

Week 45

A-Level Business

Homework bundle for this week

本周作业合集

exercises.lol

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9. Operations management (A Level)

Starter Quiz · 课前小测

A-Level Business

Name: _____ Score: _____

1. For a high-street retailer, the most important location factor is usually:

- ☐ closeness to customers
- ☐ closeness to a coal mine
- ☐ distance from all towns
- ☐ a remote rural site

2. Quality control mainly involves:

- ☐ inspecting finished output to catch defects
- ☐ building quality into every stage
- ☐ ignoring quality
- ☐ cutting prices

3. Lean production aims mainly to:

- ☐ reduce waste while maintaining quality
- ☐ maximise stock levels
- ☐ increase the number of defects
- ☐ slow down production

4. The critical path is the:

- ☐ longest route through the network, setting the minimum project time
- ☐ shortest activity
- ☐ cheapest route
- ☐ path with the most float

5. Which are location factors? (Select all that apply.)

- ☐ labour costs
- ☐ transport links
- ☐ government incentives
- ☐ the CEO's star sign

Tick every correct option.

6. Quality assurance focuses on:

- ☐ preventing defects at every stage

- ☐ inspecting only at the end
- ☐ increasing waste
- ☐ lowering wages

7. A critical path runs through activities of 3, 5 and 4 days. What is the minimum project duration (days)?

8. Offshoring can cut costs but adds risks of distance, culture and control.

- ☐ True ☐ False

9. Preventing defects (assurance) is usually cheaper than inspecting them out at the end (control).

- ☐ True ☐ False

10. Lean production needs engaged staff and reliable suppliers to work well.

- ☐ True ☐ False

9. Operations management (A Level)

Answers · 答案

A-Level Business

1. closeness to customers

Retailers need footfall — closeness to customers.

2. inspecting finished output to catch defects

QC inspects the end product for defects.

3. reduce waste while maintaining quality

Lean is a war on waste of all kinds.

4. longest route through the network, setting the minimum project time

The longest route determines the minimum completion time.

5. labour costs; transport links; government incentives

Costs, infrastructure and incentives matter; the last does not.

6. preventing defects at every stage

QA designs quality in so defects do not occur.

7. 12

$3 + 5 + 4 = 12$ days along the critical path.

8. True

Locating abroad trades cost savings for added complexity.

9. True

Prevention avoids the waste of making defective output.

10. True

Without the right culture and supply, lean techniques underdeliver.

9.1 Location and scale

Name: _____ Class: _____ Date: _____

Total: 29 marks

KEY WORDS location 选址 • optimum scale 最优规模 • relocation 迁址
 • location and scale 选址与规模 • offshoring 离岸外包

Objective

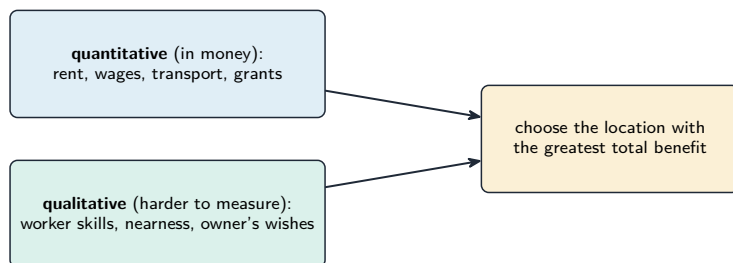
Build the skills to answer exam questions on **location and scale** 选址与规模 — **quantitative and qualitative** 定量和定性 location factors, **offshoring** 离岸外包, and the **optimum scale** 最优规模 of operation.

You must be able to:

- classify location factors as quantitative or qualitative
- explain offshoring and the optimum scale of operation
- analyse and evaluate a location or relocation decision

1 Worked examples

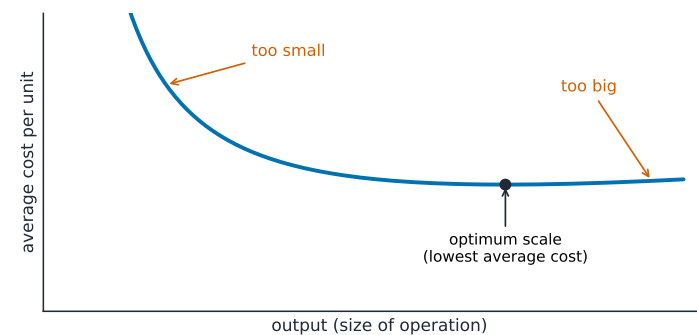
■ Choosing a location



Quantitative (rent, wages, transport, grants) and qualitative (skills, nearness, owner's wishes) factors

- **Quantitative factors:** measurable in money — rent, wages, transport, grants.
- **Qualitative factors:** harder to measure — worker skills, nearness to customers, owner's wishes.
- **Offshoring:** moving production abroad (lower wages, new markets) — but longer supply lines and culture risk.

