

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

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

- | | | |
|----|---|-------------------|
| 1. | a) Discuss uses of yeasts and yeast products. | 15 + 10 |
| | b) Discuss production of glutamic acid | |
| 2. | a) Discuss screening techniques used in industrial microbiology | 15 + 10 |
| | b) Discuss: bacterial nutrition. | |
| 3. | a) Explain production of semi-synthetic antibiotics. | 15 + 10 |
| | b) Write a note on patents. | |
| 4. | Distinguish between. | 5 X 5 = 25 |
| | a) Batch and continuous cultures | |
| | b) Viruses and Bacteria | |
| | c) Plant and animal tissue culture | |
| | d) Primary and secondary metabolites | |
| | e) Vitamin C and Vitamin B 12 | |
| 5. | a) Explain: treatment of industrial effluents. | 10 + 15 |
| | b) Discuss Assays of fermentation products. | |
| 6. | Write short note on: | 15 + 10 |
| | a) Explain the industrial production of penicillin | |
| | b) Discuss the secret processes of patent | |

* * * * *

www.FirstRanker.com

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

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

1. Discuss about the design and operation of different types of Fermenters. 25
2. Elaborate the theoretical aspects and practical requirements for the growth of microorganisms in Biotech Industries. 25
3. What are the sterilization methods carried out in Industries and explain methods with suitable examples. 25
4. Explain about the fermentation process kinetics which includes reaction kinetics and fermentation kinetics. 25
5. Write short notes on: **(9 + 8 + 8=25)**
 - a) Electrophoresis and counter-current distribution
 - b) Metabolic response assays
 - c) Bioautographic technique
6. What are the principles, theoretical considerations and techniques used for scale up of fermentation process. 25

* * * * *

www.FirstRanker.com

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. a) Microbial source for enzymes has advantages over animal and plant sources. Explain. Enlist various methods for purification of enzymes and discuss any two methods in detail
b) Discuss the production of Urokinase
2. a) Define immobilization and explain the advantages of immobilization. Enlist the methods of immobilization and discuss any one in detail
b) Computerization of process variables in fermentation technology would enhance the process economics. Explain, with specific examples
3. a) *Saccharomyces cerevisiae* can be made to produce either alcohol or build-up-bio-mass by cultivating in glucose rich culture medium. Explain. Discuss the biosynthesis of alcohol
b) With respect to Recombinant DNA technology, explain the following:
 - i. Plasmids as vectors
 - ii. Restrictive endonucleases
 - iii. DNA ligases
4. a) Discuss the production of Recombinant Insulin
b) Differentiate monoclonal antibodies from polyclonal antibodies and discuss various applications of monoclonal antibodies
5. a) Developing vaccine for prevention of malaria is difficult. Explain the challenges in developing the vaccine and discuss the strategies
b) Explain the principle and procedure for diagnostic kits of VDRL and Malaria
6. Write short notes on:
 - a) Packed Bed reactor
 - b) Biosynthetic pathway for the production of Penicillin
 - c) Protoplast fusion
 - d) Plant tissue culture
 - e) Economic importance of enzymes

* * * * *