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

2013-14

Post Graduate Diploma in Genomic Technology (PGDGT)

Semester - II Examination August-2014

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. Name few Mendelian Direct gene diagnosis and add a note on Mendelian inheritance in man.
2. How does single cell co amplification of Polymorphic help in Indirect genetic diagnosis?

SHORT ESSAY **3X 5 = 15 Marks**

3 Micro Array based Comparative genomic hybridization and its application in cancer.
4 Immuno histochemical diagnosis in nonepithelial tumor.
5 Steps involved in molecular pathology of gynecologic cancer.

SHORT ANSWERS **5 X 3 = 15 Marks**

6 Reagent used in Immunohistochemical reaction in locating tissue proteins.
7 List the different types of cytogenetic disorders.
8 Molecular pathology of chronic myeloid leukemia.
9 Role of telomers and telomerase in cancer progression.
10 Autosomal recessive disorders.

Section – B Genetics (50 Marks)

(Use Separate Answer booklet for Section-B))

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

1. How and why do the results of genetic crosses involving linked genes deviate from those expected according to Mendelian law of Independent assortment?
2. What is fertilization? List the various factors influencing development, and how genes are involved.

SHORT ESSAY **3X 5 = 15 Marks**

3 Non disjunction.
4 Rh null blood group.
5 Hydatiform mole.

SHORT ANSWERS **5 X 3 = 15 Marks**

6 Intermediate inheritance.
7 Sex linked lethality.
8 Polygenic inheritance.
9 Types of mutations.
10 Human leucocyte antigens.

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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. Discuss the construction and application of CDNA library.
2. Describe DNA finger printing technique. Add a note on its applications.

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

3 Explain southern blotting technique.
4 Write a note on the applications of restriction endonucleases in R.DNA.technology.
5 Explain the structure and functions of CAP.
6 Describe the uses of recombinant molecule as diagnostic probes.
7 Write a note on VNTR.
8 Explain briefly about human genome mapping.
9 What are the applications of human genome project.
10 Write a note on gene therapy.
11 Explain molecular mechanism of cancer.
12 Applications of biological data bases.

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

13 What are cosmids?
14 Give the principle of electroporation.
15 What is the use of terminal transferase in recombinant DNA technology?
16 Distinguish between indlucible and repressible operon.
17 What are consenses sequences?
18 What is meant by tancden repeats?
19 Mention different applications of gene therapy.
20 Oncogenes.
21 What are the disadvantages of cancer chemotherapy.
22 Restriction end nulceases.

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