

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – APRIL 2018

AZ 5518– PRINCIPLES OF GENETICS

Date: 03-05-2018

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

SECTION – A

Answer **ALL** the questions (10x2=20)

1. Law of dominance
2. What is test cross?
3. Metabolic disorder
4. What is Erythroblastosis Foetalis.
5. Linkage and crossing over
6. Transduction
7. Pedigree analysis
8. Human karyotyping
9. Amniocentesis
10. Bioethics

SECTION – B

Answer any **FOUR** of the following (4x10=40)

11. Define gene interaction? Explain any one of gene interaction.
12. Explain ABO blood group
13. Describe the structure and function of RNA
14. By using Stern's experiment prove that crossing over is taking place in Drosophila.
15. Explain the factors affecting Hardy Weinberg law.
16. Describe the gene manipulation and its consequence.

SECTION – C

Answer any **TWO** of the following (2x20=20)

17. State Mendel's law of independent assortment. Explain the mechanism involved in Guinea pig.
18. What is gene-enzyme relation? Prove that biochemical plays a vital role in genetic disorders.
19. Explain inbreeding and outbreeding with suitable examples.
20. Describe the application of genetics in plant and animal breeding.
