



GCE

Applied ICT

Unit **G054**: Software Development

Advanced GCE

Mark Scheme for June 2016

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2016

Annotations

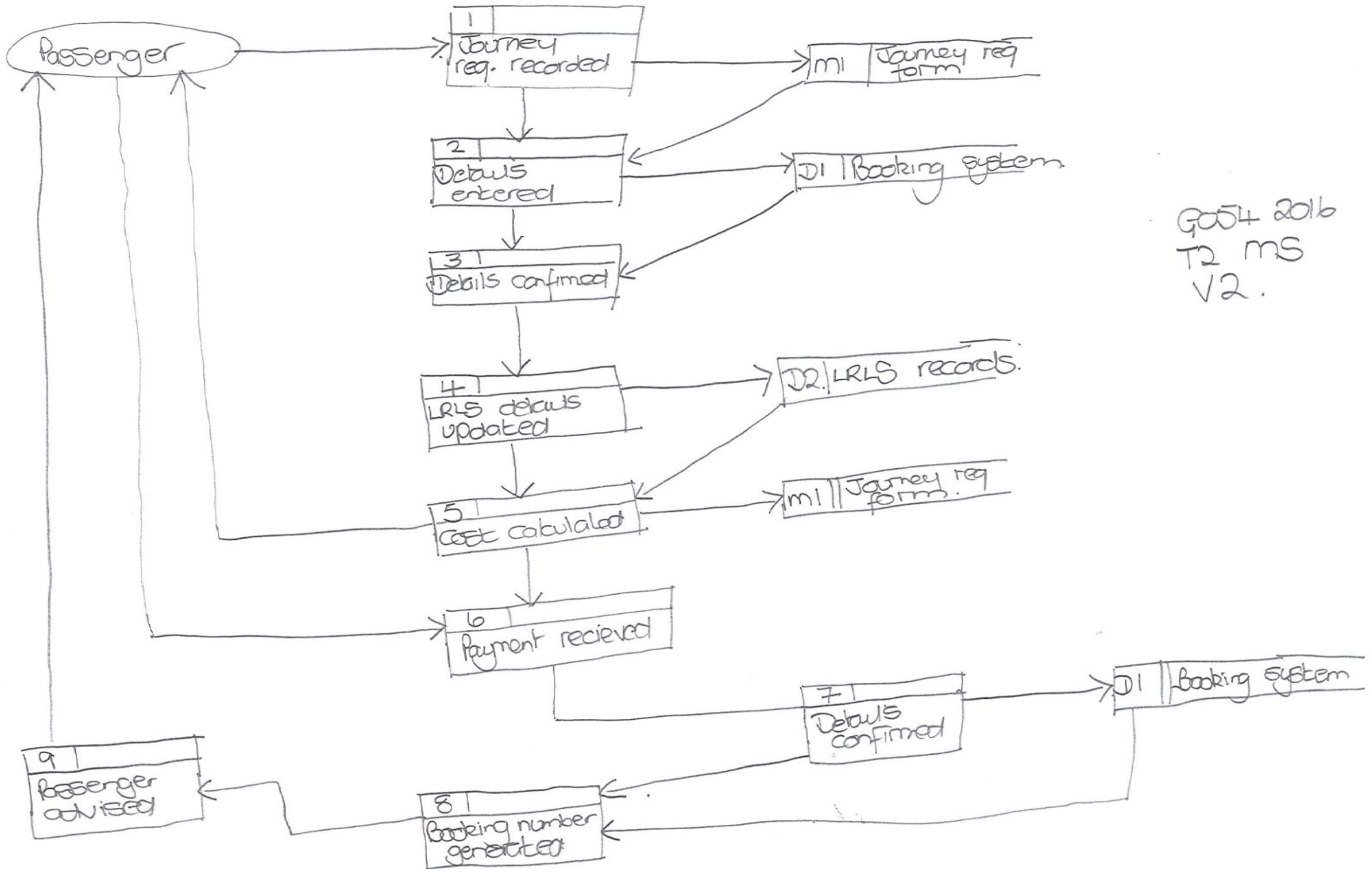
Annotation	Meaning
BP	Blank Page – this annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
^	Something vital to the mark point has been omitted.
BOD	Benefit of the doubt given.
NBOD	Benefit of the doubt not given.
CON	Candidate contradicts him/herself.
NAQ	Candidate has not answered the question as set.
MTP	Candidate has missed the point of the question.
W	Candidate is working towards a mark but has not given enough to receive credit at this point.
NE	Not enough for the candidate to receive credit.
TV	Answer is too vague to receive credit.
FTC	Follow-through credit. When an earlier wrong answer has been penalised, this may be used to show that credit can now be given to a part of the script which depends on that earlier wrong answer. This avoids penalising a candidate twice for the same error, but should only be used where specified by the PE.
MAX	Shows that the maximum number of marks for a part-question or question has been awarded (even though the answer may contain further correct points).
R	The point repeats one already awarded credit.
JE	Candidate has <i>just</i> given enough to be awarded a mark.

