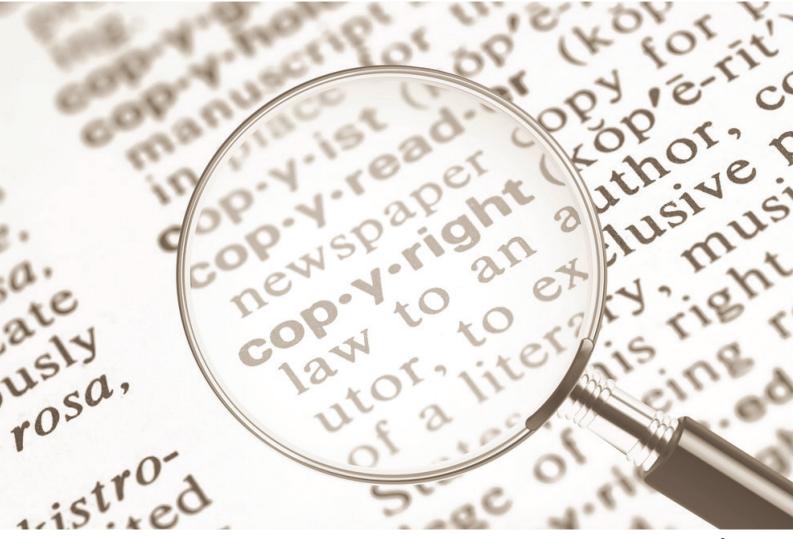


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# For the June 2023 Cambridge Technical exam series

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Level 3 Applied Science						
05847, 05848, 05849, 05874, 05879	Unit 1: Science fundamentals	Question Paper	Q5	© Chatchawat Prasertsom, Shutterstock Photo Library, www.shutterstock.com		
05847, 05848, 05849, 05874, 05879	Unit 2: Laboratory techniques	Question Paper	Q2(c), Fig. 2.3	Akkawi, M et al, 'HPLC separation and in vitro antimalarial studies of Artemisia annua plants from two different origins: Cameroon versus Luxembourg', 2014, Malaria World Journal. Reproduced by the Creative Commons Attribution Licence (CC-BY).		
			Q4(b), Fig. 4.1 and 4.2	Source: www.i.imgur.com. OCR is aware that third party material appeared in this exam but it has not been possible to contact and acknowledge the source.		
			Q4(c)	© Animated Healthcare Ltd, Science Photo Library www.sciencephoto.com		
			Q6(a)(ii), Fig. 6.1 and 6.2	Kaur, R et al. 'Effect of chlorhexidine, povidone iodine, and ozone on microorganisms in dental aerosols: Randomized double-blind clinical trial, 2014', 25(2), 160-165, www.ijdr.in, Indian Journal o Dental Research. Reproduced under the Open access - Creative Commons Licence.		

	Level	3 Applied	Science (cor	nt)
05847, 05848, 05849, 05874, 05879	Unit 3: Scientific analysis and reporting	Question Paper	Q2, Fig. 2.1	Lewis, S, Cratsley, C & Demary, K 'Mate recognition and choice in Photinus fireflies', December 2004, 41: 809–821, www.sekj.org, Finnish Zoological and Botanical Publishing Board. Reproduced by kind permission of the Finnish Zoological and Botanical Publishing Board.
			Q6(b)	Tankeshwar Acharya, adapted from 'Bacterial Culture Media: Classification, Types, Uses', www.microbeonline.com, Microbe Online. Reproduced by kind permission of Tankeshwar Acharya.
			Q6(c)(i)	© ferryina, Shutterstock Photo Library, www.shutterstock.com
			Q6(d)(i)	OCR is aware that third party material appeared in this exam but it has not been possible to identify and acknowledge the source.
			Q7(b), Fig. 7.2	'Comparison of occupant head acceleration between the crash test and MADYMO simulation', www.researchgate.net, ResearchGate. Reproduced under the Creative Commons Licence Attribution 3.0 Unported (CC BY 3.0).

