

## 9.3 Operations strategy

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Total: 29 marks

**KEY WORDS** critical path

- critical path analysis

- total float

- lean production

- capacity management

### Objective

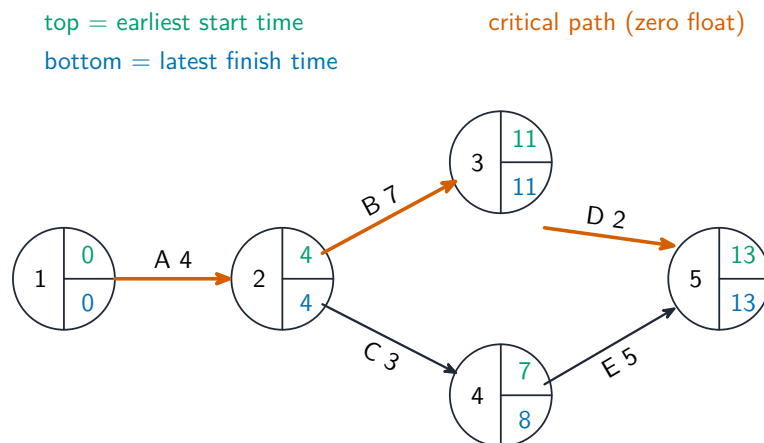
Build the skills to answer exam questions on **operations strategy** – **lean production**, **capacity management**, and **critical path analysis** (CPA), including **total float**.

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 Key knowledge and worked examples

#### ■ Critical path analysis



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 → 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

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

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

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

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## 3 Exam-style questions

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

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**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]