



## General Certificate of Education

# Computing 5511/6511

### *CPT3 Practical Systems Development*

## Mark Scheme

### *2006 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.

## 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 – means penalise once, if the candidate makes the same mistake more than once, only one mark may be taken off in certain questions.

The following notation is used in the mark scheme

- ; - means a single mark;
- // - means alternative response;
- / - means alternative word or 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.

<b>1</b>	(a) (i) Page reference for any mention of booking slot;	<b>1</b>
	(ii) Date/week number day; Session; A unique identifier / autonumber 1 mark only	<b>max 2*</b>
	(b) Page reference of individual bookings; Field names and types or sizes, coding declarations OK	<b>1</b>
	(c) (i) text/string/char/VarChar; A Alpha 10 – 60;	<b>1</b> <b>1</b>
	(ii) currency/real/single/fixed point/float/floating point; A integer/boolean N/A or blank must have data type / 3 - 8 <u>bytes</u> ; A 1 if Boolean A 1 or 2 bytes if Integer	<b>1</b> <b>1</b>
	(iii) text/string/char; 11-20;	<b>1</b> <b>1</b>
	(d) (i) Alphanumeric/ words /description used;	<b>1</b>
	(ii) Need to perform calculations / shown as £; A paid or not paid / 2 outcomes if Boolean	<b>1</b>
	(iii) leading zeros/ other characters used / no calcs required;	<b>1</b>
	<b>Total</b>	<b>13</b>
<b>2</b>	(a) (i) Page reference for coding/SQL/QBE/table/form/report;	<b>1</b>
	(ii) Use of paid field/variable/check box; Use of query/IF statement/box checked;	<b>2*</b>
	(b) (i) Page reference for hard copy weekly booking list; Must include day/date and session and event/name and at least one regular booking for only	<b>1</b>
	(ii) Use of query / loop /procedure to; identify week required; identify slots booked; produce hard copy of list/report containing; Date/Day; session and event; sorted/ordered by day/date;	<b>max 3*</b>

	(c) (i)	Page reference for coding/SQL/QBE for total; hard copy showing total NE	<b>1</b>
	(ii)	Identification of sessions booked; excluding regular bookings; identification of cost; add to a running total; over month/4 weeks	<b>max 4*</b>
	(d) (i)	Page reference for coding/SQL/QBE to calculate %; hard copy showing percentages NE	<b>1</b>
	(ii)	identification of number of hired slots per time slot; identification of total number of slots per time slot; explain calculation of %;	<b>max 3*</b>
		<b>Total</b>	<b>16</b>
<b>3</b>	(a) (i)	how slot marked as booked/ created when booked; how solution tests this; then prevents double booking; e.g. use of composite key for date of booking and session (1) will automatically reject the entry of duplicate values (1)	<b>max 2</b>
	(ii)	page reference for test plan; test NE	<b>1</b>
	(b) (i)	other method of calculation; comparison with system calculation;	<b>1</b> <b>1</b>
	(ii)	page reference for test need expected and actual values; A test plan if expected and actual values present	<b>1</b> <b>1</b>
	(c) (i)	Page reference for test; test plan NE	<b>1</b>
	(ii)	comparison; of booking date with today's date identification of booking window; rejecting/preventing booking date too far in advance; A production of error message;	<b>Max 3*</b>
		<b>Total</b>	<b>10</b>

<b>4</b>	(a) (i) Page reference for hard copy with extension;	<b>1</b>
	(ii) Page reference for hard copy (penalise once) without extension; (NB can credit (iii) if either (i) or (ii) OK or NE)	<b>1</b>
	(iii) check day (Friday ; or Saturday); check time (Evening only); set flag;	<b>Max 3*</b>
	(b) (i) Page reference for hard copy with reduced payment;	<b>1</b>
	(ii) Identification of slot Friday or Saturday Evening; Identification of villager party e.g. flag; Inclusion of reduced charge; Printing out bill; Production of 2 copies;	<b>max 3*</b>
<b>5</b>	(a) observation/interview/ document search/ survey or questionnaire only if customers mentioned; explanation of why this method was chosen;	<b>2</b>
	(b) collection of e-mail address; extra field to store e-mail address; setting up of address book; obtain email software; writing code to link to email software; method of selecting bills to send via email e.g. smart tag; any other reasonable suggestion;	<b>max 3*</b>
	<b>Total</b>	<b>5</b>
<b>6</b>	(a) description or example of validation/verification;	<b>1</b>
	(b) Description of security process 1; Description of security process 2; e.g. password protection, firewall, encryption A reasonable physical security	<b>1</b> <b>1</b>
	(c) Taking <u>regular</u> backups; And testing that the backups work; Keep backups in a safe place; Keep more than one backup; UPS/ surge protector;	<b>max 2</b>
	<b>Total</b>	<b>5</b>

- 7 (a) addition of £2.00 per bill/change set prices;  
clear identification of £2.00 surcharge on bill;  
use of temporary routine / query;  
which can be removed when no longer required;  
total up extra revenue;  
to identify when repair paid for;  
stop charging when costs covered; **max 4**
- (b) (Self documenting) Listings/SQL Statements etc;  
Data flow diagram;  
E-R Model;  
Structure Chart / pseudocode / algorithm design;  
Test plan;  
User Guide;  
File Structures;  
Data dictionary/ Procedure and variable lists;  
Documents used in administration of system  
e.g examples of invoices; **max 3**
- Total 7**