- **Optimum scale:** the size where average cost per unit is lowest.



optimum scale = min average cost

The optimum scale is the output where average cost per unit is lowest

Answer shapes: AO1 + AO2 + AO3 (reasoning chain) + AO4 (a supported judgement *in context*).

2 Practice

2.1 State the difference between a *quantitative* and a *qualitative* location factor. [2]

2.2 Define the term *offshoring*. [2]

2.3 Define the term *optimum scale of operation*. [2]

3 Exam-style questions

3.1 Explain one factor a business should consider when choosing a location. [3]

3.2 Analyse two reasons why a business might **offshore** its production. [8]

3.3 A manufacturer is deciding whether to relocate its factory to a lower-wage country. Evaluate this decision. [12]

Business answers are marked by **level of response** against the assessment objectives: award **AO1** knowledge, **AO2** application, **AO3** analysis and **AO4** evaluation.

2.2 moving production to another country (2 for a clear definition; 1 for a partial idea).

3.1 [3] AO1 1 — name a factor (rent/wages; transport; nearness to customers or suppliers; grants; worker skills). **AO2** up to 2 — develop it, e.g. locating near customers cuts delivery time and cost → faster service → an advantage over distant rivals (2 developed / 1 limited).

3.3 [12] AO1 2 / AO2 2 / AO3 2 / AO4 up to 6. **For:** lower wages and costs, nearer new markets, possible grants. **Against:** longer supply lines, language and culture problems, quality and control risks, possible damage to image and home job losses. **Judgement:** relocation can cut costs sharply, but only if the savings outweigh the added risks and the quality can be maintained — it depends on the size of the wage saving and how well the firm can manage a distant site.

- [2]

- [2]

-
- This image shows a full page of white paper with horizontal dashed lines, typical of primary school handwriting practice paper. The lines are evenly spaced and run across the entire width of the page. There are no margins, text, or other markings present.

9.2 Quality management

Name: _____ Class: _____ Date: _____

Total: 29 marks

KEY WORDS quality 质量 • quality control 质量控制 • quality assurance 质量保证
• quality management 质量管理 • total quality management 全面质量管理

Objective

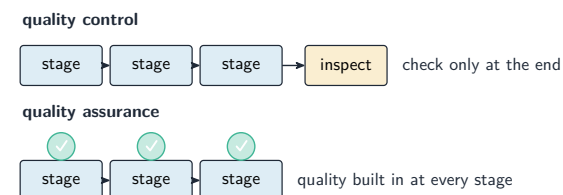
Build the skills to answer exam questions on **quality management** 质量管理 — why **quality** 质量 matters, and the methods **quality control**, **quality assurance**, **total quality management** 质量控制、质量保证、全面质量管理 (TQM) and **benchmarking** 标杆管理.

You must be able to:

- explain why quality matters to a business
- distinguish quality control from quality assurance and TQM
- analyse and evaluate methods of managing quality

1 Worked examples

- Managing quality



Control finds faults late; assurance prevents them

- **Quality control:** check finished products and remove faulty ones at the **end**.
- **Quality assurance:** build quality into **every** stage, so faults are prevented.
- **TQM:** every worker is responsible for quality, aiming for zero faults.
- **Benchmarking:** compare with the best firms and copy what they do well.

Answer shapes: AO1 + AO2 + AO3 (reasoning chain) + AO4 (a supported judgment *in context*).

2 Practice

2.1 State the difference between *quality control* and *quality assurance*. [2]

2.2 Define the term *total quality management (TQM)*. [2]

2.3 State two benefits to a business of producing good-quality products. [2]

3 Exam-style questions

3.1 Explain one benefit to a business of producing high-quality products. [3]

3.2 Analyse two benefits to a business of using **quality assurance**. [8]

3.3 A manufacturer with a quality problem is choosing between **quality control** and **TQM**. Evaluate which it should use. [12]

Business answers are marked by **level of response** against the assessment objectives: award **AO1** knowledge, **AO2** application, **AO3** analysis and **AO4** evaluation.

2.2 an approach in which every worker takes responsibility for quality, aiming for zero faults (2 for a clear definition; 1 for a partial idea).

3.1 [3] AO1 1 — name a benefit (repeat custom; higher price; less waste; stronger brand). **AO2** up to 2 — develop it, e.g. good quality wins repeat customers → steady sales → a stronger, more valuable brand (2 developed / 1 limited).

3.3 [12] AO1 2 / AO2 2 / AO3 2 / AO4 up to 6. **Quality control:** simple and cheap to start, faults caught before sale — but it finds faults late, after money is spent, and wastes rejected output. **TQM:** prevents faults and involves all staff → lower long-run cost and higher quality — but it needs training, a culture change and time. **Judgement:** TQM is usually better long term, but a firm with a quick problem or limited resources may start with control — the choice depends on the cost of faults and the firm's ability to change its culture.