	Leve	3 Applied	Science (co	ont)
05847, 05848, 05849, 05874, 05879	Unit 22: Global scientific information	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05847, 05848, 05849, 05874, 05879	Unit 23: Scientific research techniques	Question Paper	Q1, Fig. 1.1	E Mountjoy, N M Davies, D Plotnikov, G D Smith, S Rodriguez, C E Williams, J A Guggenheim, D Atan 'Education and myopia: assessing the direction of causality by mendelian randomisation' 6 June 2018, www.bmj.com, BMJ. Reproduced under the Open access - Creative Commons Licence.
			Table 2.2, Source A	'Food Safety Act 1990 - Food safety and consumer protection', www.legislation.gov.uk, Food Safety Act 1990. Reproduced under the Open Government Licence v3.
			Table 2.2 Source B	Adapted from 'Microbiology', www.eurofins.com, eurofins BioPharma Product Testing. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.
			Table 2.2 Source C	Source: www.lumnicleanse.com. OCR is aware that third party material appeared in this exam but it has not been possible to contact and acknowledge the source.

	Leve	3 Applied	Science (co	ont)
05847, 05848, 05849, 05874, 05879	Unit 23: Scientific research techniques (cont)	Question Paper	Table 2.2 Source D	Adapted from 'UV Light That is Safe For Humans but Bad for Bacteria and Viruses', 9 February 2018, www.genengnews.com, Genetic Engineering and Biotechnology News. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.
			Table 2.2 Source E	A McLeod, K H Liland, J E Haugen, O Sorheim, K S Myhrer, A L Holck, adapted from 'Chicken fillets subjected to UV-C and pulsed UV light: Reduction of pathogenic and spoilage bacteria, and changes in sensory quality', 23 November 2017, www.onlinelibrary.wiley.com, Wiley Online Library. Reproduced under the Creative Commons Attribution 4.0 International (CC BY 4.0).
			Table 2.2 Source F	Adapted from 'Case Studies', www.quadram.ac.uk, Quadram Institute. Reproduced by kind permission of the Quadram Institute.
			Table 2.2 Source G	Hannah Fox, 'Why you should think twice before buying that UVC disinfection gadget', 3 May 2021, www.which.co.uk, Which? News. Reproduced by kind permission of Which?
			Q3, Fig. 3.1	© Deyan Georgiev, Shutterstock Photo Library, www.shutterstock.com

Level 3 Applied Science (cont)					
05847, 05848, 05849, 05874, 05879	Unit 23: Scientific research techniques (cont)	Question Paper	Q3, Fig. 3.2	© tetiana_u, Shutterstock Photo Library, www.shutterstock.com	
		Pre-Release	Source A	Adapted from 'Trawl fishing ban off Sussex coast aims to restore seaweed forests', 22 March 2021, www.theguardian.com, PA Media, The Guardian. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.	
			Source B	Matthew Bennion, Chris Yesson, Juliet Brodie, adapted from 'Remote sensing of kelp: novel methods for mapping and monitoring wild kelp resources', 16 November 2017, www.macroalgalresearchgroup.com, Macroalgal Research Group. Reproduced by kind permission o Juliet Brodie.	

Level 2 Business					
05891, 05892	Unit 1: Principles of working in business administration	Computer Based Test	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.		
05891, 05892	Unit 2: Understand the role of an administrator	Computer Based Test	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.		

		Level 3 Bu		
05834, 05835, 05836, 05837, 05878	Unit 1: The business environment	Question Paper/ Pre-release		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05834, 05835, 05836, 05837, 05878	Unit 2: Working in business	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05834, 05835, 05836, 05837, 05878	Unit 3: Business decisions	Question Paper	Q3(a)	Chris Martin, Steven Hope, Sanah Zubairi, Ipsos MORI Scotland, 'The role of digital exclusion in social exclusion' page 9, September 2016, www.carnegie_uk_trust, Carnegie UK Trust. Licensed under the Creative Commons Attribution-ShareAlike 3.0 Unported Licence.
		Pre-release	Appendix 1	Adapted from 'The Mobile Economy Sub-Saharan Africa 2019', www.gsma.com, GSMA Intelligence © GSMA Intelligence 2018. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.
			Appendix 2	Adapted text from online article by Sarah Knapton, 'Discarded phones, computers and electronics behind world's fastest growing waste problem' 13 December 2017, www.telegraph.co.uk, © Telegraph Media Group Limited 2017.

	Level 3 Business (cont)					
05834, 05835, 05836, 05837, 05878	Unit 9: Human resources	Question Paper	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.			
05834, 05835, 05836, 05837, 05878	Unit 10: Economics for business	Question Paper	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.			
05834, 05835, 05836, 05837, 05878	Unit 15: Change management	Question Paper/ Resource Booklet	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.			

