



**AAN-471**

Seat No. \_\_\_\_\_

**B. Sc. (Sem. V) Examination**  
**October / November - 2016**  
**Microbiology : Paper - MI - 503**  
**(Classical Genetics)**

Time : 3 Hours]

[Total Marks : 70

- 1 (a) Answer any two questions from the following : 15
- (1) Write a Note on Human Genome Project.
  - (2) Describe the Watson and Crick model for DNA.
  - (3) Describe the use of genetics in agriculture.
- (b) Answer any two questions from following : 2
- (1) Define gene.
  - (2) What is mutation ?
  - (3) What is Gene expression ?
- 2 (a) Answer any two questions from following : 15
- (1) Explain the Mendelian second law.
  - (2) Describe the Mendelian Segregation in Human Families.
  - (3) Write a note on genetic counseling.
- (b) Answer any two questions from the following : 2
- (1) What is Pedigree analysis ?
  - (2) What is Punnett Square Method ?
  - (3) What is difference between Monohybrid cross and Dihybrid cross ?

- 3 (a) Answer any two questions from following : 15
- (1) Describe the process of Meiosis process in detail.
  - (2) Describe the sex determination in human.
  - (3) Write a note on X linked blood clotting disorder.
- (b) Answer any three questions from the following : 3
- (1) Describe the events in Mitosis Metaphase.
  - (2) What is colour blindness ?
  - (3) What is pseudoautosomal genes ?
  - (4) What is the importance of meiosis ?
- 4 (a) Answer any **two** questions from following : 15
- (1) Describe the recombination mapping with a two-point testcross.
  - (2) Describe the various types of crossing over.
  - (3) Describe the mechanism of meiotic crossing over.
- (b) Answer any three the following questions : 3
- (1) What is tetrad analysis ?
  - (2) What is genetic distance ?
  - (3) What is physical distance ?
  - (4) What is multiple crossing over ?
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