

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY (Answer any FOUR)**4 X 25 = 100 Marks**

1. Discuss:
 - a) Design and operation of immobilized enzyme reactors.
 - b) Kinetics of immobilized enzymes
 - c) Diagnostic tests

(10+10+5 = 25)
2. Discuss :
 - a) Optimisation of fermentation parameters
 - b) Glutamic acid biosynthesis

(10+15 = 25)
3. Discuss: Fermentative production of streptokinase and cellulase
4. Broadly discuss techniques and application of genetic engineering
5. Write short notes on
 - a) Monoclonal antibody production and applications
 - b) Importance of databases in biology

(12+13 = 25)
6. Write short notes on:
a) HIV (b) VDRL (c) VACCINE (d) BIOINFORMATICS (E) IMMUNOCLONES

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