- [2]

- [2]

- [illegible]

9.3 Operations strategy

Name: _____ Class: _____ Date: _____

Total: 29 marks

KEY WORDS critical path 关键路径 • total float 总浮动时间

- critical path analysis 关键路径分析 • lean production 精益生产 • capacity management 产能管理

Objective

Build the skills to answer exam questions on **operations strategy** 运营战略 — **lean production** 精益生产, **capacity management** 产能管理, and **critical path analysis** 关键路径分析 (CPA), including **total float** 总浮动时间.

You must be able to:

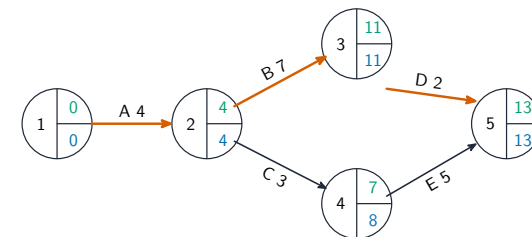
- explain lean production and capacity management
- calculate **total float** and identify the critical path
- analyse and evaluate the usefulness of CPA

1 Worked examples

- Critical path analysis

top = earliest start time
bottom = latest finish time

critical path (zero float)



Each node shows the earliest start (EST) and latest finish (LFT) time

$$\text{total float} = \text{LFT} - \text{duration} - \text{EST}$$

- **Worked:** LFT 12, duration 4, EST 5 $\rightarrow$ total float = $12 - 4 - 5 = 3$ days.
- **Critical path:** the chain of activities with **zero** float — they cannot be late or the project is late.

- **Lean production:** make products with the least waste (just-in-time, continuous improvement).

Answer shapes: AO1 + AO2 + AO3 (reasoning chain) + AO4 (a supported judgement *in context*).

2 Practice

2.1 Define the term *lean production*. [2]

2.2 An activity has an LFT of 14, a duration of 6 and an EST of 5. Calculate its total float. [2]

2.3 Define the term *critical path*. [2]

3 Exam-style questions

3.1 Explain one benefit to a business of using **lean production**. [3]

3.2 Analyse two benefits to a business of using **critical path analysis** to plan a project. [8]

3.3 Evaluate the usefulness of critical path analysis to a business managing a complex project. [12]

Business answers are marked by **level of response** against the assessment objectives: award **AO1** knowledge, **AO2** application, **AO3** analysis and **AO4** evaluation.

2.1 producing goods with the least possible waste of time, materials, space and effort (2 for a clear definition; 1 for a partial idea).

2.2 total float = $14 - 6 - 5 = 3$ (2; award 1 for a correct method with the wrong figure).

2.3 the chain of activities with zero float, which sets the minimum time the project can take (2 for a clear definition; 1 for a partial idea).

3.1 [3] AO1 1 — name a benefit (lower costs; less waste; less money tied up in stock; higher quality). **AO2** up to 2 — develop it, e.g. less waste of materials → lower cost per unit → higher profit or lower prices (2 developed / 1 limited).

3.2 [8] For **each** of two benefits: **AO1** 1 + **AO2** 1 + **AO3** up to 2. Example chains — *find critical tasks*: CPA shows which tasks have zero float → managers focus resources on them → the project is less likely to be late. *Order resources on time*: knowing each task's earliest start → materials and labour arrive just when needed → lower holding cost and no idle time. Maximum 4 per benefit. 8 total.

3.3 [12] AO1 2 / AO2 2 / AO3 2 / AO4 up to 6. **Useful:** shows the shortest project time, the critical tasks and where spare time (float) exists, helping plan resources and spot delays. **Limited:** it is only as good as the time estimates, cannot show quality or cost, and a complex network is hard to manage if conditions change. **Judgement:** CPA is valuable for planning a large project's time and resources, but it must use realistic estimates and be combined with cost and quality judgement — its usefulness depends on the accuracy of the data.

4 (a) Using Figure 1.1:

(i) calculate the total float for activity C

[3]

(ii) identify the minimum project duration.

..... [1]

(b) Evaluate the importance of Critical Path Analysis (CPA) to the success of the hard rock mine.

[illegible]

..... [12]

- 3** (a) Using the data in Table 1.1, calculate the average monthly labour productivity for January to May 2025.
-
-
-
-
-
- [2]
- (b) Using the data in Table 1.1, calculate the percentage of output that failed to meet quality standards for January to May 2025.
-
-
-
-
-
- [2]
- (c) Evaluate the best approach for WS to improve the performance of its production employees.

[2]

Using the data in Table 1.1, calculate the percentage of output that failed to meet quality standards for January to May 2025.

[2]

Evaluate the best approach for WS to improve the performance of its production employees.

(3)

[12]