

**C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),  
MELVISHARAM - 632 509.  
SEMESTER EXAMINATIONS, APRIL - 2018**

**B.Sc., ZOOLOGY**

**SEMESTER IV**

**U15MZL401 /U14MZL401 – GENETICS AND BIOTECHNOLOGY**

Time: Three Hours

Maximum: 75 Marks

**SECTION - A (10 X 2 = 20 Marks)**

**Answer ALL Questions.**

1. F1 hybrid.
2. Lethal alleles.
3. Crossing over.
4. Complementary gene.
5. Down's Syndrome.
6. Heterosis.
7. Phagemids.
8. Cloning.
9. Southern blotting.
10. GloFish.

**SECTION - B (5 X 5 = 25 Marks)**

**Answer ALL Questions.**

11. a) Describe multiple alleles with human blood group.

(Or)

b) Briefly describe Atavism.

12. a) Describe incomplete linkage with an example.

(Or)

b) Briefly describe the sex linkage in *Drosophila*.

13. a) Write brief notes on mutation breeding.

(Or)

b) Write notes on genetic disorders.

14. a) Define recon, cistron and muton.

(Or)

b) Write a short note on lac operon system.

15. a) Discuss the risks, public perception- facts and myths about GM foods.

(Or)

b) Write two applications of transgenic cows.

**SECTION - C (3 X 10 = 30 Marks)**

**Answer ANY THREE Questions.**

16. Explain Mendelian laws.
17. Write an essay on the contribution of T.H. Morgan in genetics.
18. What are chromosomal aberrations? Describe deletions and duplications as chromosomal aberrations.
19. Give a detailed account on cDNA library.
20. Briefly discuss the steps of PCR with suitable diagram. Write down the applications of PCR. Briefly explain the efficiency of PCR.

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