

MOET Practice Assessment

Please write clearly in block capitals below	
Company Name	
Forename (s)	
Surname (s)	
Date of Birth	
Apprentice Number	
Apprentice signature	
Date of Knowledge Test	

Level: 3
Standard: Maintenance and Operations Engineering Technician
Pathway: Wind Turbine Practice Assessment
Duration: 45 minutes

Materials

For this paper you must have:

- Pens
- Calculators and reference documents are not required

Instructions

- Use black or blue 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, spare paper is provided in this answer booklet and can be used but **MUST NOT** be removed
- Additional spare paper will not be provided
- All questions are closed book

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

Information

- There are 30 questions in total
- All questions should be attempted

Advice

- You are not permitted to leave the examination room for the duration of the assessment
- 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 i.e. you

may not speak to other candidates, if you have a problem raise your hand and the invigilator will attend

- Cheating: you will be asked to leave the examination room and will be classified an automatic fail and referred to your employer


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

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DO NOT DETACH

Spare paper for to use for calculations or working out

(A) First principles relating to the operation and maintenance of appropriate plant and equipment (7 Questions)

Question 01		
On what type of installation would you fit this design of washer?		
Possible answers	Answer	
a)	High corrosion	
b)	High temperature	
c)	High vibration	
d)	High pressure	

Question 02		
The maximum and/or minimum values that are permitted for specific maintenance operations are commonly described as:		
Possible answers	Answer	
a)	Factors of safety	
b)	Rules of thumb	
c)	Margins	
d)	Tolerances	

Question 03		
Which statement is correct? Safety critical equipment should be maintained		
Possible answers		Answer
a)	safety critical equipment does not need testing	
b)	more frequently than non safety critical equipment	
c)	less frequently than non safety critical equipment	
d)	at the same period as safety non-critical equipment	

Question 04		
Which statement best describes what is meant by the terminology "specification"?		
Possible answers		Answer
a)	The capacity to endure continuous force	
b)	The standard when measured against another object of similar design	
c)	Detailed description of the design and materials of an object	
d)	The specified point beyond which certification is invalid	

Question 05		
What type of maintenance is applied when something stops working?		
Possible answers		Answer
a)	Planned	
b)	Preventative	
c)	Corrective	
d)	Shutdown	

Question 06

What do the initials IP followed by 2 numbers refer to when seen on a piece of equipment:

Possible answers		Answer
a)	Internal pressure	
b)	Integrity protection	
c)	Ingress protection	
d)	Increased pressure	

Question 07

Which of the following is commonly classed as safety critical?

Possible answers		Answer
a)	Control valve	
b)	Fuse	
c)	Steam trap	
d)	Drain valve	

Question 08

What does the coloured tag on a piece of rigging equipment mean?

Possible answers		Answer
a)	Certification period	
b)	Safe working load	
c)	Maximum working load	
d)	Safe to use	

Question 09

When seen on site, what does a green safety sign signify?

Possible answers		Answer
a)	Mandatory	
b)	Prohibited	
c)	Information	
d)	Warning	

Question 10

What document should be fixed to a scaffold before you use it?

Possible answers		Answer
a)	Risk assessment	
b)	Safety certificate	
c)	Approved Scaffoldtag	
d)	Permit to work	

Question 11

Looking at the image provided and taking into consideration risk, which task would you say is low probability and low in impact?

Possible answers		Answer	
a)	A		
b)	B		
c)	C		
d)	D		

Question 12

When personal protection equipment is identified on the work control document, which of the following statements is correct?

Possible answers		Answer
a)	PPE is recommended	
b)	PPE is advised	
c)	PPE is good practice	
d)	PPE is mandatory	

Question 13

In accordance with HSE regulations, how would you know if a substance was regarded as hazardous?

Possible answers		Answer
a)	The container will be coloured red	
b)	It will be contained in a glass receptacle	
c)	It will have a label identifying the hazard	
d)	It will give off a strong odour	

Question 14

According to the Confined Space Regulations 1997, which of the following locations is not regarded as a confined space?

