

# Unit 5.5 . Production planning [HL Only]

## Task 1: Complete the missing words

The \_\_\_\_\_ chain (or logistics) refers to the sequence of activities from the production of a good or service to it being delivered to the consumer. A long supply chain increases the chances of things going wrong, so effective supply chain management helps to minimise costly mistakes to the business.

Production planning involves managers overseeing and controlling the level of stock in a business. Stocks can come in three forms: \_\_\_\_\_, \_\_\_\_\_-\_\_\_\_\_ and \_\_\_\_\_ goods. The \_\_\_\_\_ (EOQ) is the level of stock that minimises the firm's average costs. Firms need to balance the costs of holding large volumes of stock (known as \_\_\_\_\_) with the drawbacks of holding insufficient quantities of stock (known as a \_\_\_\_\_).

Delays in the \_\_\_\_\_ time (the period of time taken for a supplier to process and deliver a stock order) will mean that stocks fall below the desired minimum level so the firm has to rely on its \_\_\_\_\_ stock.

\_\_\_\_\_ control systems rely on the use of buffer stocks in order to meet changing levels of demand. By contrast, \_\_\_\_\_ systems have stocks delivered immediately the moment that they are required for production. This helps to improve the firm's \_\_\_\_\_ capital as money is not tied up in stocks, which might not be highly liquid.

## Task 2: Explanations

a. Explain the difference between just-in-case (JIC) and just-in-time (JIT) stock control systems.

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b. Explain the difference between outsourcing and offshoring.

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c. Explain how it is possible to outsource production internationally yet keep the business growing domestically.

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d. Explain the probable effect on the organizational structure of a firm that subcontracts a significant portion of its operations.

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e. Explain the difference between capacity utilization and productive capacity.

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f. Suppose a firm has fixed costs of \$100 000 and a productive capacity of 50 000 units per month. Calculate the change in the average fixed costs of production if the firm operates at only 85% capacity compared to operating at full capacity.

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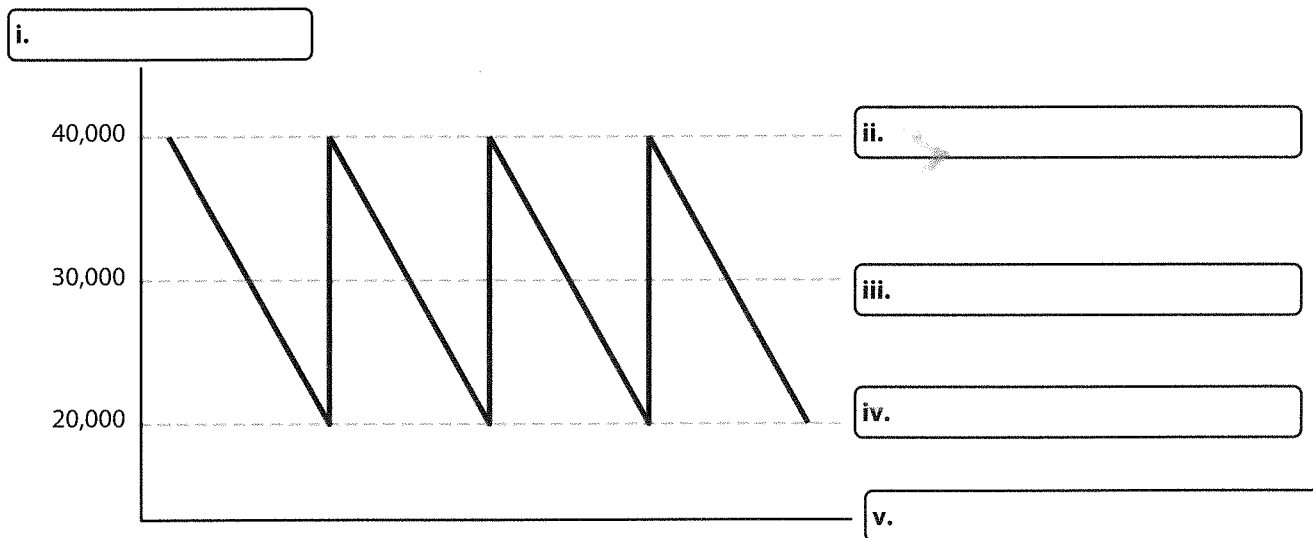
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### Task 3: Interpreting JIC stock control diagrams

a. Identify the missing labels in the diagram below.



b. In the above diagram, identify the following:

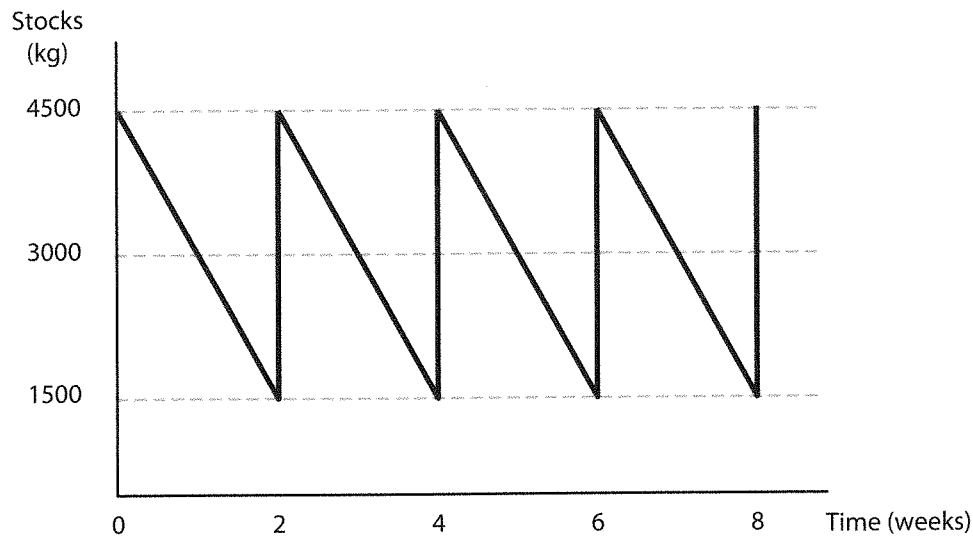
- i. buffer stock \_\_\_\_\_
- ii. re-order quantity \_\_\_\_\_
- iii. re-order level \_\_\_\_\_

