

## **Question Bank (I scheme)**

**Name of Course: MECHANICAL OPERATION**

**Subject code: 22313**

**Semester : Third**

**Programme: Chemical**

### **Unit test II**

#### **Unit 3: Solid-liquid separation(05marks)**

##### **TWO marks question**

1. Give the equation for constant pressure filtration and explain the terms.

##### **FOUR marks question**

2. Filters are neither operated under constant pressure nor under constant rate. Give reason?
3. Draw the diagram of rotary drum vacuum filter and mark the parts.
4. Hot liquids are not filtered in vacuum filters. Give reason

#### **Chapter4 Gas-solid separation (08 marks)**

##### **Two marks question**

5. Give one application each for wet scrubber and fabric filter
6. Give the principle of wet scrubber
7. Give the principle of electrostatic precipitator.
8. Give the principle of cyclone separator.

##### **FOUR marks question**

9. With a neat sketch explain the working of wet scrubber.
10. Draw a neat diagram of fabric filter and mark the parts
11. Explain the working of electrostatic precipitator.

## **Chapter 5 : Equipment for transportation (10 marks)**

### **Two marks question**

12. List the importance of transportation in industry.
13. List four equipments used for horizontal transportation of material.
14. Give two industrial application of belt conveyor and screw conveyor

### **FOUR marks question**

15. Name the conveyor used for horizontal transportation of materials where air is used as the conveying medium. Draw its neat sketch.
16. Name the conveyor used for vertical transportation of materials. Explain its construction.
17. Explain the construction of screw conveyor.
18. Explain the construction of chain conveyor.

## **Chapter 6 : Mixing and agitation (12 marks)**

### **Two marks question**

19. Give the application of muller mixer
20. Draw the flow pattern while mixing takes place in an unbaffled tank
21. Name the different types of impellers. Draw the diagram of any one.
22. State the importance of mixing in process industries (2 points)

### **FOUR marks question**

23. Explain vortexing. Give reason why is it undesirable?.
24. Name the different ways by which vortexing can be avoided?
25. Explain working of ribbon blender.