

Question Bank (G scheme)

Name of Subject: Mechanical Operation

Subject code: 17313

Semester : Third

Course: Chemical

Unit test II

Chapter 4: Filtration (20 marks)

THREE marks question

1. Define cake filtration and deep bed filtration.
2. Give the classification of filter on the basis of a) driving force b) mode of filtration
3. What is the significance of cake resistance? How is it denoted?
4. Define constant rate and constant pressure filtration.
5. Define pressure filtration and vacuum filtration.

FOUR marks question

6. Filters are neither operated under constant pressure nor under constant rate. Give reason?
7. Why hot liquids are not filtered in rotary drum vacuum filters?
8. Draw the diagram of rotary drum vacuum filter and mark the parts.
9. Draw the diagram of top suspended batch centrifuge and mark the parts.
10. Explain the role of coagulants in filtration.
11. Explain the factors affecting the rate of filtration.
12. Explain the role of filter aids in filtration.
13. Explain the construction and working of pressure sand filter.
14. What are the factors to be considered while selecting a filter medium?
15. Write the equation for constant pressure filtration and explain the terms.

Chapter 5: Sedimentation (12 marks)

THREE marks question

16. Define free settling and hindered settling.
17. Give the function of thickeners.

FOUR marks question

18. Draw the diagram for batch Sedimentation test.
19. Differentiate between sedimentation and filtration.

Chapter 6 : Mixing(16 marks)

THREE marks question

20. Draw the flow pattern while mixing takes place in an unbaffled tank
21. Name the different types of impellers. Draw the diagram of each.
22. State the importance of mixing in process industries (3 points)

FOUR marks question

23. What is vortexing ? Why is it undesirable?.
24. What are the different ways by which vortexing can be avoided?
25. Explain working of ribbon blender.