S.No. 1759

12UBT02

(For the candidates admitted from 2012-2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Second Semester

Biotechnology

GENETICS

Time : Three hours   Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Write short note on ALL questions.

1.   Peptidoglycan.

2.   Base pairs.

3.   Codominance.

4.   Alleles.

5.   Polyploidy.

6.   Chemical mutagen.

7.   Specialized transduction.

8. Genome.

9. Turner syndrome.

10. Hermaphroditism.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write a short note on the structure of bacterial gene.

Or

(b) Explain the structure of RNA.

12. (a) Describe monohybrid cross.

Or

(b) Briefly explain incomplete dominance.

13. (a) Explain the numerical alterations in chromosomes.

Or

(b) What are the types of chemical mutagens? Explain.

14. (a) Brief on the types of transduction.

Or

(b) Write a short note on One gene — One polypeptide hypothesis.

15. (a) What is prenatal diagnosis? Explain.

Or

(b) Explain the floral development in *Arabidopsis thaliana*.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Comment on the different forms of DNA.

17. Explain chromosomal theory of inheritance.

18. Describe the types of mutation.

19. Write a detailed account on transformation.

20. Derive Hardy Weinberg equilibrium.

———————