

M.M.: 25

Time: 30 min

General Instructions:

- (i) There are 9 questions in this paper.
- (ii) All questions are compulsory.

1. How did Eli Lilly produce human insulin? [3]
2. What is gene therapy? Explain with an example. [3]
3. What is GEAC? What are its objectives? [3]
4. Name a molecular diagnostic technique that can detect the presence of bacterial and viral pathogen at an early stage. [1]
5. Why is proinsulin called so? How is it different from Insulin? [2]
6. What are GMOs? What are their advantages? [3]
7. How has the use of *Agrobacterium tumefaciens* as a vector helped in controlling *Meloidogyne incognita* infestation in tobacco plants? Explain. [5]
8. Why do lepidopterans die when they feed on Bt Cotton plants? Explain. [3]
9. Why does a patient of ADA deficiency require repeated infusion of genetically engineered lymphocytes? Suggest a possible permanent remedy. [2]

