



## 5220-530 MAY 2018 Level 3 Advanced Technical Certificate in Digital Technologies

Level 3 Digital Technologies - Theory exam (1)

If provided, stick your candi barcode label here.	date 09:30 – 12	21 May 2018 2:00
Candidate name (first, last)		
First		
Last		
Candidate enrolment number	Date of birth (DDMMYYYY)	Gender (M/F)
Assessment date (DDMMYYYY)	Centre number	Candidate signature and declaration*
If any additional answer sheets a		

- Please ensure that you **staple** additional answer sheets to the **back** of this answer booklet, clearly labelling them with your full name, enrolment number, centre number and qualification number in BLOCK CAPITALS.
- All candidates need to use a **black/blue pen. Do not** use a pencil or gel pen.
- If provided with source documents, these documents **will not** be returned to City & Guilds, and will be shredded. **Do not** write on the source documents.

\*I declare that I had no prior knowledge of the questions in this assessment and that I will not divulge to any person any information about the questions.

## **General instructions**

- The marks for questions are shown in brackets.
- Answer **all** questions.
- Answer the questions in the spaces provided. Answers written in margins or on blank pages 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.

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1 a)	State <b>two</b> indicators of progress used in project management.	(2 marks)
b)	For <b>each</b> of the <b>two</b> indicators stated in Question 1a), explain how they are used as indicators of progress.	(4 marks)
2 a)	State <b>two</b> access control methods.	(2 marks)
b)	For <b>each</b> of the <b>two</b> access control methods stated in Question 2a), explain how they are used to control system access.	(4 marks)

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- Explain how a system can be protected against  ${\bf each}$  of the following types of 3 malicious code.
  - Viruses. •
  - Logic Bombs. Worms. •
  - •

(6 marks)

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4	a)	State <b>two</b> types of storage media that can be used in a computer system.	(2 marks)	
	b)	For <b>each</b> of the <b>two</b> types of storage stated in Question 4a), explain one of its security vulnerabilities.	(4 marks)	
5	a)	State <b>two</b> types of physical network topologies.	(2 marks)	
	b)	For <b>each</b> of the <b>two</b> topologies stated in Question 5a), explain how data is transmitted.	(4 marks)	

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6	Exp •	lain the use of <b>each</b> of the following network software. Proxy server. Web server.	
	•	Voice Over Internet Protocol (VOIP).	(6 marks)
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7	a)	State <b>two</b> layers of the TCP/IP model.	(2 marks)
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	b)	Explain the network function for <b>each</b> of the layers stated in Question 7a).	(4 marks)
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8	a)	State <b>two</b> programming language techniques.	(2 marks)	
	b)	For <b>each</b> of the techniques stated in Question 8a), explain how programmes are constructed.	(4 marks)	
9	a)	State <b>two</b> types of testing techniques.	(2 marks)	
	b)	Explain a principle for <b>each</b> of the testing techniques stated in Question 9a).	(4 marks)	

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		21 May 201
10 a)	State <b>two</b> data structures used in programming.	(2 marks 
b)	Explain how <b>each</b> of the data structures stated in Question 10a) is used in programming.	(4 marks
11 Exp	lain the difference between State and Stateless in website programming.	(2 mark:

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12	You have been asked to give a presentation to your company's directors about a
	proposed software development where an application will be used to gather and
	share personal information.
	Discuss what you would include in the presentation.

(9 marks)

13 A school trust runs a Primary School, High School and a Sixth Form in **three** different locations. IT wants to provide a 'kiosk' where students in all their schools can log onto a PC and leave their opinions about their student experience. Discuss the steps the school can take to complete the development process.

(9 marks)