Utilities Engineering Technician – Electrical

Practice Knowledge Assessment

Forename (s)	
Surname (s)	
Date	

Instructions

- Use black or blue ink or black ball-point pen
- Fill in the boxes at the top of this page
- There are 20 question in this paper
- Mark your answer with an ☒ - if you wish to change your answer please put a line through ~~☒~~ and re-select with another ☒
- Only one answer per question allowed

Sample:

London is the capital of….

Example Question		
London is the capital of…		
Possible answers		**Answer**
a)	Wales	~~**X**~~
b)	Scotland	
c)	Northern Ireland	
d)	England	**X**

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 fail and referred to your employer

You may use this page to write on, but it must not be removed.

Do not turn over the page until the invigilator instructs you to.

Question 1		
At what period should the electrical safety equipment be inspected?		
Possible answers		**Answer**
a)	Daily	
b)	Weekly	
c)	Monthly	
d)	Prior to use	

Question 2		
Periodic inspections need to be carried out to:		
Possible answers		**Answer**
a)	ensure all electrical installations are installed and tested in accordance with IEE wiring regs and remain in a safe condition	
b)	check the asset is running correctly	
c)	it is in the maintenance schedule	
d)	enable test results and information in electrical installations to be available for inspection by interested parties	

Question 3		
If you find an unlabelled chemical container, what is the first thing you should do?		
Possible answers		**Answer**
a)	Dispose of the content in a skip or specified waste bin	
b)	Leave it in a safe condition, location and report it	
c)	Remove the top carefully and smell it to see what it is	
d)	Slowly pour it down the drain and then rinse away with plenty of cold water	

Question 4		
What is the main factor in determining the amount of current a cable can deliver?		
Possible answers		**Answer**
a)	The material the cable is made from	
b)	The cross-sectional area of the cable	
c)	The length of the cable	
d)	The material the cable's sheath is made from	

Question 5		
In a control system, what does the transducer do?		
Possible answers		**Answer**
a)	Change a digital signal to a data packet	
b)	Converts a physical measurement into an electrical signal	
c)	Store information and send it to the site SCADA system	
d)	Enables the equipment to work on 110V or 230V input voltages	

Question 6		
A **Control of Substances Hazardous to Health Regulations (COSHH)** assessment explains how:		
Possible answers		**Answer**
a)	heavy chemical containers are	
b)	work involving hazardous substances should be carried out safely	
c)	often to check chemical stock levels for re-ordering	
d)	a substance might harm you and how to protect yourself	

Question 7		
How many motor connections are required to enable connection to a **Star-Delta**?		
Possible answers		**Answer**
a)	Eight	
b)	Four	
c)	Three	
d)	Six	

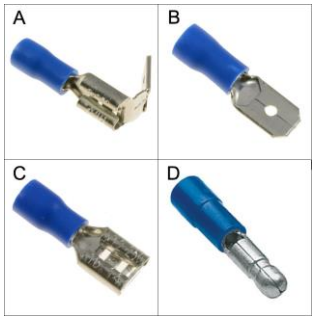
Question 8		
The main reason for unscreened power and signal cables to be kept segregated is:		
Possible answers		**Answer**
a)	it makes installation easier	
b)	to stop the signal cables getting hot	
c)	it makes the installation look more professional	
d)	to reduce the chance of mutual detrimental influences	

Question 9		
Which fault-finding technique should be used on a complex fault with a history of data?		
Possible answers		**Answer**
a)	Input and output	
b)	Sensory	
c)	Half split tech	
d)	Six-point check	

Question 10		
Basic protection is defined as:		
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 11		
What test can you carry out **LIVE**?		
Possible answers		**Answer**
a)	Continuity	
b)	Insulation resistance	
c)	Polarity	
d)	Earth loop impedance	

Question 12			
The device in the image is used for:			
Possible answers		**Answer**	
a)	isolating electrical power		
b)	cutting live cables		
c)	picking up live cables		
d)	multi lockout device		

Question 13			
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 14		
What is the **total resistance** in this circuit?		
		
Possible answers		**Answer**
a)	500Ω	
b)	1500Ω	
c)	50Ω	
d)	100Ω	

Question 15		
Which **ONE** of these task's is referred to as **predictive maintenance**?		
Possible answers		**Answer**
a)	Failure analysis	
b)	Periodic testing	
c)	Trend analysis	
d)	Fault finding	

Question 16			
What does the **red sign** signify in the image below?			
Possible answers		**Answer**	
a)	Mandatory		
b)	Prohibition		
c)	Information		
d)	Warning		

Question 17		
The **formula** for working out **watts** is:		
Possible answers		**Answer**
a)	Watts = Amps ÷ Volts	
b)	Watts = Volts x Resistance	
c)	Watts = Amps x Volts	
d)	Watts = Resistance ÷ Volts	

Question 18		
What is the **optimum height** for carrying an object?		
Possible answers		**Answer**
a)	Waist height	
b)	Below the waist	
c)	Above the head	
d)	Shoulder height	

Question 19		
Using Ohms Law, when the current is 12A and the resistance is 6ohm, what is the **volts value**?		
Possible answers		**Answer**
a)	2 volts	
b)	18 volts	
c)	0.5 volts	
d)	72 volts	

Question 20		
The **safe terminals** on this **Shunt Diode Safety Barrier** is:		
		
Possible answers		**Answer**
a)	21 & 11	
b)	13 & 23	
c)	11 & 13	
d)	21 & 23	

End of Practice Knowledge Assessment

Practice Knowledge Assessment

Answer scheme

Question	Answer	Question	Answer
1	D	**11**	C
2	A	**12**	D
3	B	**13**	C
4	B	**14**	B
5	B	**15**	C
6	D	**16**	B
7	D	**17**	C
8	D	**18**	A
9	D	**19**	D
10	B	**20**	A