

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA-SEMESTER-IV-EXAMINATION-WINTER-2024

Subject Code: 4549271

Date: 12/12/2024

Subject Name: Materials Management

Time: 02:30 PM TO 05:30 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** Define the following terms. **14**
- (a) MRP
 - (b) Purchasing Cycle
 - (c) Manufacturing Lead Time
 - (d) Renard Series
 - (e) Specification
 - (f) Storage Equipment.
 - (g) Manual Handling.
- Q.2 (a)** Discuss the objectives and functions of material management in a manufacturing company. **07**
- (b)** What is meant by codification? What are the merits of codification? **07**
- OR**
- (b)** Explain how standardization and simplification lead to specialization. **07**
- Q.3 (a)** Discuss the features of successful store keeping. **07**
- (b)** Explain the various techniques of Scheduling. **07**
- OR**
- Q.3 (a)** What measures do you take to prevent product damage during the order picking process? **07**
- (b)** Give the advantage and uses of bills of material. **07**
- Q.4 (a)** List the seven steps in the purchasing cycle. **07**
- (b)** What four functions does the master production schedule (MPS) perform in production planning system? **07**
- OR**
- Q.4 (a)** Explain the theory of Drum-Buffer-Rope. **07**
- (b)** Explain prize determination of purchasing. **07**

Q.5 Case study:

XYZ Manufacturing Company is a leading provider of industrial equipment. The company is facing challenges in their materials management process, specifically in material handling. The inefficiencies in material handling are causing delays in production, increased operational costs, and customer dissatisfaction. The management team is seeking ways to optimize material handling to improve overall materials management efficiency. The materials management team at XYZ Manufacturing Company is responsible for overseeing the movement of raw materials,

components, and finished products within the facility. Currently, material handling is done manually, leading to errors, delays, and safety concerns. The company has multiple storage areas, production lines, and a distribution center. The existing processes lack coordination, leading to confusion and inefficiency. The storage areas and production lines are not organized optimally, leading to confusion and time wastage during material retrieval. Most of the material handling processes are done manually, leading to errors, product damages, and workplace injuries. There is a lack of coordination between different departments involved in materials management, leading to miscommunication and delays. Inaccurate tracking of inventory levels and lack of real-time updates are causing stockouts and overstock situations. Addressing the challenges in material handling is crucial for XYZ Manufacturing Company to enhance their materials management efficiency. By implementing optimized processes, adopting advanced technologies, and fostering better communication and collaboration among departments, the company can achieve significant improvements in material handling, leading to increased productivity, reduced costs and improved customer satisfaction.

- (a) What are the key challenges faced by XYZ Manufacturing Company in their material handling processes? 7
- (b) How can optimizing the layout of storage areas and production lines improve material handling efficiency? Provide specific examples. 7

OR

- (a) In what ways can XYZ Manufacturing Company ensure the sustainability of their material handling processes? 7
- (b) Discuss the impotence coordination between different departments in materials management. How can improved communication and collaboration enhance material handling efficiency? 7