## Task 4: Multiple choice

1. Which of the following is not a type of stock for a business?
  - A. Work-in-progress
  - B. Raw materials
  - C. Ordinary shares
  - D. Finished goods
  
2. Drawbacks of a stock-out do not include
  - A. Disgruntled customers
  - B. Loss of sales
  - C. Negative impact on cash flows
  - D. Storage costs
  
3. Stockpiling means that a business
  - A. Operates at a level lower than its buffer stock
  - B. Builds up excessive levels of inventory
  - C. Produces on a larger scale to benefit from cost savings
  - D. Plans for a large safety margin
  
4. A drawback of holding too much stock is
  - A. Stocks are highly liquid assets
  - B. Inflexibility in production levels
  - C. Working capital is tied up
  - D. Share prices are likely to drop due to excess production
  
5. One drawback of outsourcing operations to overseas firms is that
  - A. They might have a more skilled labour force
  - B. They might have lower costs of production
  - C. The quality of production might be more difficult to monitor
  - D. Geographical distance becomes a major communication barrier
  
6. Efficiency in production is not usually measured by using which of the following measures?
  - A. Labour turnover
  - B. Unit costs of production
  - C. Output per worker
  - D. Output per machine hour

7. One advantage of using a just-in-case stock management system is that
- A. There is flexibility to meet sudden changes in consumer demand
  - B. Buffer stocks can be minimised
  - C. Stockpiling is less likely to occur
  - D. Productive efficiency is encouraged
8. The stock handling method based on having stocks being delivered only when they are needed is known as
- A. Re-order levels
  - B. Usage rate
  - C. Just-in-time
  - D. Just-in-case
9. Just-in-time does not suffer from
- A. Total reliance on third party suppliers
  - B. High administrative costs
  - C. Inflexibility in meeting unexpected changes in demand
  - D. Higher levels of wastage and reworking
10. The rate at which stock levels are used up in the production process is known as
- A. Usage rate
  - B. Lead time
  - C. Re-order quantity
  - D. Re-order level
11. The production level where unit costs are at their lowest is known as the
- A. Buffer stock
  - B. Economic order quantity
  - C. Productivity rate
  - D. Capacity utilization rate
12. Which incident might cause a firm to rely on its buffer stocks?
- A. Lower costs of production
  - B. Sudden increase in consumer demand
  - C. Shorter lead times
  - D. Timely deliveries from suppliers

Questions 13–15 refer to the diagram below for Atkinson Farms Ltd:



13. What is the lead time for Atkinson Farms Ltd?

- A. 8 weeks
- B. 6 weeks
- C. 2 weeks
- D. 1 week

14. What is the buffer stock for Atkinson Farms Ltd?

- A. 4500 kg
- B. 3000 kg
- C. 1500 kg
- D. Zero

15. What is the re-order quantity of Atkinson Farms Ltd?

- A. 4500 kg
- B. 3000 kg
- C. 1500 kg
- D. zero

16. A disadvantage of low capacity utilization is

- A. Higher indirect costs of production
- B. Higher fuel and energy bills
- C. Higher average fixed costs of production
- D. Overtime payment to staff

17. If a firm's maximum productive capacity is 35 000 units per month but it actually produces 28 000 units per month, then its capacity utilization is
- A. 125%
  - B. 80%
  - C. 25%
  - D. 20%
18. A danger for a restaurant operating at full capacity is that
- A. Food quality will fall
  - B. Queuing times will rise
  - C. Staffing costs will rise
  - D. Working capital will be stretched
19. Capacity utilization for a business facing high growth rates could be improved by
- A. Holding lower levels of stock
  - B. Reducing lead times
  - C. Using just-in-time stock control
  - D. Subcontracting work
20. Firms with \_\_\_\_\_ profit margins and \_\_\_\_\_ levels of break-even will benefit from high capacity utilization.
- A. High, High
  - B. Low, Low
  - C. High, Low
  - D. Low, High
21. What is the term given to the practice of reassigning business operations to an external firm in order to improve cost effectiveness?
- A. Offshoring
  - B. Subcontracting
  - C. Delegation
  - D. Portfolio working
22. Which of the following is not a reason for offshoring?
- A. Workforce flexibility
  - B. Reduced costs of production
  - C. The use of specialist labour
  - D. Consideration and observation of overseas regulations

23. Which of the following is not a quantitative method that can be used to help with decisions about the cost to make (CTM) and cost to buy (CTB)?
- A. Break-even analysis
  - B. Investment appraisal
  - C. Cost benefit analysis
  - D. Ratio analysis
24. Subcontracting does not benefit from
- A. Lower unit costs of labour
  - B. Greater labour flexibility
  - C. Greater job security
  - D. Improved labour productivity
25. The outsourcing of business activities to an external agency or third party that is located overseas is known as
- A. Outsourcing
  - B. Offshoring
  - C. Globalization
  - D. Subcontracting