Level 2 Digital Media					
05897, 05899	Unit 1: Digital media and emerging technologies	Computer Based Test	Q3	OCR is aware that third party material appeared in this exam but it has not been possible to identify and acknowledge the source.	
05897, 05899	Unit 2: Principles of concept design and pre-production	Pre-release		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.	

	L	evel 3 Digi	iai meula	
05843, 05844, 05845, 05846, 05875	Unit 1: Media products and audiences	Insert	Fig. 1	Data from 'How often, if at all, do you watch men's English Premier League football matches, either on television or live at a stadium?' YouGov - VAR. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.
			Fig. 2	Data from 'Most-watched sports games on television in the UK in 2019', 1 June 2021, www.statista.com, Statista 2021. Item removed due to third party copyright restrictions.
			Fig. 3	Diagram adapted from online Qualitative research report 'An exploration of people's relationship with PSB, with a particular focus on the views of young people', July 2020, www.ofcom.org.uk, © Ofcom 2020.
05843, 05844, 05845, 05846, 05875	Unit 2: Pre-production and planning	Question Paper/Insert		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05843, 05844, 05845, 05846, 05875	Unit 6: Social media and globalisation	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05843, 05844, 05845, 05846, 05875	Unit 25: Research for product development	Question Paper/ Pre-release		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.

Level 2 Engineering					
05887, 05888	Unit 1: Fundamentals of mechanical, electrical/electronic and fluid power engineering	Computer Based Test	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.		
05887, 05888	Unit 2: Application of engineering principles	Computer Based Test	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.		

	L	evel 3 Eng	gineering	
05822, 05823, 05824, 05825, 05873	Unit 1: Mathematics for engineering	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05822, 05823, 05824, 05825, 05873	Unit 2: Science for engineering	Question Paper	Q2(a), Fig. 1	Aircraft silhouette © 4LUCK, Shutterstock Photo Library, www.shutterstock.com
05822, 05823, 05824, 05825, 05873	Unit 3: Principles of mechanical engineering	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05822, 05823, 05824, 05825, 05873	Unit 4: Principles of electrical and electronic engineering	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05822, 05823, 05824, 05825, 05873	Unit 23: Applied mathematics for engineering	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05822, 05823, 05824, 05825, 05873	Unit 24: Project management for engineers	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.

Level 2 Health & Social Care				
05880, 05881	Unit 1: Principles of working in health, social care and childcare	Computer Based Test		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05880, 05881	Unit 2: Health and safety in practice	Computer Based Test	Q1(e), Image 2	(Modified image), © Tartila, Shutterstock Photo Library, www.shutterstock.com

	Level	3 Health	& Social C	are
05830, 05831, 05832, 05833, 05871	Unit 2: Equality, diversity and rights in health and social care	Question Paper	Q1(a)	Adapted from 'Human Rights Act 'absolutely key' to big justice fights of last 20 years', 9 November 2018, www.amnesty.org.uk, Amnesty International UK. Reproduced by kind permission of Amnesty International UK.
			Q2(a)	Adapted from 'Accessible Information Standard How do GP practices make their services accessible to patients with a communication support need?' 8 May 2018, www.healthwatchislington.co.uk, Healthwatch Islington. Reproduced by kind permission of Healthwatch Islington.
			Q4(a)	Chaka L Bachmann (Stonewall) and Becca Gooch, (YouGov). Adapted from 'LGBT in Britain', www.stonewall.org.uk, Stonewall. Reproduced by kind permission of Stonewall.
			Q5(a)	Adapted from 'Concerns over lack of clinical training causing avoidable learning disability deaths', 15 February 2018, www.mencap.org.uk, Mencap. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.
05830, 05831, 05832, 05833, 05871	Unit 3: Health, safety and security in health and social care	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.

	Level 3 H	lealth & So	ocial Care (	(cont)
05830, 05831, 05832, 05833, 05871	Unit 4: Anatomy and physiology for health and social care	Question Paper	Q2(a)(i)	© lukaves, iStock Photo Library, www.istockphoto.com
			Q4(e)	(Modified), © Vecton, Shutterstock Photo Library, www.shutterstock.com
05830, 05831, 05832, 05833, 05871	Unit 6: Personalisation and a person-centred approach to care	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05830, 05831, 05832, 05833, 05871	Unit 7: Safeguarding	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05830, 05831, 05832, 05833, 05871	Unit 25: Research methods in health, social care and childcare	Pre-release	Research Article A	Adapted from an article by Edward Melhuish, 'Longitudinal research and early years policy development in the UK', 7 September 2016, International Journal of Child Care and Educational Policy, www.ijccep.springeropen.com. Reproduced under open access terms.
			Research Article B	Adapted text from an article by Laura Di Bona, Sheila Kennedy, Gail Mountain 'Adopt a Care Home: An intergenerational initiative bringing children into care homes', Dementia, Volume 18, Issue 5, pp 1679–1694 © 2017 The Author(s) under the terms of the CC-BY-NC-ND licence.

