

Solutions

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

Each answer shows the steps, then the **result**.

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