

## CLASS 12

## TOPIC:- APPLICATIONS OF BIOTECHNOLOGY

### ONE MARK QUESTIONS

- 1 What was the speciality of the milk produced by cow Rosie?
- 2 Describe the responsibility of GEAC, set- up by the Indian Government.

### TWO MARKS QUESTIONS

- 4 Nematode specific genes are introduced into the tobacco plants using *Agrobacterium* vectors to develop resistance in tobacco plants against nematodes. Explain the events that occur in tobacco plant to develop resistance.
- 5 Name the source organism from which Ti plasmid is isolated. Explain the use of this plasmid in biotechnology.
- 6 Highlight the any four advantages of Genetically Modified Organisms (GMOs).
- 7 One of the main objectives of biotechnology is to minimize the use of insecticides on cultivated crops. Explain with the help of a suitable example how insect resistant crops have been developed using techniques of biotechnology.
- 8 How is transgenic tobacco plant protected against *Meloidogyne incognita*? Explain the procedure.

### 3 MARK QUESTIONS

- 10 Name the source and the types of Cry genes isolated from it for incorporation into crops by biotechnologists. Explain how these genes have brought beneficial changes in the genetically modified crops.
- 11 How did Eli Lilly company go about preparing the human insulin? How is the insulin thus produced different from that produced by the functional human insulin gene?
- 12 a) Name the nematode that infests and damages tobacco roots.  
b) How are transgenic tobacco plants produced to solve this problem?

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- a) How is mature insulin different from proinsulin secreted by pancreas in humans?
- b) Explain how was human functional insulin produced using rDNA technology?

Why is the functional insulin thus produced considered better than the ones earlier by diabetic patients?