CBCS SCHEME

USN | | | | | | | | | |

15BT71

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020
Fermentation Technology

Time: 3 hrs. Max. Marks: 80

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Explain the production of primary and secondary metabolite, with an example. **(08 Marks)**

b. Distinguish between submerged and solid state fermentation , with an example. **(08 Marks)**

OR

2 a. Discuss in detail the strategies to optimize the product yield by microbial kinetics. **(08 Marks)**

b. Write a note on brewing technology. **(08 Marks)**

Module-2

3 a. Explain immobilized cell culture. What are the applications and uses of root culture? **(08 Marks)**

b. Differentiate between monoclonal antibodies and polyclonal antibodies. Write the applications of monoclonal antibodies. **(08 Marks)**

OR

4 a. Write in detail a note on animal cell culture medium, its different ingredients and method of sterlization. **(08 Marks)**

b. Explain the hybridoma technology for monoclonal antibody production. **(08 Marks)**

Module-3

5 a. Explain the principle of fermentation process with the outline diagram and its different steps in the downstream processing of biochemical products. **(08 Marks)**

b. Discuss in detail the physical methods of cell disruption. **(08 Marks)**

OR

6 a. With the flow diagram, explain the requirements during the recovery of citric acid to achieve optimum feed in a cast effective manner. What are the cast cutting strategies? **(08 Marks)**

b. Describe the various electrophoretic techniques. **(08 Marks)**

Module-4

7 a. Discuss the principle and operational aspects of ultrafiltration. **(08 Marks)**

b. Explain isoelectric precipitation and its advantages. **(08 Marks)**

OR

8 a. Discuss the theoretical models applicable to membrane separations and explain the term rejection coefficient. **(08 Marks)**

b. Give an account of the theoretical principles and steps involved in the aqueous two – phase – extraction of an enzymes. **(08 Marks)**

Module-5

9 a. Describe the HPLC chromatography process. **(08 Marks)**

b. Explain the basic principle of gel filtration and how are the inner and void volumes of gel filtration column determined. **(08 Marks)**

OR

10 a. Discuss the principle of separation of charged species by ion exchange chromatographic technique. **(08 Marks)**

b. Write notes on dialysis, electrodialysis and pervaporation **(08 Marks)**

* * * * *