INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management- 2 years

PAPER No. 19 (enrolment code- PMM, CMM) **DEC 2025**

Emerging Trends in MM

Date : 23.12.2025 **Max. Marks : 70**
Time : 2.00 p.m. to 5.00 p.m. **Duration : 3 Hrs.**

Instructions:

1. From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. **Total : 20 Marks**

2. From Part B – Answer any 3 questions outof 5 questions. Each question carries 10 marks. **Total : 30 Marks**

3. Part C is a case study (compulsory) with questions. Read the case study carefully and answer the questions **Total: 20 Marks**

Part – A (20 Marks)

(Attempt all questions. Each sub question carries 1 mark.)

Q.1 Select the right answers from the given choices [5 marks]

1) Which Technology is most associated with real time tracking of materials across the supply chain
***a**. CAD* *b. RFID* *c ERP* *d. TQM*

2) The adoption of autonomous mobile robots (AMR) in warehouses primarily aims to:
a. Reduce Product Quality issues *b. Improving packaging design*
c. Reduce labour cost *d . Reduce purchase cost*

3) In a _____type of business model, consumers conduct business with each other directly
a. C2C *b. B2C* *c. B2B* *d. None*

4) A kind of business transaction that is completed through the internet and electronic system is known as----------
a. network marketing *b. E- commerce* *c. Retail marketing* *d. Franchising*

5) Block Chain technology in MM mainly used to
a. Increase warehouse capacity *b. Enhance transparency and traceability*
c. Improve ergonomic design *d. Reduce machine maintenance*

Q.2. State True or False [5 marks]

1) Outsourcing allows companies to focus on their core competencies by delegating non-core activities to external specialists.

2) Digital marketing relies mainly on traditional media channels such as newspapers and radio

3) E commerce enables businesses to conduct transactions online without the need of a physical store.

4. Industry 4.0 involves the integration of technologies such as IoT, AI and automation into manufacturing systems

5) Outsourcing always reduces the business risk and guarantees higher quality output

Q.3 Abbreviations – expand it [5 marks]

1) CRM 2)UI 3) D2C 4)CPS 5)RPA

Q.4 Fill in the blank [5 marks]

1. ----------is the practice of hiring external firms to handle non core business processes such as customer data entry

2. In digital marketing the term------refers to improving a websites visibility on search engines

3. On line buying and selling of goods through the internet is known as----------

4. Technologies such as IoT, AI and automation are key components of ---------- Industrial revolution

5. --------Process outsourcing focuses on specialized, knowledge based tasks such as market research and analytics

PART B (30 marks)

(Attempt any 3. Each question carries 10 marks)

Q.5 a) Explain the significance of MRP in ensuring efficient production and Inventory control **[5 marks]**

b) Discuss various inventory control techniques and their role in minimizing holding costs **[5 marks]**

Q. 6.a) Describe the steps involved in scientific Purchasing Procedure. How does each step contribute to effective procurement **[5 marks]**

b) What are the main factors influencing selection and evaluation of in Purchase management **[5 marks]**

Q.7. a)Explain the different types of material variances used in cost control **[5 marks]**

b) Discuss the importance of setting material standards and budgets for effective material control **[5 marks]**

Q.8. a) Explain key technologies driving Industry 4.0 and how they transform traditional manufacturing systems **[5 marks]**

b) Discuss the challenges and opportunities faced by industries in implementing Industry 4.0 practices **[5 marks]**

Q.9 Write short notes on any two [2 x 5 = 10 marks]

a) E Procurement b) Data Analytics

c) Cost reduction techniques .d) Role of purchase department

PART C (20 marks)

Q. 10. Case study – Compulsory

Sundaram Electronics Pvt limited, a mid sized manufacturer of PCB assemblies and power modules based in South India, has experienced rapid growth over the past five years. With rising demand from automotive and consumer electronics clients, the company faced increasing pressure to improve materials availability, reduce inventory costs and manage supply risks. To address these challenges, the company adopted several emerging trends in materials management

A major shift was the implementation of a digital materials tracking system using IoT enabled bins and barcode automation. This reduced manual errors and allowed real time monitoring of critical components such as micro controllers, capacitors and SMT consumables. As a result, stock out incidents dropped by 30% with in a year.

The company also embraced AI driven demand forecasting, which integrates customer forecast data with historical order patterns. This predictive approach helped to reduce excess inventory of imported semi conductors - previously a major concern- by nearly 18%

To counter global supply chain disruptions, Company began localizing its vendor base. partnering with component manufacturers in and around south India. Local sourcing shortened lead times from six week to less than two weeks, enabling more flexible production scheduling.

Another emerging trend was the adoption of sustainable materials Practices including the shift to halogen free solder paste and the introduction of component recycling programs. This has resulted in higher reliability, lower carrying costs and improved environmental compliance.

1. what challenges in MM promoted company to adopt digital tracking and AI based forecasting
2. How did the implementation of IoT enabled bins and barcode system impact company's inventory accuracy and stock out rate
3. In what ways did vendor localization benefit sundaram in terms of lead time and production flexibility
4. How did the shift toward sustainable materials such as halogen free solder paste and recyling programs, support the company's environmental objectives
5. Which emerging trend helped the company most to improve the Performa