Subject-specific Marking Instructions

There are 100 marks available for this test. They are allocated as follows:

- Tasks 2, 3 and 4 30
- Section A of the test paper 50
- Section B of the test paper 20

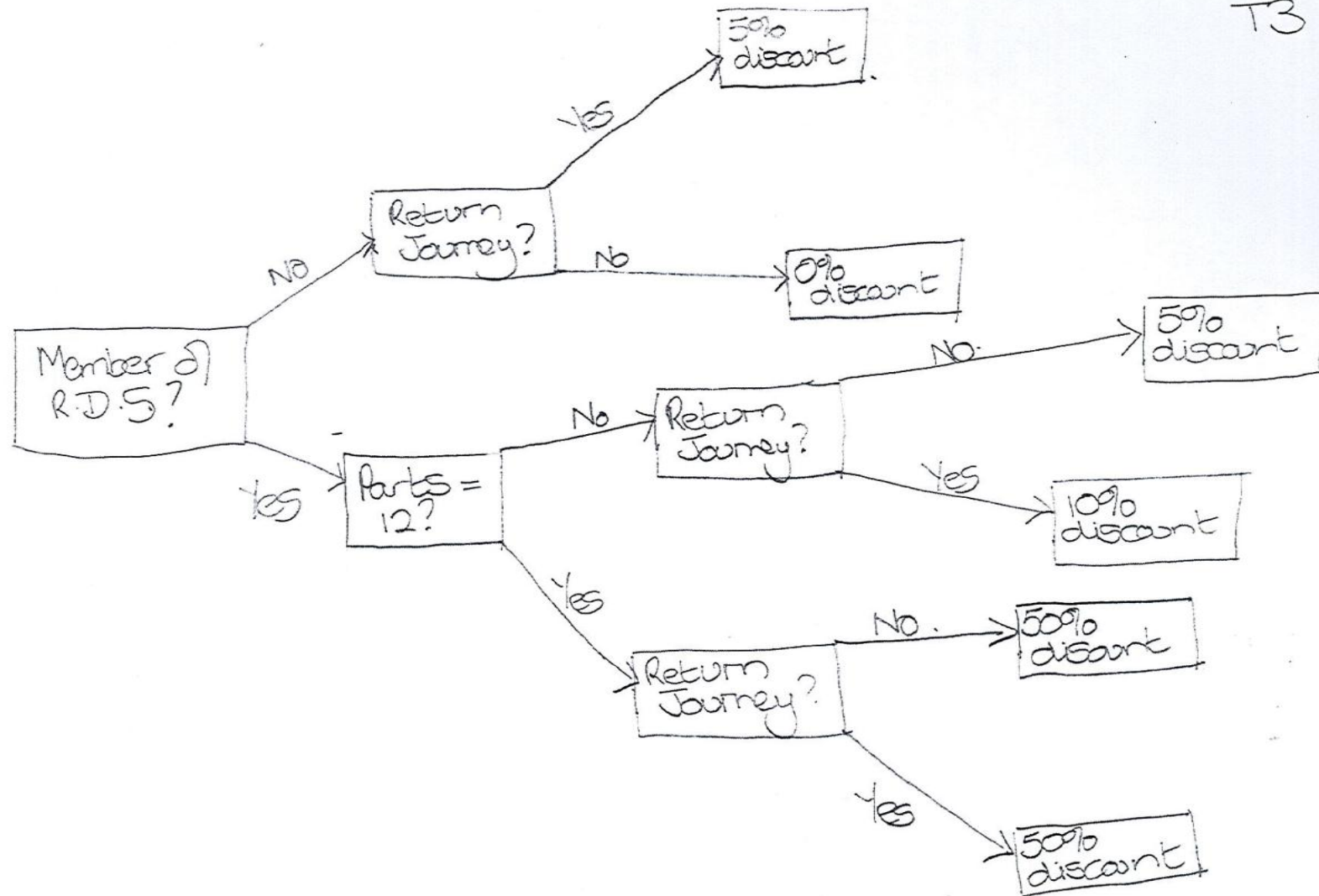
Task	Answer	Marks	Guidance								
2	<p>12 marks available for L1 DFD (see attached example)</p> <p>1 mark available for each of: Logical order of processes - L Consistency - C Passenger as External Entity identified – E</p> <p>1 mark for each correct process with associated flows/data stores - P (Max 9)</p> <table border="1"> <thead> <tr> <th>Mark</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Some comment on method(s) used to develop L0 DFD</td> </tr> <tr> <td>2</td> <td>A strength / weakness in method(s) used identified</td> </tr> <tr> <td>3</td> <td>A strength and weakness in method(s) used identified</td> </tr> </tbody> </table>	Mark		1	Some comment on method(s) used to develop L0 DFD	2	A strength / weakness in method(s) used identified	3	A strength and weakness in method(s) used identified	15	<p>Max 12 for L1 DFD</p> <p>Max 3 for evaluation (AO4)</p>
Mark											
1	Some comment on method(s) used to develop L0 DFD										
2	A strength / weakness in method(s) used identified										
3	A strength and weakness in method(s) used identified										



