

Reg. No. :

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

Question Paper Code: 98971

B.E./B.Tech. DEGREE EXAMINATION, MAY 2022

One credit course

Chemical Engineering

19UCH871- Membrane Technology

(Regulations 2019)

Duration: 1.30 hours

Maximum: 50 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. The selection of membrane does not depend on which property? CO1- U
(a) Perporometry (b) Pore size distribution
(c) Film thickness formed (d) Water permeability
2. Which method is used for removing hardness? CO2- U
(a) Electrodialysis (b) Reverse Osmosis (c) Pervaporation (d) Nanofiltration
3. What is pore size of RO membranes? CO2- R
(a) 0.05 microns (b) 0.5 microns (c) 0.005 microns (d) 0.0005 microns
4. What is the driving force in Dialysis? CO4- U
(a) Concentration difference (b) Difference in fugacity
(c) Pervaporation (d) Pressure difference
5. What is the driving force in Microfiltration? CO5- R
(a) Pervaporation (b) Pressure difference
(c) Concentration difference (d) Difference in fugacity

PART – B (5 x 3= 15 Marks)

6. What is the main problem of the membrane process? CO1- R
7. What are the types of membrane modules? CO1- R
8. What is the application of membrane technology? CO1- R
9. What is ultra filtration system? CO2- R
10. What is ion-exchange membrane. CO2- R

PART – C (2 x 10= 20 Marks)

11. (a) Elaborate briefly about the Modules of Membrane Technology. CO1- U (10)
Or
(b) Explain briefly about the principles of Membrane Technology. CO1- U (10)
12. (a) Elaborate briefly about the Ion-exchange Membrane. CO2- U (10)
Or
(b) Illustrate about the Membrane reactor & its application of reverse osmosis. CO2- U (10)