Possible answers		Answer
a)	Storage tank	
b)	Termination cabinet	
c)	Floor void	
d)	Pipe trench	

Question 15

In accordance with HSE guidelines, isolations can only be applied by

Possible answers		Answer
a)	Lead technicians	
b)	Training and authorised people	
c)	skilled people	
d)	experienced people	

Question 16		
Which of the following manual handling statements is true?		
Possible answers		Answer
a)	Correct manual handling prevents all accidents	
b)	Correct manual handling prevents damage to equipment	
c)	Correct manual handling reduces the risk of human injury	
d)	Correct manual handling should only be applied in the workplace	

(C) Maintenance and operational practices, processes and procedures covering a range of plant and equipment (5 Questions)

Question 17		
Using the half split principal and referring to the information provided in the image, at which position should you logically make the next check when fault finding?		
Possible answers		Answer
a)	Point C	
b)	Point F	
c)	Point G	
d)	Point I	

Question 18

What regulation provides guidance on the use of handheld tools?

Possible answers		Answer
a)	PUWER	
b)	COMAH	
c)	LOLER	
d)	COSHH	

Question 19

What is being measured in this image?



Possible answers		Answer
a)	Temperature	
b)	Vibration	
c)	Pressure	
d)	Speed	

Question 20

When seen on a British Standard convention drawing, what does this symbol represent?



Possible answers		Answer
a)	Electrical signal	
b)	Pneumatic line	
c)	Hydraulic line	
d)	Instrument signal	

Question 21

What type of maintenance can be applied to check the long-term performance of equipment to identify problems before they occur?

Possible answers		Answer
a)	Preventative maintenance	
b)	Risk based maintenance	
c)	Condition based maintenance	
d)	Corrective maintenance	

(D) The relevant engineering theories and principles relative to their occupation (9 Questions)

Question 22		
Where would you commonly find the transformer on a sub mega watt wind turbine?		
Possible answers		Answer
a)	In the hub	
b)	At the base	
c)	In the nacelle	
d)	In the rotor	


Question 23		
What does RPM stand for when seen on a gearbox?		
Possible answers		Answer
a)	Revolutions per minute	
b)	Revolutions per metre	
c)	Rotations per millimeter	
d)	Rotational pressure monitor	

Question 24		
0.5 of a Kilowatt is equal to		
Possible answers		Answer
a)	5000 Watts	
b)	500 Watts	
c)	50 Watts	
d)	5 Watts	

Question 25		
What is the purpose of the gearbox in a wind turbine?		
Possible answers		Answer
a)	Increase rotational speed to the blades	
b)	Increase torque to the blades	
c)	Increase rotational speed to the generator	
d)	Increase torque to the generator	

Question 26

What is the name of the wind turbine component indicated by the arrow?

Possible answers		Answer	
a)	Nacelle		
b)	Rotor		
c)	Transit		
d)	Hub		

Question 27

A temperature transmitter with a range of 0-400 degree C has a feedback signal of 8mA. Assuming the transmitter is calibrated correctly, what is the actual temperature reading?

Possible answers		Answer
a)	150 degrees C	
b)	100 degrees C	
c)	75 degrees C	
d)	50 degrees C	

Question 28

What is the most likely cause of high vibration found at the coupling of the gearbox and electric generator?

Possible answers		Answer
a)	High wind	
b)	Bearing failure	
c)	High temperature	
d)	Faulty controller	

Question 29		
Blue or brown discolouration on a bearing often indicates what problem?		
Possible answers		Answer
a)	Corrosion	
b)	Erosion	
c)	Mechanical damage	
d)	Bearing failure	

Question 30		
The power available in a wind of speed V is proportional to		
Possible answers		Answer
a)	$1 \div V$	
b)	$0.5 \times V$	
c)	$V \times V$	
d)	$V \times V \times V$	

End of Practice Assessment

Answers

Question	Answer	Question	Answer
1	C	16	C
2	D	17	C
3	B	18	A
4	C	19	B
5	C	20	B
6	C	21	C
7	B	22	B
8	A	23	A
9	C	24	B
10	C	25	C
11	A	26	D
12	D	27	B
13	C	28	B
14	B	29	D
15	B	30	D