JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA

PGDM / PGDM (M) / PGDM (SM)

FIFTH TRIMESTER (Batch 2021-23)

END TERM EXAMINATIONS, FEBRUARY 2023

Course Name	Materials and Inventory Management	Course Code	20528
Max. Time	2 Hours	Max. Marks	40 MM

INSTRUCTIONS:
a. All questions are compulsory.
b. Calculators are allowed.

Q.1. The following information was provided to us by a car mechanic. In an attempt to understand our inventory better, he uses his data to perform calculations and create initial inventory management policies.
Using the data of annual demand and cost per unit below, apply an ABC analysis and identify the classification for each item. (6+4 Marks)

Item	Annual Usage (in units)	Unit cost (in $)
Machine Screw	21,000	0.50
Cable Clamp	10,000	0.50
Eyebolt	16,000	1.60
Tape measure	50,000	3.50
Nail	15,000	0.10
Carabiner	40,000	2.00
Wing nut	80,000	0.03
Flat Washer	120,000	0.05
S hook	15,000	0.25
Ferrule	10,000	1.50

Q.2. End item A is produced in lots of 100 units. Using the given data on demand forecast and customer orders, solve for projected available balance, MPS quantity, MPS start and available to promise quantities. Further, if in week 1 customer request a new order for 35 units of item A, when at the earliest the entire order can be supplied? (2 x 5 Marks)

Quantity in hand:5 units	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10
Forecast	20	10	30	10	10	10	30	20	40	20
Orders	25	15	5	8	12	-	-	-	-	10

Q.3. Explain the working of EOQ model with non-instantaneous supply. If an item has a setup cost of $750 per order and the inventory carrying cost is $15 per unit per year. The demand for the item is known and constant at the rate of 175 units per week and the production rate is 50 units per day, estimate the economic order quantity to be ordered. (5 + 5 Marks)

Q.4. Explain the following terms   (3 + 3 + 4 Marks)
   A. Anticipation Inventory
   B. Flow shop sequencing
   C. Various types of inventory cost