

FACULTY OF SCIENCE

M. Sc. III – Semester Examination, December 2013

Subject : Biochemistry

Paper – III  
Biochemical Genetics

Time : 3 Hours

Max. Marks: 80

Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.

PART – A (8 x 4 = 32 Marks)  
(Short Answer Type)

1. Material inheritance
2. Suppressor mutations
3. Complementation analysis
4. RAPD
5. Cistron concept
6. Generalized transduction
7. Role of growth factors in carcinogenesis
8. Role of Retinoblastoma protein

PART – B (4 x 12 = 48 Marks)  
(Essay Answer Type)

9.(a) Write in detail about Chromosomal mutations and briefly about mutation rates.

OR

- (b) Give an account of :
- (i) Sex linked inheritance
  - (ii) Mechanism of repair of UV damaged DNA

10.(a) Explain gene linkage and gene mapping by recombination analysis.

OR

(b) Write down the principles of somatic cell genetics. Add a note on RFLP.

11.(a) Explain the mechanism of gene transfer and gene mapping in bacteria by conjugation.

OR

- (b) Explain the mechanism of :
- (i) Site specific recombination
  - (ii) Retrotransposon mediated recombination

12.(a) Discuss the mechanism of p16, p21 and p110 in tumor suppression.

OR

(b) Give an account of the role of transcription factors in oncogenesis.

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