle cell anemia.

22. Huntington's disease.

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Paper-III

BIOSTATISTICS RESEARCH METHODOLOGY BIOINFORMATICS

Q.P Code : MBHG-115

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY   2 X 10 = 20 Marks

1. Explain in detail the methods of data collection and analysis.

2. What are the types of study designs in biomedical research?

SHORT ESSAY   10X 5 = 50 Marks

3. Write in brief about data presentation.

4. Differentiate between parametric and non-parametric statistics.

5. What is the significance of a research question?

6. Explain EMBASE.

7. Write briefly on keywords and filters in literature search.

8. What is case control study?

9. Salient features of Belmont principle and its significance.

10. Write briefly on the tools of bioinformatics.

11. What is gene Bank? How does it help to bring quality varieties?

12. Explain in detail the progressive alignment methods.

SHORT NOTE   10 X 3 = 30 Marks

13. Clusters.

14. SPSS.

15. Meta-analysis.

16. Cross sectional analysis.

17. Preclinical studies.

18. Blinding.

19. BLAST.

20. Protein Data Bank (PDB).

21. Gene sequence analysis.

22. Uniprot KB.

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