

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – NOVEMBER 2016

AZ 5513 – GENETICS

Date: 01-11-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART – A

Answer **ALL** the questions:

(10x2=20 marks)

Define / Explain

1. Phenylketonuria
2. Polygenic inheritance
3. Operon concept
4. Extra nuclear DNA
5. Bacterial recombination
6. F-factor
7. Human karyotype
8. Planned genotypes
9. Restriction enzymes
10. Gene therapy

PART – B

Answer any **FOUR** of the following:

(4x10=40 marks)

11. Give an account of law of independent assortment with suitable example.
12. Describe the structure, types and functions of RNA.
13. Give an account on the following: a) transduction b) transformation.
14. Explain the advantage and disadvantage of inbreeding and out breeding.
15. Explain the genetic counselling.
16. Describe the lytic and lysogenic life cycles in phage.

PART – C

Answer any **TWO** of the following:

(2x20=40 marks)

17. What is genetic engineering? Discuss the applications of biotechnology in human welfare.
18. Describe the inherited genetic disorders of man.
19. Explain the Hardy Weinberg law and elaborate the factors affecting the equilibrium
20. Describe the application of genetic principles to plant and animal breeding.

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