

Total number of printed pages:02

Programme(UG)/Semester/UFET613

2023

### Genetically Modified Foods

Full Marks: 100

Time: Three hours

*The figures in the margin indicate full marks for the questions.*

*Answer any five questions.*

- Central Institute Of Technology  
Kharaiher : Baidland  
ESTD : 2006  
असतो मा सत गमय  
तमसो मा ज्योतिर्गमय
1. a) Define GM food. Explain how shifting of DNA from one organism to another is possible? 2+6=8  
b) What are Bt Crops? Give examples. Explain in brief how they are produced with a suitable example? 2+2+8 = 12
  2. a) How is the Flavr Savr tomato different from the regular tomato and why? 6  
b) What are transgenic plants? How does agrobacterium-mediated gene transfer work?
  3. a) Define the following terms. 2x5=10  
i) Gene of interest      ii) Golden rice      iii) Vector  
iv) Ti plasmid      v) DNA ligase  
b) What is edible vaccine? Explain with suitable diagram how edible vaccines are developed? 2+8=10
  4. a) What are restriction endonuclease? Mention any two restriction enzymes and their source. 8  
b) Differentiate between microinjection and electroporation. 12
  5. a) What is retroviral vector? Explain retrovirus mediated gene transfer technique in animals. 2+8 =10  
b) What is GM food labelling? How are GM foods regulated? 10
  6. a) Explain in brief the major ethical issues on the use of GMO. 10  
b) What are transgenic bacteria? Illustrate using any one example. 10
  7. Write short notes on: (any four) 4x5=20  
a) Transgenic fish  
b) GM potato

- c) Biolistics
- d) PEG
- e) Applications of transgenic animals.

