

Candidate Handbook answers

Case study, p. 199

1. What other types of lights were used in the Olympic park?
Another type of light used in the Olympic park was the high power UHM lamps that produce 20,000 lumens of brightness. They were used for projection light in the opening ceremony.
2. Use the Internet to find the final construction costs for the main Olympic stadium.
The final cost for the Olympic stadium was £486 million.

Progress check 5.1, p. 200

1. On a large construction project, who is the customer's main point of contact?
It is likely to be either the architect or project manager. Some large projects will have a project or programme director but it is the customer's choice who they decide will be the main point of contact.
2. What are the main responsibilities of the contracts manager?
A contracts manager will be involved at the beginning of a contract when it is being set up and at the end when it is handed over as completed to the customer. The contracts manager is also responsible for the day-to-day management of the contract engineers. This can involve managing the ongoing contract engineer costs of the project, making sure they are closely monitored against any budgets.
3. What does a quantity surveyor do?
The costs of a new installation can vary but it is the job of the quantity surveyor to monitor, control and take action if costs change. The quantity surveyor will be involved at the beginning of a project by creating an initial bill of quantities from the design plans. This will then be used to set the budget for construction and will be monitored during the project roll-out.

Activity 5.1, p. 205

1. You are a self-employed electrician and you have been injured. The injury has meant you are unable to work for eight days. Go to the HSE website and find out what you must do.
Any injury that leads to a period of absence from work greater than seven days is notifiable to the HSE.

Progress check 5.2, p. 205

1. What are the main responsibilities of the site management team?
They are to manage day-to-day activities, making sure that all the relevant contractors are available to complete their specific duties to the best of their abilities, leading to a successful and safe installation.
2. When can a building control inspector visit a site?
A building inspector can visit a site whenever they want, but generally speaking these visits are pre-arranged to make sure the inspector gets the correct information by meeting the correct people on site, thereby not having a wasted journey.

3. What are the responsibilities of a building control inspector?

A building control inspector provides advice on request to help building projects comply with the building regulations. Inspectors normally work directly for the local authority. An inspector will come to the site at the beginning of the build project to make sure all the regulations have been considered and planned for. Inspectors can visit a building site as many times as required to satisfy any questions they may have, but will generally come again at the completion stage to sign off the installation.

4. What powers do HSE have when visiting a construction site?

Health and safety law is enforced by inspectors from the Health and Safety Executive or inspectors from the local authority. Inspectors have the right to go into any workplace without notice to look at the management of health and safety, and compliance with the law. Inspectors will come to a site if an incident has been reported or they can just simply turn up unannounced. Inspectors have the right to close a site down for very serious health and safety breaches, or issue a notice for improvement.

Case study, p. 209

1. What laws may have been broken here?

Race discrimination and employment law, leading to unfair dismissal

2. What course of action could have been taken?

Avneet could have gone to an employment tribunal where the matter would have been followed up formally.

Activity 5.2, p. 212

Look up the Kitemark website and write down the main advantages a customer has when employing a Kitemark electrician.

- **Paperwork – a written estimate will be provided**
- **Tools – vehicles and tools will be in good working order**
- **Staff training – staff must be trained and competent**
- **Surveying – surveys must be conducted where necessary**
- **Property care – to avoid damage to furniture, floor coverings or decoration**
- **Building regulations and compliance**
- **Material quality – checks to meet the required quality standards**
- **Inspection – checks that the job is completed to the correct standard**
- **Complaints – any issues handled quickly and effectively**

Working practice 5.1, p. 218

1. What makes a contract binding?

A contract becomes binding if an offer is made and there is consideration and acceptance.

2. What else can happen if a contract is broken?

You can be taken to court to reimburse costs.



Working practice 5.2, p. 225

1. From the trades listed, in what order should the work be carried out?

A range of answers are acceptable if they can be justified. One answer could be starting from the last out: carpet fitters, ceiling contractors, tilers, plasterers, carpenters and gas fitters.

2. Who should have overall responsibility to make sure the project is delivered on time and within budget?

Project manager or contracts manager

Activity 5.3, p. 228

You have just completed a house rewire on a three-bedroom, detached house with all the latest up-to-date technology. Write a list of what you believe would be included in a handover pack.

- **Any as fitted diagrams**
- **Drawings**
- **Operation manuals of electric fans, heaters, ovens, etc.**
- **Flow diagrams/system block diagrams for any heaters or electrical products if manufacturer has provided them for maintenance purposes**
- **Test certificates for installation**
- **Maintenance contract (if appropriate, or contact details/business card)**
- **Technical data sheets for any installed products**
- **Any specific health and safety information**

Working practice 5.3, p. 229

1. What training courses are available for working at height?

PASMA training course

2. What does the HSE recommend about working at height?

Please refer to Candidate Handbook, pages 95–100, for a list of dos and don'ts.

Progress check 5.3, p. 230

1. Describe how a contract is made.

A contract is a legally binding agreement between two or more parties. For a contract to exist there has to be an offer, acceptance and consideration by both parties. Contracts do not need to be written.

2. What might be included in a customer handover pack?

- **As fitted diagrams**
- **Drawings**
- **Operation manuals**
- **Flow diagrams/system block diagrams**
- **Test certificates**
- **Maintenance contract**
- **Technical data sheets**



- Any specific health and safety information
3. Give three examples of when a variation order could be used.
 - Additional sockets or lighting points
 - A change in position for an electrical point or product that will mean extra chargeable work
 - A change of product due to changing customer requirements

Case study, p. 235

1. Describe a set of actions that could have been taken to avoid this situation.
Possible answers include: have a full briefing session with diagrams; have a breakdown of the job with check points to be signed off by the supervisor; assist in the first part of the job before completing next stage under supervision.
2. Write a set of 'open' questions that could have been asked to avoid this kind of poor communication between a manager and apprentice.
Questions could include: Where does the first cable start and end?; Where does the second cable start and end?; How exactly is the cable to be run?; Please explain exactly what you mean; Please draw a diagram.

Knowledge check, p. 236

1. What does APM stand for?
c Association of Project Managers
2. On construction sites, 'notifiable work' has to be registered when what conditions are reached?
a A project is 30 days or 500 man hours long
3. What does ECA stand for?
c Electrical Contractors Association
4. How many regulations are in the EAWR?
d 33
5. Part 5 of BS 7671 covers what specific subject area?
d Selection and erection of equipment
6. What is the British standard for the semi-enclosed rewirable fuse?
d BS 3036
7. You are handed the standard BS EN 62305 – what are you about to work on?
d Protection of structures against lightning
8. What diagram uses BS EN 60617 symbols?
c Circuit diagram
9. What is the best diagram to show you simply how a system works?
a Block diagram
10. What does ACAS stand for?
b Advisory, Conciliation and Arbitration Service