

Mark Scheme (Results) January 2008

GCE

GCE Applied Information & Communication Technology (6953/01)

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Applied GCE ICT Unit 3 – Mark Scheme – Jan 2008

Activity	ANSWER	POSS. MARK	MAX
Activity 1	Understanding the problem		
	Any 7 of		
A1	Designing a <u>Roller Coaster (switchback)</u>	1	
A2	For a theme park (can accept name of theme park)	1	
A3	Number of different features	1	
A4	Gravity Driven	1	
A5	10 feature types	1	
A6	10 Features in roller coaster	1	
A7	Must start with a powered climb	1	
A8	Max height 50 metres	1	
A9	Max cost £130000	1	
A10	Features have fastest/slowest point	1	
A11	Cannot go below ground	1	
			7
B1	Which features to include (Layout not enough)	1	
B2	Order of features	1	
B3	Bonus for mentioning highest thrill factor for money	1	
	<i>Configuration is enough for B1 & B2</i>		3
	<i>Any 3 of:</i>		
C1	All features available/No other features available	1	
C2	Prices do not increase	1	
C3	No limit on area available	1	
C4	No time restrictions on length of ride	1	
C5	Ride must be safe	1	
C6	Ground is flat	1	
C7	Any other valid point	1	
			3
	Total Marks for Activity 1		13
Activity 2	Sources of Information		
A1	Manufacturer Safety Inspector (Not colleague)	1,1	
A2	Manufacturer may exaggerate to get sale	1	
A3	Manufacturers are either faster (acc) or slower (dec).	1	
A4	Rides unknown (safety)	1	
A5	Parks unknown (Greater altitude)	1	
A6	Inspector real life readings	1	
A7	Inspector independent	1	

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Activity	ANSWER	POSS. MARK	MAX
			8
B1	Choice Stated	1	
B2	Bonus for justification (safety important)	1	
			2
	Any 5 of:		
C1	Sample is people likely to use rides	1	
C2	Small sample	1	
C3	How long after they used the ride were they asked	1	
C4	Is it the same people each time	1	
C5	How long were each feature / all same length	1	
C6	Definitions such as “extremely exciting” are subjective	1	
			5
	Total Marks for Activity 2		15

Activity 3		Computer Modelling		
		Importing Data		
	A1	New worksheet created	1	
	A2	Data imported correctly (4,6,6,6 – 4,5,6,6 Powered climb all zero)	1	
	A3	Gridlines/Row Column Headings/1 Sheet A4	1	
				3
		Thrill Factor		
	B1	Data in worksheet correct (If A2 awarded & formula correct)	1	
	B2	Data imported using formula	1	
	B3	Gridlines/Row & Column headings/ 1 sheet A4	1	
	B4	Columns A to D only	1	
				4
		Attributes		
	C1	Correct Acceleration Data to slow/fast point (-1.76, 0,7.43)(-1.67,0,7.48)	1	
	C2	Correct Recovery Acceleration (-1.67,0,7.48)(8.14,0,0)	1	
	C3	Formula correct in G3 (=Thrill Factor!V3)	1	
	C4	Formula Replicated	1	
	C5	Gridlines / Row and Column Headers/1 Sheet A4	1	
	C6	Columns A-H printed	1	
				6
		Results (Formulae)		
	D1	Correct Formula in F13 (=Max(F3:F12))	1	
	D2	Correct Formula in I13 (=Sum(I3:I12))	1	
	D3	Sum function used	1	
	D4	Sum function not used inappropriately (eg other formulae) =Round(Sum(J3:J12)+(F13-20)*10,0)	1	
	D5	Formula in I14 adds up individual thrill factors (Sum(J3:J12))	1	
	D6	Formula in I14 uses sum function to add	1	
	D7	Formula in I14 selects F13 to calculate top speed	1	
	D8	Formula in I14 takes 20 away from value	1	
	D9	Formula in I14 multiplies this value by 10	1	
	D10	Formula in I14 Uses correct brackets (if some of the formula is correct)	1	
	D11	Formula in I14 Rounds the value to whole number	2	
		Or		
	D12	Formula in I14 takes the integer value	1	
	D13	Gridlines and row and column headers printed/ 1 sheet of A4	1	
	D14	Only columns E to I printed	1	
	D15	Only rows 13 and 14 printed	1	
				15
		Results (Data)		
	E1	Solution given (At least 4 items)	1	

	E2	Solution has 10 lines	1	
	E3	Solution costs less than £130000 (must have 10 items)	1	
	E4	Only Drop and Climb repeated (must have 10 items)	1	
		Either:		
	E5	Thrill Factor > 300 survey data must be correct	1	
	E6	Thrill Factor > 350 survey data must be correct	2	
	E7	Thrill Factor > 400 survey data must be correct	3	
				7
		Total Marks for Activity 3		35
Activity 4		Recommendations		
	A1	Chosen Lengths Stated	1	
	A2	Chosen Rides Stated	1	
	A3	Order of Rides Stated	1	
	A4	Cost of project stated	1	
				4
		Other Factors		
		Any 5 of		
	B1	Excitement spread out	1	
	B2	Variety of Features	1	
	B3	How close are other theme parks	1	
	B4	Scenery	1	
	B5	Safety	1	
	B6	Weather (High Winds)	1	
	B7	Maintenance	1	
	B8	Costs of other Items		
	B9	Any other relevant factor	1	
				5
		Graphical Representation of Data		
	C1	Graph included	1	
	C2	Graph fit for purpose	1	
	C3	Graph show information relevant to report	1	
	C4	Either Accompanying text partially explains Graph	1	
		Or Accompanying text fully explains graph	2	
				5
		Suitability for Audience		
	D1	Spelling & Grammar Correct + suitable for audience	1	
	D2	Headings consistent (includes title) (3 headings)	1	
	D3	Choice of font suitable + suitable heading	1	
	D4	Concluding Statement	1	
				4
		Total Marks for Activity 4		18

Activity		Evaluation		
5				
	A1	Comment on ease of use	1	
	A2	Statement to the effect that a solution has been provided	1	
	A3	Comment on accuracy of any data	1	
				3
		Max 4 marks		
	B1	Recommendations for improvement	1	
	B2	Recommendations for improvement with method	2	
	B4	Recommendations for improvement with method and with data and source	4	
				4
		Total Marks for Activity 5		7
SWW				
	S1	Authenticating Work (All WP pages have task number, Name, centre number).	1	
	S2	Appropriate Structure (Pages in correct order & Folder assembled correctly)	1	
		Total for SWW		2
		Total for Paper		90