

**C 6465**

Name.....

Reg. No. ....

**FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2010**

**General Biotechnology**

**GBT 215—GENETIC ENGINEERING**

**Time : Three Hours**

**Maximum : 80 Marks**

**Section A**

*Answer any two questions.*

1. What is a thermocycler ? What are the types of PCR and give its applications in the field of medicine ?
2. Write detailed account on DNA chip technology.
3. What is Agrobacterium technology and mention about binary and co-integrate vectors.

(2 x 10 = 20 marks)

**Section B**

*Answer any ten questions.*

4. Explain the production strategy of Bt cotton.
5. Give a brief account on biolistic gun with neat labeled sketch.
6. Write short notes on protein engineering.
7. Give a short sketch on reporter gene assay.
8. What are vectors ? Mention about any two bacterial vectors with its plasmid map.
9. What is humanin ? How is it commercially produced ?
10. Define chromosome mapping and state its importance in gene mapping.
11. Explain random shot gun sequencer of whole genome.
12. What is gene therapy ? Explain the methods of *in vivo* and *ex vivo* gene therapy.
13. What are vir genes ? Explain its role in formation of crown gall.
14. Plant viruses as vectors. Justify.
15. Write a short note on the production of herbicide resistance plants. Give some examples.

(10 x 5 = 50 marks)

**Section C**

*Answer all questions.*

16. IPR and cloning.
17. S1 mapping.
18. AFLP.
19. ACC oxidase and synthase.
20. Gene editing.

(5 x 2 = 10 marks)