G054 2016
T2 MS
V2.

Task		Answer	Marks	Guidance
3		<p>Correct condition/outcome (Max 5)</p> <p>plus1 mark for: to max 10</p> <p>Consistency / structure</p> <p>All flows correctly labelled</p> <p>Correct initial condition</p> <p>All decisions shown</p> <p>Each decision box having 2 exit flows</p>	10	See attached example

G054/01
2016
T3 MS V1



Task	Answer	Marks	Guidance
4	<p>1 mark available for each of:</p> <ul style="list-style-type: none"> • Passenger details / Loyalty Scheme membership number • Journey(s) required • Cost + Discounts to be applied +Final cost • Booking reference number <p>+ 1 from:</p> <ul style="list-style-type: none"> • Use of colour/font/white space • Logical order of information • Identification of R&S • All data/information shown is appropriate with no omissions/extra data required 	5	<p>1 mark available for each – Max 5</p> <p>Do not accept pre-populated/examples of completed booking form</p>

SECTION A

NOTE R&S = Ride and Sail

Question		Answer	Marks	Guidance	
1		To produce reports for the owner (1) example of report (1) To upgrade applications software (1 st) using the same vendors (1)	4	2 from list given Max 2 per description	
2	a	Input the membership number (1) with details automatically populating booking form (1) An alert/ on-screen alert (1) when trains / boat is full (1)	4		
	b	All software to be standardised (1st) vendor to be same as Haverthwaite (1)	2		
3	a	Constraints defined by the client (1) considered by the analyst (1) Example (max 3) £15,000 (1) To cover: 2 from: Hardware Software Development Installation / purchasing of standardised software Staff training	5		
	b	i	Time	1	Correct answer only
		ii	Implemented on a Monday & Tuesday (1 st) During Winter months (1) Enable staff to be trained before weekend opening (1)	3	To be awarded marks for this part of the question b(i) must be correct
4		Journeys not linked to membership number (1) so members details not being updated (1) which means members not receiving correct discount when booking journeys (1) Members not accessing discounts as they have lost / misplaced their membership number (1)	4		

