

Roll No. ....

Total Pages : 02

**BT-7/M-20**

**37164**

**HUMAN GENETICS AND HUMAN  
GENOME  
BT-427N**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit.

**Unit I**

1. Illustrate historical developments of human genetics in chronological order. Discuss the therapeutic applications of human genetics and human genome. **15**
2. Write short notes on the following : **15**
  - (a) Alu and Sine Repeats
  - (b) Centrosomes and Centromeres.

**Unit II**

3. Validate the role of pedigree analysis in determining gene flow pattern by giving suitable examples. **15**

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4. What is a Hybridoma ? Describe steps involved in development of hybridoma cells by giving well-illustrated flow diagram. **15**

### **Unit III**

5. What is restriction fragment length polymorphism ? Examine the role of restriction fragment length polymorphism in physical mapping. **15**
6. Distinguish between the following : **15**
- (a) BAC and PAC
  - (b) EST and STS.

### **Unit IV**

7. What is meant by pre-natal diagnosis ? Illustrate any *two* methods of pre-natal diagnosis. **15**
8. Define the concept of gene therapy. Justify role of gene therapy in treatment of genetic disorders. **15**