Unit - 2
Question bank

2-Mark Questions:

1. Define assembly line.
2. What is line balancing?
3. What is the cycle time in an assembly line?
4. What is the goal of line balancing algorithms?
5. What is the difference between mixed-model and single-model assembly lines?
6. What are ranked positional weight heuristics?
7. What is the significance of COMSOL random sequence generation in assembly line balancing?
8. What are the practical issues that arise during assembly line implementation?
9. What is the difference between flow shop and job shop scheduling?
10. What is order release in shop scheduling?

16-Mark Questions:

1. Discuss the various line balancing algorithms used in assembly line design. Explain the advantages and disadvantages of each.
2. Explain the process of assembly line balancing with a suitable example. Elaborate on the role of cycle time and precedence constraints.
3. How can COMSOL random sequence generation be used to improve the efficiency of line balancing algorithms?
4. Discuss the challenges and limitations of implementing mixed-model assembly lines.
5. Explain the concept of shop scheduling with many products. How can order release strategies be used to optimize production flow?
6. Compare and contrast single-machine and two-machine flow shop scheduling problems. How can they be solved?
7. Discuss the application of job shop scheduling in manufacturing. What are the key challenges in solving job shop scheduling problems?
8. How can simulation techniques be used to evaluate and improve assembly line performance?
9. Discuss the role of human factors in assembly line design and operation.
10. Explain the future trends in assembly line technology, such as automation and robotics.