Question	Answer	Marks	Levels of Response															
5	<p>Answers may include:</p> <p>Advantages Cheaper than a bespoke system Can be based on vendor software the staff are already familiar with Can be tailored to meet specific requirements of R&S The user interface can be tailored to fully meet the requirements of R&S</p> <p>Disadvantages May not fully meet the requirements of R&S Can have a large memory footprint May include built-in functions which cannot be removed / are of little use to R&S</p> <p>Examples eg Booking screens can contain specific input error messages / help facilities Can be linked with loyalty scheme to provide automatic calculation of discounts available / to be applied Reports required by the owner can be hard coded</p>	12	<table border="1"> <thead> <tr> <th>Band</th> <th>Mark Range</th> <th></th> </tr> </thead> <tbody> <tr> <td>H</td> <td>9-12</td> <td>Candidates will show a clear understanding of the question and include a detailed evaluation, including the advantages and disadvantages of using COTS to create the new system Examples will relate to R&S The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation. Technical terms will be used appropriately and correctly.</td> </tr> <tr> <td>M</td> <td>5-8</td> <td>Candidates will show an understanding of the question. An evaluation including the advantage(s) and disadvantage(s) of using COTS to create the new system will be given. Evaluation may be one sided. Some examples given relate to R&S The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation. Technical terms will be mainly correct.</td> </tr> <tr> <td>L</td> <td>1-4</td> <td>Candidates will demonstrate a limited understanding of the question. Information may be a list of points, with little or no explanations. Examples, if given, may not relate to R&S Information will be poorly expressed and there will be a limited, if any, use of technical terms. Errors of grammar, punctuation and spelling may be intrusive.</td> </tr> <tr> <td></td> <td>0</td> <td>Answer not worthy of credit</td> </tr> </tbody> </table>	Band	Mark Range		H	9-12	Candidates will show a clear understanding of the question and include a detailed evaluation, including the advantages and disadvantages of using COTS to create the new system Examples will relate to R&S The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation. Technical terms will be used appropriately and correctly.	M	5-8	Candidates will show an understanding of the question. An evaluation including the advantage(s) and disadvantage(s) of using COTS to create the new system will be given. Evaluation may be one sided. Some examples given relate to R&S The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation. Technical terms will be mainly correct.	L	1-4	Candidates will demonstrate a limited understanding of the question. Information may be a list of points, with little or no explanations. Examples, if given, may not relate to R&S Information will be poorly expressed and there will be a limited, if any, use of technical terms. Errors of grammar, punctuation and spelling may be intrusive.		0	Answer not worthy of credit
Band	Mark Range																	
H	9-12	Candidates will show a clear understanding of the question and include a detailed evaluation, including the advantages and disadvantages of using COTS to create the new system Examples will relate to R&S The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation. Technical terms will be used appropriately and correctly.																
M	5-8	Candidates will show an understanding of the question. An evaluation including the advantage(s) and disadvantage(s) of using COTS to create the new system will be given. Evaluation may be one sided. Some examples given relate to R&S The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation. Technical terms will be mainly correct.																
L	1-4	Candidates will demonstrate a limited understanding of the question. Information may be a list of points, with little or no explanations. Examples, if given, may not relate to R&S Information will be poorly expressed and there will be a limited, if any, use of technical terms. Errors of grammar, punctuation and spelling may be intrusive.																
	0	Answer not worthy of credit																

Question		Answer	Marks	Guidance
6	a	Used to determine access rights (1) different groups of staff/end users within R&S (1) would have access to data (1) dependant on the job role they do (1) e.g. staff at Haverthwaite need access to records of loyalty discount scheme (1) a. Can be used to show audit trails (1) who has accessed i.e. data/websites (1) reduces risk of unauthorised access to system (1) b. must be changed regularly (1) not a recognised/memorable word/made up of letters and numbers (1)	6	For maximum marks the answer must be applied to R&S
	b	e.g. Locks on doors (1 st) so only people with key / code can enter (1) limiting access to computers/data/information (1) CCTV / monitoring system (1 st) to record who accesses Head Office (1) can be used to identify unauthorised access (1)	3	One from list Allow other sensible responses but must be appropriate to R&S e.g. the use of security guards would not be appropriate
7	a	Database (1 st) Allows global updates to be completed (1) Enforces referential integrity (1) Searches can be completed on partial information (1)	3	Accept examples relating to trains and boats.
	b	Memory Stick / Portable hard drive (1 st) 2 from: e.g. Can hold large amounts of information / (1) Portable / Can be moved from computer to computer / as no network installed at R&S (1) Data can be over written to ensure most up to date version is saved (1) Can be password protected (1)	3	For maximum marks the answer must be applied to R&S

