





1145-532 MAY 2018

Level 3 Advanced Technical Diploma in Engineering (540)/ Level 3 Advanced Technical Extended Diploma in Engineering (720)

Level 3 Engineering – Theory Exam (2)

If provided, stick your candidate barcode label here.	Wednesday 23 May 2018 09:30 – 11:30
Candidate name (first, last)	
First	
Last	
Candidate enrolment number Date of birth	n (DDMMYYYY) Gender (M/F)
Assessment date (DDMMYYYY) Centre numb	ber Candidate signature and declaration*
 If any additional answer sheets are used, enter Please ensure that you staple additional answer sheets, clearly labelling them with your full not and qualification number in BLOCK CAPITALS. All candidates need to use a black/blue pen If provided with source documents, these document will be shredded. Do not write on the source documents and will be shredded. I declare that I had no prior knowledge of and that I will not divulge to any person and the provided that I will not divulge to any person and the provided that I will not divulge to any person and the provided that I will not divulge to any person and the provided that I will not divulge to any person and the provided that I will not divulge to any person and the provided that I will not divulge to any person and the provided that I will not divulge the provided that I will not divulge the provided that I will not divulge the provided the provided that I will not divulge the provided the provided that I will not divulge the provided the provided that I will not divulge the provided the provided that I will not divulge the provided the provided the provided that I will	wer sheets to the back of this answer ame, enrolment number, centre number. I. Do not use a pencil or gel pen. Suments will not be returned to City & Guilds, urce documents. If the questions in this assessment

General instructions

- Use black or blue ballpoint pen.
- The marks for questions are shown in brackets.
- There are **six questions** in this examination paper. Answer **all** questions.
- Answer the questions in the spaces provided. Answers written in margins will **not** be marked.
- Cross through any work you do **not** want to be marked.
- Write all your working out and answers in this booklet.
- If extra space is required then the blank pages at the back of the pack should be used, clearly identifying the question.

ety at Work Act 1974. Explain what is meant by 'as far as is reasonably practicable'.	(4 m
Explain how risk assessments can minimise the probability of in	
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Explain why pre-tensioning may be needed when assembling mechanical components.	(2 marks)

b) In the table below, state **two** common types of electrical cable. For **each**, state a typical use.

(4 marks)

Type of cable	Typical use

(Total marks 6)

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Explain the difference between market pull and technology push.	(2 marks
An entrepreneur wants to invest in a business. Explain how entrepreneurs can	
be enablers for innovation.	(6 marks)

together. Describe how a prototype of a product can be made using 3D printing.	(4 m
Describe how market testing of a product would be carried out.	(4 m
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(Total marks 16)

A product is going to use a low carbon technology to generate energy. Explain how the use of low carbon technologies to convert waste into energy affects the environment.	(8 marks)

(Total marks 8)

Explain the difference between virtual and augmented reality.	(2 mar
Virtual reality and augmented reality are finding an increasing number of domestic and industrial applications. Explain how the further development of virtual and augmented reality could lead to innovative products. Your answer should include examples of potential applications of virtual and	
augmented reality.	(6 ma

(Total marks 8)

(12 marks)

Discuss the influence that digital technologies have had on society.			

(Total marks 12)

Additional space



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