SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)
Post Graduate Diploma in Genomic Technology (PGDGT)
(Semester - II)
January-2013 Examination

Time: 3 Hrs.   Max. Marks: 100

Paper – I
Cytogenetics
Q.P Code :5112

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

Section – A Cytology   (50 Marks)
(Use Separate Answer booklet for Section "A" and Section "B")

LONG ESSAY   2 X 10 = 20 Marks

1. Methods for analysis of genetic disorders.

2. Role of immunohistochemistry in surface epithelial tumours

SHORT ESSAY   3X 5 = 15 Marks

3   Genetic assessment and clinical utility

4   Cytogenetic evolution of tumours

5   Mention pathogenesis of colonic cancer

SHORT ANSWERS   5 X 3 = 15 Marks

6   Chromosome stability

7   Telomers

8   Protein krnase and chromosome stability

9   Autosomal resessive disorders

10 FISH

Section – B Genetics   (50 Marks)
(Use Separate Answer booklet for Section-B)

LONG ESSAY   2 X 10 = 20 Marks

1. Enumerate Mendelian laws of inheritance. Explain briefly the law of segregation with suitable examples

2. Define population genetics. Explain Hardy Weinberg's law with suitable examples.

SHORT ESSAY   3X 5 = 15 Marks

3   Multifactorial inheritance

4   Sex determination and differentiation

5   Immune system disorders

SHORT ANSWERS   5 X 3 = 15 Marks

6   Inactivation of X-chromosome

7   Multiple alleles

8   Symbols used in pedigree charts

9   Dermatolglyphics

10 Hydatiform mole

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Time: 3 Hrs.   Max. Marks: 100]

Paper – II
Molecular Cell Biology
Q.P Code: 5222
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 molecular basis of cancer cell behaviour.

2. Illustrate the mechanism by which specific gene regulatory proteins control gene transcription in prokaryotes.

SHORT ESSAY   10 X 5 = 50 Marks

3 Southern blotting.

4 Plasmids

5 Restriction enzyme analysis.

6 Usefulness of PCR in medical diagnosis.

7 Somatic gene therapy.

8 Benefits of Human Genome project.

9 Nucleosomes.

10 Micro RNA.

11 DNA finger printing.

12 Single nucleotide polymorphism.

SHORT ANSWERS   10 X 3 = 30 Marks

13 Reverse transcription.

14 Microarrays.

15 Tumour markers.

16 DNA polymerase.

17 Advantages of bioinformatics.

18 Point mutations in cancer.

19 DNA markers in disease diagnosis.

20 Tumour suppressor genes.

21 Gene knockout.

22 Telomeres.

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