Level 3 Health & Social Care (cont)					
05830, 05831, 05832, 05833, 05871	Unit 25: Research methods in health, social care and childcare (cont)	Pre-release	Research Article C	Adapted text from an article by Inderpal Singh, Daniel Duric, Alfe Motoc, Chris Edwards, Anser Anwar, 'Relationship of Prevalent Fragility Fracture in Dementia Patients: Three Years Follow up Study', Geriatrics, 30 November 2020, Volume 5, Issue 4. Published under an open access Creative Common CC BY Licence.	

Level 2 IT					
05883, 05884	Unit 1: Essentials of IT	Computer Based Test	Q1	© yongyuan, iStock Photo Library, www.istockphoto.com	
			Q15	© Sanny11, iStock Photo Library, www.istockphoto.com	
			Q26	© Science Photo Library, Getty Images, www.gettyimages.co.uk	
05883, 05884	Unit 2: Essentials of Cyber Security	Computer Based Test		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.	

		Level 3 IT	
05838, 05839, 05840, 05841, 05842, 05877	Unit 1: Fundamentals of IT	Question Paper	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05838, 05839, 05840, 05841, 05842, 05877	Unit 2: Global information	Question Paper/ Pre-release	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05838, 05839, 05840, 05841, 05842, 05877	Unit 3: Cyber security	Question Paper/ Pre-release	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05838, 05839, 05840, 05841, 05842, 05877	Unit CC: Cloud Technology	Computer Based Test	Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.

	Lev	vel 3 Perfo	rming Arts	
05850, 05851, 05852, 05853, 05876	Unit 1: Prepare to work in the performing arts sector	Pre-release		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05850, 05851, 05852, 05853, 05876	Unit 2C: Proposal for a commissioning brief	Pre-release		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05850, 05851, 05852, 05853, 05876	Unit 3: Influential performance practice	Pre-release		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05850, 05851, 05852, 05853, 05876	Unit 32: Arts administration	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.
05850, 05851, 05852, 05853, 05876	Unit 33: Original performance	Pre-release	Performance stimulus 1 Performance stimulus 2	© KornT, Shutterstock Photo Library, www.shutterstock.com Transcript of Barack Obama's Victory Speech, 5 November 2008, Election 2008. OCR is aware that third party material appeared in this exam but it has not been possible to identify and acknowledge the source.

Level 2 Sport					
05885, 05886	Unit 1: Physical activity, health and wellbeing	Computer Based Test	Q12-14, Fig. 2	© leonello, iStock Photo Library, www.istockphoto.com	
			Q35-37, Fig. 4	Adapted from 'Active Lives Adult Survey', November 2019/20 Report, published April 2021, www.sportengland.org, Sport England. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.	
05885, 05886	Unit 2: Physical preparation and readiness for sport and physical activity	Computer Based Test		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.	

Level 3 Sport						
05826, 05827, 05828, 05829, 05872	Unit 1: Body systems and the effects of physical activity	Question Paper	Q15	(Modified) © Elen Bushe, Shutterstock Photo Library, www.shutterstock.com		
			Q17	(Modified) © BlueRingMedia, Shutterstock Photo Library, www.shutterstock.com		
05826, 05827, 05828, 05829, 05872	Unit 3: Sports organisation and development	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations		
05826, 05827, 05828, 05829, 05872	Unit 4: Working safely in sport, exercise, health and leisure	Question Paper		Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations		
05826, 05827, 05828, 05829, 05872	Unit 21: The business of sport	Question Paper	Q17(a)	James Hale, adapted from 'How much did Logan Paul and KSI make from their 'YouTube World Boxing Championship'? A lot', 27 August 2018, www.tubefilter.com, Tubefilter. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified. Rachel E Greenspan, adapted from 'How		
				controversial YouTuber Jake Paul became a must-watch boxer', 30 November 2020, www.insider.com, Insider. Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and OCR will be happy to rectify any omissions of acknowledgements in future papers if notified.		

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