

[Time: 2½ Hours]

[ Marks: 60]

Please check whether you have got the right question paper.

- N.B:**
1. All questions are **compulsory**.
  2. **Figures to the right indicate full marks.**
  3. **Draw neat labelled diagram wherever necessary.**

**Q. 1 Describe briefly : (any two)**

- a) Liposome mediated gene transfer
- b) Southern blotting
- c) Retrovirus as cloning vector
- d) Expression vectors

06  
06  
06  
06

**Q. 2 Elaborate on: (any two)**

- a) Heterologous protein production in filamentous fungi
- b) Cultured Insect cells expression system
- c) Transformation –in filamentous fungi
- d) General features of eukaryotic gene expression system

06  
06  
06  
06

**Q. 3 Give an account: (any two)**

- a) Scope and goals of Human Genome Project
- b) Restriction Fragment Length Polymorphism and its uses
- c) Positional cloning and its limitations
- d) Chromosome walking

06  
06  
06  
06

**Q. 4 Explain in brief (any two)**

- a) Development of policy for human gene therapy
- b) Regulation of environmental release of genetically engineered organisms
- c) Regulatory requirement of using genetically engineered chymosin
- d) Patenting biotechnology Inventions

06  
06  
06  
06

**Q. 5 Write short note (any four)**

- a) Protoplast fusion
- b) Western blotting
- c) Human Papova BK virus as shuttle vector
- d) Introduction of DNA Into yeast
- e) Mapping human diseases
- f) Genetic linkage maps
- g) Paris convention
- h) Patenting and fundamental research

03  
03  
03  
03  
03  
03  
03  
03