

## FIT3158 Business decision modelling - S2 2022

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## Question 1

Correct

Mark 0.10 out of 0.10

The EOQ model

- ☐ a. minimizes both ordering and holding costs.
- ☒ b. considers total cost.
- ☐ c. All of the alternatives are correct.
- ☐ d. determines only how frequently to order.



The correct answer is: considers total cost.

## Question 2

Correct

Mark 0.10 out of 0.10

Annual purchase cost is included in the total cost in

- ☒ a. the quantity discount model.
- ☐ b. all inventory models.
- ☐ c. the EOQ model.
- ☐ d. the economic production lot size model.



The correct answer is: the quantity discount model.

## Question 3

Correct

Mark 0.10 out of 0.10

For the EOQ model, which of the following relationships is incorrect?

- ☐ a. As the order quantity increases, annual holding cost increases.
- ☐ b. As the order quantity increases, the number of orders placed annually decreases.
- ☒ c. As the order quantity increases, annual ordering cost increases. ✓
- ☐ d. As the order quantity increases, average inventory increases.

The correct answer is: As the order quantity increases, annual ordering cost increases.

**Question 4**

Correct

Mark 0.10 out of 0.10

The objective of the EOQ with quantity discounts model is to

- ☐ a. balance annual ordering and holding costs.
- ☐ b. determine the minimum order quantity required for the maximum discount.
- ☒ c. minimize the sum of annual carrying, holding, and purchase costs. ✓
- ☐ d. minimize annual purchase cost.

The correct answer is: minimize the sum of annual carrying, holding, and purchase costs.

**Question 5**

Correct

Mark 0.10 out of 0.10

What costs should a manager consider when setting order points?

- ☐ a. stockout costs and purchase costs
- ☐ b. ordering costs and stockout costs
- ☒ c. holding costs and stockout costs ✓
- ☐ d. holding costs and purchase costs

The correct answer is: holding costs and stockout costs

**Question 6**

Correct

Mark 0.10 out of 0.10

When the reorder point  $r$  exceeds  $Q^*$ , the difference is

- ☒ a. one or more outstanding orders ✓
- ☐ b. safety stock

- ☐ c. backorders
- ☐ d. surplus inventory

The correct answer is: one or more outstanding orders

**Question 7**

Correct

Mark 0.30 out of 0.30

ZIP Electric Bike Company buys special batteries to power its most popular model, called the Zippy. The company is selling about 100,000 Zippies per year. The batteries cost \$25 each. ZIP figures that the impact of holding inventory is 10% per year and placing an order costs the company \$120. Using the economic order quantity model, what is the optimal order quantity for the batteries?

Select one:

- ☐ a. 447.2
- ☐ b. 309.8
- ☐ c. 894.4
- ☒ d. 3098.4



The correct answer is: 3098.4

**Question 8**

Correct

Mark 0.10 out of 0.10

For the inventory model with planned shortages, the optimal order quantity results in

- ☐ a. annual holding cost = annual ordering cost.
- ☒ b. annual ordering cost = annual holding cost + annual backordering cost.
- ☐ c. annual ordering cost = annual holding cost - annual backordering cost.
- ☐ d. annual holding cost = annual backordering cost.



The correct answer is: annual ordering cost = annual holding cost + annual backordering cost.

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