

Answers and marking guidance

Award one mark per correct, developed point unless stated. Other valid answers should be credited.

2 Describe the role of an electrical engineer and an electronic engineer in the project.

- Electrical: designs power supply, distribution and wiring, lighting, standby generators
- Electronic: designs control systems, sensors, monitoring equipment, circuit boards

No marks for: Swapping the two roles

3 Quick check

- a) Civil
- b) Mechanical engineer
- c) Environmental engineer
- d) Electronic

4 Key terms

- 1 – C
- 2 – F
- 3 – A
- 4 – E
- 5 – D
- 6 – B

5 Explain how the engineers' specialised knowledge is used during the design.

- Each engineer contributes expertise in their area, e.g. electrical engineer designs the power supply, mechanical engineer the bogies and brakes
- Working together means problems at the interfaces are solved early, so the tram works safely as one system

6 Describe the skills each engineer would bring to the project.

- Structural: analysing loads (wind, waves) on the tower
- Structural: selecting materials and calculating factors of safety for foundations
- Environmental: assessing the impact on marine life and seabed
- Environmental: planning to minimise pollution and disruption during construction