INFORMATION TECHNOLOGY **9626/04**

Paper 4 Advanced Practical **March 2017**

MARK SCHEME

Maximum Mark: 110

Published

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Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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This document consists of **8** printed pages.

Task	Objectives		Criteria	Mark
1(a)	Normalise a database to 3NF		WoodlandsSchema file used correctly	1
		Determine Tables and fields	Borrower/Resident table Correct fields+ key field	1
			Apartment table correct fields & key field	1
			Loans table + correct key field	1
			Loans table includes borrower ID	1
			Loans table includes date borrowed	1
			Loans table includes returned field	1
			Books table INCLUDES correct fields & key field	1
			ISBN table created with correct fields & key field	1
			Publishers table created with correct fields & key field	1
		Determine Relationships	Borrowers related to Loans	1
			Borrowers related to Apartment	1
			Other relationships (Books- ISBN - Publisher)	1
				13

Task	Objectives	Criteria	Mark
1(b)	Define and use referential integrity and explain its importance	Reference to Cascading update or equivalent	1
		Example using Borrower – Loans table mentioned	1
		Example used: such as – Necessary to be able to delete a user but leave the loan record	1
		Explanation and details of example used	1
			4

Task	Objectives		Criteria	Mark
1(c)	Design, create ... an appropriate data entry form …	Form Creation	Borrower details shown (follow through from task 1a)	1
			Suitable layout used (design is fit for purpose)	1
		Use of a subform	Subform includes: Book id, + Author, Title fields as minimum	1
			Date borrowed and returned fields shown	1
			First, Last navigation buttons added	1
			Next, Previous navigation buttons added	1
	Design, create ... database reports …	Report for printing	Data shown for at least 3 borrowers, at least 1 borrower with 2 books	1
			Borrower fields include Title, Forename, Surname	1
			Book fields include: Title, Author	1
			Book fields include: Date borrowed	1
			Book fields include: Days overdue field	1
				11

Task	Objectives		Criteria	Mark
1(d)	Mail merge	Creation of a merge document	Date shown as a field	1
			All required applicant mergefields inserted	1
			Layout, spacing and punctuation fit for purpose	1
			Correct 1st Conditional field Syntax	1
			Correct 1st Conditional field Criteria	1
			Both 1st Conditional field text responses correct	1
			Correct 2nd Conditional field Syntax	1
			Correct 2nd Conditional field Criteria	1
			Both 2nd Conditional field text responses correct	1
			Valid non-manual selection of recipients (e.g. use of SkipIF)	1
		Merged letters	Merged for correct recipients only	1
			Documents proofed and fit for purpose	1
				12

Total Task 1   40

Task	Objectives		Criteria	Mark
2(a)	Create a vector image that meets the requirements of its intended application and audience	Creation of vector images	3 lobe foliage created (clearly not a single drawing)	1
			Foliage is coloured green	1
			A clear outline to foliage is shown	1
			Foliage outline is black and 1pt thick	1
			Tree trunk created and coloured brown	1
			The tree trunk is flared as shown in the question paper	1
			The tree trunk is order to appear behind the foliage	1
			Tree is duplicated to show 3 trees	1
			The order of the trees is clear and as shown in the question paper	1
			The trees are aligned as shown in the question paper	1
		Fit text to a path	The text "Woodlands" is shown	1
			The text is positioned as shown in the question paper	1
			The text (fit to) path is not shown	1
		Use of vector text	The text is coloured white	1
			The text is in a sans serif font	1
			The text has a 1pt black outline	1
			The text "Homes" is shown	1
			The text is black	1
			The text is in a sans serif font	1
			The text is the same size and in the same position as shown in the question paper	1
		Use grouping …	The images are grouped and the proportions of the complete image are as shown in the question paper	1
		… resize	The image is saved in a vector format	1
			Evidence of the size of the image (250 x 200) is shown	1
		Save an image ... different file format	The image is saved as a Bitmap	1
			The image is saved with the correct filename	1
				25

Task	Objectives		Criteria	Mark
2(b)	Describe … features of vector graphics	5 properties of a rectangle	**Size:** Length, Width, Aspect ratio	1
			Position: X co-ordinate, Y co-ordinate, Centre of rotation	1
			Outline: Line width, Line colour, Line style	1
			Fill: Colour, Gradient, Opacity/Transparency	1
			Angle: of rotation, (percentage shear)	1
				5

Total Task 2 | **30**

Task	Objectives	Criteria	Mark
3(a)	Create an animation that meets the requirements of its intended application and audience	Woodlands image is used for 1st clip	1
		The clip fades in	1
		The correct text "Woodlands" is shown	1
		The text is in the centre of the frame	1
		The text is coloured white	1
		The text is in a sans serif font	1
		The text doubles in size during the clip	1
		The Peaceful image is used for the 2nd clip (no fade)	1
		The correct text "Set in peaceful countryside" is shown	1
		The text is in the centre of the frame	1
		The text is coloured white	1
		The text is in a sans serif font	1
		The text doubles in size during the clip	1
		The Wildlife image is used for the 3rd clip (no fade in)	1
		The correct text "Lots of wildlife" is shown	1
		The text is in the centre of the frame	1
		The text is coloured white	1
		The text is in a sans serif font	1
		The text doubles in size during the clip	1
		The clip fades out	1
		The clip fades out to about 50%	1
		Each clip is 2 seconds (6 seconds overall)	1
		The animation is saved as swf or equivalent (plays in a browser)	1
		The correct filename is used	1
		The size of the animation is 500 x 300	1
			25

Task	Objectives		Criteria	Mark
3(b)	Understand the use of tweening	Nature of a shape tween	*Two from:* an animation, morph, change shape, automatic production of frames, or equivalent	1
				1
		3 variable properties of a shape tween	*Three* from: shape, size, position, colour	1
				1
				1
				5

	Total Task 3	**30**

Task	Objectives		Criteria	Mark
4	Programming for the web	Demonstrate a range of object-based programming techniques add interactivity to webpages	Woodlands image inserted in correct cell	1
			Candidate details inserted in correct cell	1
			Incorrect House entry generates an error message	1
			Incorrect House entry error message text is correct	1
			Ommission of Name field entry generates an error message	1
			Ommission of Number field entry generates an error message	1
			Ommission of Session field entry generates an error message	1
			Ommission error message text is correct	1
			Final alert text is generated and is fit for purpose	1
			Final alert person/people match is correct	1

	Total Task 4	**10**

	Total Marks for paper	**110**