

Register No.:

333

April 2024

Time – Three hours
(Maximum Marks: 100)

- [N.B.** 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. What is interphase mass transfer?
2. Name the mass transfer operations which involved in Equimolar counter diffusion.
3. Why should absorption operations carried out at low temperature and high pressure?
4. What are the effects of flooding?
5. What is the dew point of an unsaturated air-water vapour mixture at 60°C?
6. Write about the uses of cooling tower.
7. State Raoult's Law.
8. Why distillation is widely used in separation process?
9. What is Reflux ratio?
10. What is q-line?

[Turn over.....

PART – B

11. (a) What is mass transfer coefficient? What are its units? Derive the expression for overall mass transfer co-efficient from local two phase mass transfer co-efficient.

(Or)

- (b) Explain about the classification of mass transfer operation.

12. (a) Explain with a neat sketch the construction and operation of packed tower absorption column.

(Or)

- (b) Explain with a neat sketch the construction and operation of packed bed absorption column.

13. (a) Explain the arrangements of cooling towers with neat sketch.

(Or)

- (b) Discuss about Wet bulb temperature and adiabatic saturation temperature. Whether the both terms are same? Justify your answer.

14. (a) Explain maximum and minimum boiling azeotropes with examples and graphs.

(Or)

- (b) Discuss about the construction of boiling point diagram and equilibrium diagram in detail.

15. (a) Explain about the graphical procedure in determining the number of theoretical plates by McCabe-Thiele method.

(Or)

- (b) Explain about steam distillation with neat diagram.
