

Question #1**STOCK LEVELS**MQP D19/J23; PTP
J18

ABC Ltd. manufactures a special product, which requires "ZED". The following particulars were collected for the year 2018-19:

Monthly demand of Zed	: 6,500 units
Cost of placing an order	: ₹ 500
Re-order period	: 5 to 8 weeks
Cost per unit	: ₹ 50
Carrying cost % p.a.	: 10%
Normal usage	: 500 units per week
Minimum usage	: 250 units per week
Maximum usage	: 750 units per week

Required:

- (i) Re-order quantity
- (ii) Re-order level
- (iii) Minimum stock level
- (iv) Maximum stock level
- (v) Average stock level

Question #2**ECONOMIC ORDER QUANTITY (EOQ)**MQP J18/J23/D23;
PTP J23

A company manufactures a special product which requires a component 'X'. The following particulars are collected for the year 2017.

Annual demand of 'X'	8,000 units
Cost of placing an order	₹ 200 per order
Cost per unit of 'X'	₹ 400
Carrying cost % p.a.	20%

The company has been offered a quantity discount of 4% on the purchase of 'X' provided the order size is 4,000 components at a time.

Required:

- (i) Compute the economic order quantity.
- (ii) Advise whether the quantity discount offer can be accepted.

Question #3**STOCK LEVELS**

MQP D23

PQR Tubes Ltd. are the manufacturer of picture tubes of T.V. The following are the details of their operations during 2022-2023.

Ordering cost	₹ 100 per order	Inventory carrying cost	20% p.a.
Cost of tubes	₹ 500 per tube	Normal usage	100 tubes per week
Minimum usage	50 tubes per week	Maximum usage	200 tubes per week
Lead time to supply	6-8 weeks		

Compute:

- (i) Economic order quantity. If the supplier is willing to supply quarterly 1,500 units at a discount of 5%, is it worth accepting?
- (ii) Re-order level;
- (iii) Maximum level of stock;
- (iv) Minimum level of stock.

Question #4
ECONOMIC ORDER QUANTITY (EOQ)

 MQP
 D17/J19/J20/J23/D24;
 PTP D17

From the following particulars with respect to a particular item of materials of a manufacturing company, calculate the best quantity to order:

Ordering quantities (tonne)	Price per ton (₹)
Less than 250	6.00
250 but less than 800	5.90
800 but less than 2,000	5.80
2,000 but less than 4,000	5.70
4,000 and above	5.60

The annual demand for the material is 4,000 tonnes. Stock holding costs are 20% of material cost p.a. The delivery cost per order is ₹ 6.00.

Question #5
STOCK LEVELS

 PTP D19/D24; MQP
 J25

ZION LTD uses three types of materials A, B and C for production of Product-P for which the following data apply:

Raw Material	Usage per unit of Product (kgs)	Reorder quantity (kgs)	Price per Kg (Re.)	Delivery period (in weeks)			Reorder level (kgs)	Minimum level (kgs)
				Min	Avg.	Max		
A	10	10,000	0.10	1	2	3	8,000	?
B	4	5,000	0.30	3	4	5	4,750	1,550
C	6	10,000	0.15	2	3	4	?	2,000

Weekly production varies from 175 to 225 units, averaging 200 units of the said product. What would be the following quantities?

- (i) Minimum stock of A,
- (ii) Maximum stock of B,
- (iii) Re-order level of C,
- (iv) Average stock level of A.

