M.Sc. Molecular Biology & Human Genetics (Semester-III)
February – 2019 Examination

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

Paper-I

Medical Genetics

Q.P Code : M3170

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

LONG ESSAY 2 X 10 = 20 Marks

1. Write an account on conventional cytogenetic tests.

2. Explain the structural aberrations of chromosomes.

SHORT ESSAY 10X 5 = 50 Marks

3. Sex linked inheritance.

4. FISH

5. ISCN

6. Invasive tests for prenatal diagnosis.

7. Ethics in medical genetics.

8. Pedigree analysis.

9. Autosomal trisomies : Down and Edwards syndromes.

10. Karyotype and band resolution.

11. Molecular tests for genetic disorders.

12. New born screening.

SHORT NOTE 10 X 3 = 30 Marks

13. Monosomy.

14. Risk Assessment.

15. Common symbols in Pedigree Drawing.

16. Choriomic Villus Sampling.

17. Uniparental disomy.

18. Klinefeltar syndrome.

19. HER-2.

20. Indications for prenatal testing.

21. Polygenic traits.

22. Malformations.

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SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

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Paper-II

Molecular Basis of Human Disease-I

Q.P Code : M3181

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

LONG ESSAY   2 X 10 = 20 Marks

1. Describe the classification and molecular basic of lipid storage diseases.

2. What are carcinogens? List the three types of carcinogens and their mechanism of action.

SHORT ESSAY   10X 5 = 50 Marks

3. Role of HPV in cervical carcinoma.

4. Molecular basis of radiotherapy .

5. Urea cycle disorders.

6. Genetics of retinitis pigmentosa and color-blindness.

7. Mechanism of proto-oncogene activation.

8. Pyruvate dehydrogenase deficiency.

9. Molecular defects in Xeroderma pigmentosum.

10. Classification of thalassemia.

11. Glycogen storage diseases.

12. Familial hypercholesterolemia.

SHORT NOTE   10 X 3 = 30 Marks

13. Galactosaemia.

14. Phenylketonuria.

15. Orotic aciduria.

16. Wilson's disease.

17. Androgen insensitivity syndrome.

18. Telomerase activation in cancer cell.

19. DNA methylation.

20. Chemotherapeutic action of 5-Fluorouracil.

21. Spinal Muscular Atrophy.

22. Severe combined immunodeficiency.

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

Paper-III
Biostatistics & Research Methodology
Q.P Code : M3190

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

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

1. Write in detail on the methods of data presentation.

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

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

3. Write briefly on electronic literature databases.

4. Differentiate between parametric and non-parametric statistics. List the different parametric and non-parametric tests.

5. Write in brief about types of data.

6. What is cluster sampling technique? Explain the procedure of selecting samples using cluster sampling technique.

7. Write briefly on Keywords and Filters in literature research.

8. Observational studies.

9. Salient features of Belmont principle and its significance.

10. Types of Journal articles.

11. Good Laboratory Practices (GLP)

12. Measures of dispersion.

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

13. Regression.

14. Good clinical practices.

15. Blinding.

16. SMART research question.

17. International conference on harmonization.

18. Meta-analysis.

19. Preclinical studies.

20. Cross sectional analysis.

21. Types of Mean.

22. Null hypothesis.

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