Section B

Question		Answer				Marks	Guidance	
8	a	Data Flow links	Data Store	External Entity	Process	3	1 mark for each correct column	
		Data Store	N	N	Y			
		External Entity	N	N	Y			
		Process	Y	Y	Y			
8	b	<p>A file containing descriptions (and other information)(1st) about data (1)</p> <p>A record of data (1st) about data (1)</p>				2		
9	a	<p>Selected tasks (1st)</p> <p>are completed using the new system (1) all other tasks are completed using the old system (1) when confidence is high (1) another task is completed using the new system (1)</p>				4		
	b	i	<p>Occurs when it is advantageous to make changes to enhance a system (1)</p> <p>Turns a good system into a better one (1)</p> <p>Undertaken at the request of the end users (1)</p>				3	
		ii	<p>e.g.</p> <p>addition of shortcut keys (1) to help end-users carry out processes (1)</p> <p>Improved screen design (1) example provided e.g. to enhance colours / layout (1)</p> <p>Increased online help (1) to assist end users to complete tasks (1)</p>				2	

Question	Answer	Marks	Levels of Response															
10	<p>Answers may include:</p> <p>An Act passed to ensure that people who create an image/music/text can be paid if it is used.</p> <p>To provide protection to the creators of work if it is stolen or used without their permission</p> <p>Gives the creator of an image the right to prosecute people who use their works without permission</p> <p>The creator of an image can charge for their image to be used</p> <p>Allows the creator of an image to control the rights to use the image</p> <p>To enable the creator of an image to give permission to use it</p> <p>The Act enables the ownership of a work to be established.</p> <p>The Act does not stop the image from being used / taken.</p>	8	<table border="1"> <thead> <tr> <th>Band</th> <th>Mark Range</th> <th></th> </tr> </thead> <tbody> <tr> <td>H</td> <td>5-6</td> <td> <p>Candidates will show a clear understanding of the question and include a detailed discussion, including the use of appropriate examples, of how the CDPA can be used.</p> <p>The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation.</p> <p>Technical terms will be used appropriately and correctly.</p> </td> </tr> <tr> <td>M</td> <td>3-4</td> <td> <p>Candidates will show an understanding of the question and include a discussion, including examples, which may not be fully appropriate, of how the CDPA can be used.</p> <p>Discussion may be limited or one-sided.</p> <p>The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation.</p> <p>Technical terms will be mainly correct.</p> </td> </tr> <tr> <td>L</td> <td>1-2</td> <td> <p>Candidates will demonstrate a limited understanding of the question. Information may be a list of point with little discussion. Examples used may not be appropriate.</p> <p>Information will be poorly expressed and there will be a limited, if any, use of technical terms.</p> <p>Errors of grammar, punctuation and spelling may be intrusive.</p> </td> </tr> <tr> <td></td> <td>0</td> <td>Answer not worthy of credit</td> </tr> </tbody> </table>	Band	Mark Range		H	5-6	<p>Candidates will show a clear understanding of the question and include a detailed discussion, including the use of appropriate examples, of how the CDPA can be used.</p> <p>The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation.</p> <p>Technical terms will be used appropriately and correctly.</p>	M	3-4	<p>Candidates will show an understanding of the question and include a discussion, including examples, which may not be fully appropriate, of how the CDPA can be used.</p> <p>Discussion may be limited or one-sided.</p> <p>The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation.</p> <p>Technical terms will be mainly correct.</p>	L	1-2	<p>Candidates will demonstrate a limited understanding of the question. Information may be a list of point with little discussion. Examples used may not be appropriate.</p> <p>Information will be poorly expressed and there will be a limited, if any, use of technical terms.</p> <p>Errors of grammar, punctuation and spelling may be intrusive.</p>		0	Answer not worthy of credit
Band	Mark Range																	
H	5-6	<p>Candidates will show a clear understanding of the question and include a detailed discussion, including the use of appropriate examples, of how the CDPA can be used.</p> <p>The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation.</p> <p>Technical terms will be used appropriately and correctly.</p>																
M	3-4	<p>Candidates will show an understanding of the question and include a discussion, including examples, which may not be fully appropriate, of how the CDPA can be used.</p> <p>Discussion may be limited or one-sided.</p> <p>The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation.</p> <p>Technical terms will be mainly correct.</p>																
L	1-2	<p>Candidates will demonstrate a limited understanding of the question. Information may be a list of point with little discussion. Examples used may not be appropriate.</p> <p>Information will be poorly expressed and there will be a limited, if any, use of technical terms.</p> <p>Errors of grammar, punctuation and spelling may be intrusive.</p>																
	0	Answer not worthy of credit																

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2016

