

Sample Practice Assessment

Utilities Engineering Technician

Please write clearly in block capitals below	
Company name	
Forename (s)	
Last name (s)	
Date of birth	
Apprentice number	
Apprentice signature	
Date of knowledge test	

Level: 3

Standard: Utilities Engineering Technician

Pathway: Electrical

Duration: 1 hour 30 minutes for 50 questions

Materials

For this paper you must have:

- Pens
- Scientific calculator (non-programmable)

Instructions

- Use black ink or black ball-point pen
- Fill in the boxes at the top of this page
- Answer **all** questions
- There are questions, possible answers as well as a column for you to mark your answer

- Mark your answer with an against the possible answer you think is correct- if you wish to change your answer please put a line through and re-select with another
- Only one answer per question allowed. Answers which do not follow the rules of selection will be disallowed. This may impact on the grade awarded
- Do all rough work in this answer book

Below is a Sample:

London is the capital of....

Example Question		
London is the capital of...		
Possible answers		Answer
a)	Wales	<input checked="" type="checkbox"/>
b)	Scotland	<input type="checkbox"/>
c)	Northern Ireland	<input type="checkbox"/>
d)	England	<input checked="" type="checkbox"/>

Information

- There are 15 sample questions
- There will be 50 questions in the live knowledge assessment
- All questions should be attempted

Advice

- Do not spend too long on one question
- Read all questions thoroughly before starting your examination
- Mobile phones and watches must not be taken into the examination room. The examination must be conducted under examination conditions
- Cheating: you will be asked to leave the examination room and will be classified an automatic failure and referred to your employer

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Do not turn over the page or commence the knowledge test until the invigilator instructs you to

Question 1		
How regularly should electrical safety equipment be inspected?		
Possible answers		Answer
a)	Daily	
b)	Weekly	
c)	Monthly	
d)	Prior to use	

Question 2		
Identify ONE purpose of periodic inspections.		
Possible answers		Answer
a)	To ensure all electrical installations are installed and tested following the Institution of Electrical Engineers wiring regulations	
b)	To check the asset is running correctly	
c)	To ensure work equipment does not deteriorate	
d)	To enable test results and information in electrical installations to be available for inspection by interested parties	

Question 3		
In a control system, what does the transducer do?		
Possible answers		Answer
a)	Changes a digital signal to a data packet	
b)	Converts a physical measurement into an electrical signal	
c)	Stores information and sends it to the site Supervisory Control and Data Acquisition (SCADA) system	
d)	Enables the equipment to work on 110V or 230V input voltages	

Question 4		
State ONE purpose of completing a Control of Substances Hazardous to Health Regulations (COSHH) assessment in the workplace.		
Possible answers		Answer
a)	To decide how heavy chemical containers are	
b)	To collect information about employees' health	
c)	To decide how often to check chemical stock levels for re-ordering	
d)	To identify the potential for exposure to harmful substances	

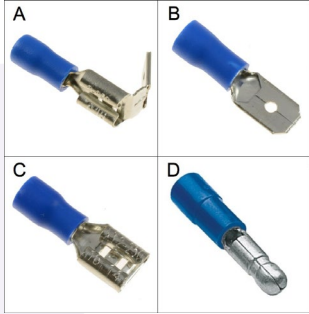
Question 5		
How many motor connections are needed to enable connection to a Star-Delta?		
Possible answers		Answer
a)	Eight	
b)	Four	
c)	Three	
d)	Six	


Question 6		
State the main reason for unscreened power and signal cables to be kept segregated.		
Possible answers		Answer
a)	It makes installation easier	
b)	To stop the signal cables getting hot	
c)	It makes the installation look professional	
d)	To reduce the chance of mutual detrimental influences	

Question 7		
What is basic protection?		
Possible answers		Answer
a)	Protection against shock under fault conditions	
b)	Protection against shock under fault free conditions	
c)	Protection against contact with live parts under fault free conditions	
d)	Protection against faults under sound electrical conditions	

Question 8		
What test can you carry out LIVE?		
Possible answers		Answer
a)	Continuity	
b)	Insulation resistance	
c)	Polarity	
d)	Earth loop impedance	

Question 9		
Which ONE of the electrical connectors shown in the image below is known as a female spade?		
Possible answers		Answer
a)	A	
b)	B	
c)	C	
d)	D	




Question 10		
What is the total resistance in this circuit?		
		
Possible answers		Answer
a)	500 Ω	
b)	1500 Ω	
c)	50 Ω	
d)	100 Ω	

Question 11		
Which ONE of the following tasks is referred to as predictive maintenance?		
Possible answers		Answer
a)	Failure analysis	
b)	Periodic testing	
c)	Trend analysis	
d)	Fault finding	



Question 12		
In the image below, what does the red sign mean?		
Possible answers		Answer
a)	Mandatory behaviour	
b)	Prohibited behaviour	
c)	Information	
d)	Warning	



Question 13		
What is the formula for working out wattage?		
Possible answers		Answer
a)	Watts = Amps / Volts	
b)	Watts = Volts x Resistance	
c)	Watts = Amps x Volts	
d)	Watts = Resistance / Volts	

Question 14		
Using Ohms law, when the current is 12A and the resistance is 6 Ω , what is the volts value?		
Possible answers		Answer
a)	2 volts	
b)	18 volts	
c)	0.5 volts	
d)	72 volts	

Question 15

Which are the safe terminals on this Shunt Diode Safety Barrier?



Possible answers		Answer
a)	21 and 11	
b)	13 and 23	
c)	11 and 13	
d)	21 and 23	

End of Sample Practice Knowledge Assessment

Practice Knowledge Assessment

Answer scheme

Question	Answer	Question	Answer
1	D	9	C
2	A	10	B
3	B	11	C
4	D	12	B
5	D	13	C
6	D	14	D
7	B	15	A
8	C		