

(3 Hours)

Marks : 80

NB : (1) All questions are **Compulsory**.
 (2) Draw neat labelled diagrams wherever necessary

- Q.1 a Explain mechanism of type I hypersensitivity 2
 b Write any four approved biotech products 2
 c Enlist advantages of biotransformation 2
 d Define acquired artificial immunity using suitable example 2
 e Write few applications of recombinant microbes in pharma industry 2
 f Write the role of Sparger in fermentation 2
 g Elaborate Yeast artificial chromosome vector with properties. 2
 h Write significance of RFLP 2
 I Applications of glucose oxidase biosensor 2
 J Explain any two factors affecting pathogenicity 2
- Q.2 Write short notes on
 a Insulin production by r DNA method 4
 b Polyacryl amide gel Entrapment methods 4
 c Production of Hybridoma 4
- Q.3 a Distinguish between continuous and batch fermentation 4
 b Explain production and purification of vitamin B12 4
 c Write a note on BCG vaccine with Q.C aspects 4
Or
 Write a note on reactions involved in microbial biotransformation
- Q.4 a Write a note on clonal selection theory 4
 b Explain structure of antibody using a suitable diagram 4
 c Write a note on Immunodeficiency disorder 4
Or
 Write a note on autoimmune disorder
- Q.5 a Explain various steps involved in PCR using a diagram 4
 b Write a note on southern blotting and its applications 4
 c Explain methods of production of transgenic plants 4
Or
 Explain methods of production of transgenic animals
- Q.6 a Write a note on animal tissue culture and applications 4
 b Enlist all vectors used in recombinant DNA technology and explain any one in detail 4
 c Write a note on Applications of Bioinformatics 4
Or
 Write a note on Databases used in Bioinformatics and pairwise sequence alignment