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18AA1352

M. Tech. EXAMINATION, May 2019

(First Semester)

(C Scheme) (Re-appear)

(CHE)

CHE503C

ADVANCED SEPARATION PROCESSES

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. Assume missing data if any.

Unit I

1. Write short notes on the following :

(a) Electro filtration

(b) Dual functional filter. **7½×2=15**

2. (a) Explain MC-Cabe thiele method in detail with assumptions. **7½**

(b) Explain the basic difference between advances in separation techniques based on surface properties and ionic properties. **7½**

Unit II

3. (a) Explain foamfraction techniques in detail. **8**

(b) Write a note on Reverse Osmosis. **7**

4. (a) Explain the difference between tubular and hellow film membrane reactor. **7**

(b) Write a note on dialysis. **8**

Unit III

5. (a) Explain the characteristics of organic and inorganic membranes. **7**

(b) Write a note on faciliated transport. **8**

6. (a) Explain ultra-filtration in detail. **8**

(b) What are the industrial applications of membrane separation process in detail ? **7**

Unit IV

7. (a) Write a note on super-critical extraction. **7**

(b) Write a note on chromatography. **8**

8. What are the various adsorptive separation processes ? Explain any *two* of them in detail. **15**