



**General Certificate of Education**

**Computing 6510**

**CPT3      Practical Systems Development**

**Mark Scheme**

*2007 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

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**Instructions to examiners**

The following forms of notation should be used on candidates' scripts:

- Ticks - to indicate what is accepted as correct or creditworthy, placed in the body of the answer, and on diagrams.
- Underscoring - To identify errors/irrelevance in written answers.
- Crosses - to indicate a wrong answer.
- Very brief comments - placed in at suitable points in the body of the text to amplify the marking.
- BOD - means benefit of the doubt and is used where the candidate's answer has been given a mark on the balance of probabilities that the candidate's answer has met the requirements of the mark scheme even though it could be interpreted differently.
- NE - means not enough and is applied to an answer that falls short of what is required; NB if NE is given for evidence then the dependent marks can be awarded.
- O/S - means outside the mark scheme. The candidate's answer is creditworthy but the answer does not match any of the answers on the mark scheme for the particular question. Nevertheless a mark is awarded.
- C/F - means carried forward. This arises when a candidate offers an answer, which is not creditworthy in one question but is creditworthy in a later question. The mark is carried forward to the question, which is creditworthy.
- C/B - means carried back. This is similar to a carry forward but the mark is carried back to an earlier question.
- T/O - means talked out. The candidate's answer is contradictory.
- F/T - means followed through. If the candidate made a mistake in the earlier part of an answer, mark the answer using the correct method on their answer from the earlier part.
- P1 – penalise once.

The following notation is used in the mark scheme

- ; - means a single mark;
- // - means alternative response;
- / - means an alternative word or sub-phrase;
- A - means acceptable creditworthy answer;
- R - means reject answer as not creditworthy;
- I - means ignore;
- \* - means the marks are dependent upon the reference to evidence.

**Scanned evidence of hard copy is acceptable but screenshots are not.**

1	(a)	(i)	Page reference of examiner details;	1	
		(ii)	Page reference of centre's exam entry details;	1	
	(b)	(i)	(6 digits and unique)length/type/format/ presence/uniqueness check or description; applied to scenario;	2	
		(ii)	length/type/format/presence or description; applied to scenario;	2	
		(iii)	(10000 to 79999 and unique) length/type/format/range/presence/uniqueness or description; applied to scenario; <b>NB Checks must be <u>different</u></b> <b>Examiner number could be between 100000 and 999999</b>	2	
	(c)	(i)	Data type: text/string/alpha/char; <b>A</b> - Integer if explanation supports it Why: fixed number of digits/leading zeros/ no calcs required;	2	
		(ii)	Data type: boolean/char/integer; Why: flag//only two possible values to be stored // yes/no;	2	
		(iii)	Data type: real/fixed point/float/floating point/single/ decimal//currency; <b>A</b> integer if stored in pence Why: need decimal part/has fractional part/ not a whole number // that it is a payment/money amount;	2	
		(iv)	Data type: integer; Why: whole number/calculations required; <b>Why must match data type</b>	2	<b>16</b>
2	(a)	(i)	Page reference for coding/SQL/QBE/;	1	
		(ii)	fixed payment and number of scripts and script fee (must have two); correct calculation = fixed payment + number of scripts * script fee; check if tax is to be deducted; tax calculation = 78% of total or deduct 22% (allow tax rate); no tax calculation gross pay = net pay;	max 4*	
	(b)	(i)	Page reference for hard copy of examiner list for each subject; (Allow continuous list)	1	

	(ii)	Use of query/report/ loop to produce; Group/order/select by subject reference code; idea of sorting/ordering by centre; and by examiner; Outer loop examiner; Inner loop centre;	3* max	
	(c) (i)	Page reference for coding/SQL/QBE for total payments;	1	
	(ii)	for each examiner//for each subject; fee per script/candidate; multiplied by number of scripts/candidates; addition of preparation fee//addition of preparation fee for each examiner; total for each subject [ <i>only if selected by examiner</i> ]; final total for all subjects;	3* max	
	(d) (i)	Page reference for hard copy of an examiner's list of centres with number of scripts;	1	
	(ii)	Identification of/grouping by examiner; used to look up centres; and identify number of candidates; use report/printout etc; page break after each examiner;	3* max	<b>17</b>
3	(a) (i)	Use of validation rule/range check; with boundaries of <u>10000</u> and <u>79999</u> ; production of error message;	max 2	
	(ii)	Page reference for test or test plan for acceptance or rejection;	1	
	(b) (i)	page reference for normal data;	1	
	(ii)	typical/valid data; which is acceptable (by the system);	2*	
	(iii)	page reference for erroneous data;	1	
	(iv)	data that will be rejected; by the validation rules/invalid;	2*	
	(v)	page reference for extreme/boundary data;	1	
	(vi)	use of data that is just inside/on; and just outside a boundary; in order to establish that the boundary validation has been set correctly;	max 2*	<b>12</b>

4	(a)	(i)	Page reference for payslip with tax deducted;	1	
		(ii)	Page reference for payslip with no tax deducted;	1	
	(b)	(i)	Criterion 1 for good design;	1	
			Method of achieving this;	1	
			Criterion 2 for good design;	1	
			Method of achieving this;	1	
			<i>e.g. spacing of information;</i>		
			<i>clear font/appropriate font size;</i>		
			<i>clear layout;</i>		
			<i>specific contents as specified in brief;</i>		
			<i>other if appropriate;</i>		
		(ii)	Page reference design criterion 1;	1*	
			Page reference design criterion 2;	1*	
					<b>8</b>
5			Data Protection Act;	1	
			privacy and protection of data of living people//		
			personal data is being stored;	1	
					<b>2</b>
6			Any two printers from, dot matrix, inkjet/bubblejet,		
			monochrome laser, colour laser, thermal;	2	
			dot matrix/laser;	1	
			(dot matrix) use of carbonised paper// (laser) speed		
			of printing large volumes/cheaper consumables for		
			large volumes;	1	
					<b>4</b>
7	(a)		Changing flag to allow for 3 cases/extra field;		
			selecting appropriate tax rate;		
			3 different calculations;	3	
			setting variable to be used in tax calculation;	max	
	(b)		Listings/SQL Statements etc;		
			Structure Chart;		
			pseudocode / algorithm design;		
			Entity descriptions;		
			lists of variables;		
			User Guide;		
			test plan;		
			Systems maintenance;	3	
			Data dictionary;	max	
					<b>6</b>