2014-15

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

Post Graduate Diploma in Genomic Technology (PGDGT)

February-2015 Examinations

(Semester - I)

Time: 3 Hrs. [Max. Marks: 100]

Paper – I

Cytogenetics

Q.P Code :5111

CW

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. Write an essay on mitotic cell division.
2. Write an essay on specimen collection and procession of biological samples.

SHORT ESSAY

3X 5 = 15 Marks

3 Describe the regulation of cell cycle at the molecular level.
4 Write a short essay on chromatid.
5 Describe the various eukaryotic cellular organelles and their functions?

SHORT ANSWERS

5 X 3 = 15 Marks

6 How to collect and process faeces for cytogenetic studies?
7 How to preserve the CSF specimens during transit?
8 How the solid tissue sample is useful in pathological analysis?
9 What are the functions of mitochondria?
10 Describe the anaphase of meiosis.

Section – B Genetics (50 Marks)

(Use Separate Answer booklet for Section-B)

LONG ESSAY

2 X 10 = 20 Marks

1. Write an essay on epigenesis, pangenes and acquired characters.
2. Describe the physical basis of heredity.

SHORT ESSAY

3X 5 = 15 Marks

3 Write a short essay on chromosome theory of inheritance.
4 Describe the importance of structural chromosomal disorder.
5 Write a short essay on human sex chromosomes.

SHORT ANSWERS

5 X 3 = 15 Marks

6 Define chromosomal banding?
7 Define gene translocation?
8 What is Lyon's hypothesis?
9 What is a linkage map?
10 Define complementary genes.

* * *

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

Post Graduate Diploma in Genomic Technology (PGDGT)

February-2015 Examinations

(Semester - I)

Time: 3 Hrs. Max. Marks: 100]

Paper – II
Molecular Cell Biology

Q.P Code: 5121

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 biosynthesis of purines and its regulations.
2. Explain prokaryotic transcription. Add a note on the post transcriptional modifications.

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

3 DNA replication in eukaryotes
4 Steps involved in cloning.
5 Mechanisms involved in protein transport in eukaryotes.
6 Explain the mechanism of formation of initiation complex.
7 Different types of RNA and their functions.
8 What is mutation? Describe different type of mutations.
9 Extra chromosomal elements and their applications.
10 Reverse transcriptase and their applications.
11 Oxidative damage of DNA.
12 Isolation of DNA and assessment of its purity.

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

13 Restriction endonuclease.
14 Termination codons.
15 Ribozyme.
16 PRPP formation.
17 Orotic aciduria.
18 Unusual bases.
19 Nucleotide excision repair.
20 Allopurinol.
21 Synthetic bases.
22 Activation of amino acids.

* * *