Final Mark Scheme
November 2007

IGCSE ICT (4385)

A PEARSON COMPANY

Edexcel is one of the leading examining and awarding bodies in the UK and throughout the world. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers.

Through a network of UK and overseas offices, Edexcel's centres receive the support they need to help them deliver their education and training programmes to learners.

For further information please call our Customer Services on + 44 1204 770 696, or visit our website at www.edexcel-international.org.

Contents

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.

Paper 1F

1. (a) **A** monitor
   B keyboard
   C printer
   D mouse   4

   (b) **B OR** Keyboard
   D OR Mouse   2

                                          Total 6 marks

2.   E
      A
      D
      B   4

                                          Total 4 marks

3. (a) *(i)*   each item of information   1

       (ii)   all the information relating to one entity   1

       (iii) a collection of records related to topic   1

   (b)   1
       to identify a record uniquely

   (c) many acceptable answers related to:
       speed of access to information
       ease of sorting
       reports easily generated   max
       records easily amended, inserted or deleted   3
       NO UNQUALIFIED cheaper / faster / better

                                          Total 7 marks

4. (a) 20 **ALLOW** number   1

   (b) C
       OR F2 – D2   1

   (c) C
       OR G2 + G3 + G4 + G5 + G6 + G7   1

   (d) D4 **OR** G4 /total cost or profit   1

   (e) Forecasting / modelling
       predictions of results etc
       OR any valid example from the table   2

                                          Total 6 marks

5. (a) proof reading
        double entry   2

    (b) answers may include:
        length checks
        range checks
        character check
        type check
        check digit   max
        presence check   2

                                                    Total 4 marks

6. (a) cost of item
        description of item
        supplier
        number in stock / stock code number   max
        number sold   3

    (b) answers may include:
        prices change frequently
        easier to alter computer record
        more accurate stock taking   max
        quicker to serve customers   2

                                                    Total 5 marks

7. (a) *(i)*   Computer needs digital input   1

        (ii) ADC unit needed   1

    (b) answers may include:
        24/7 monitoring
        accuracy of results
        directly loaded to computer
        easier to analyse   max
        accept easier, faster, cheaper if explained   3

                                                    Total 5 marks

8. (a) file server correctly identified (1)
        cables correct (1)   2

    (b) file server correctly identified (1)
         cables correct (1)   2

    (c) security of data
         passwords used to identify users or restrict access to parts of data
         easier for user to access their data
         can log in from any machine on the network
         data is backed up on a regular basis   max
         prevents loss and corruption of data   4

    (d) LAN is over a limited area (1)
         and has lower capacity / slower speed (1)
         OR
         WAN uses telecom links (1)
         faster speed (1)   2

                                                            Total 10 marks

9. A
    B
    E   3

                                                             Total 3 marks

10. (a) floppy disk (1)
         small storage capacity (1)
         easily portable around machines(1)

         ACCEPT any valid medium if the reason justifies it (1)   3

    (b) CD-ROM (1)
         stores images and text (1)
         cost is negligible (1)

         ACCEPT any valid medium if the reason justifies it   3

    (c) portable hard drive (1)
         very large capacity (1)
         can be stored off site / moved easily (1)

         ACCEPT any valid medium if the reason justifies it   3

                                                             Total 9 marks

11. (a) use anti glare screens/take regular breaks away from the screen(1)
       this will protect eyesight/stop headaches (1)

       use a wrist support/ergonomic keyboard (1)
       to prevent RSI (1)

       use a fully adjustable chair/foot rest/desk at the right height (1)
       this will help to prevent posture problems (1)   **6**

    (b) any two from:
        lock keyboards when not in use to prevent unauthorised
        access (1)

        don't leave workstations logged on when unattended (1)
        to allow access to data (1)

        don't disclose passwords (1)
        to allow unauthorised access (1)

        install firewalls (1) to prevent access over the internet (1)

                                                                    max
                                                                     4

                                                        Total 10 marks

12. (a) (i)   files holding temporary data (1)
               used to update the master file (1)   **2**

        (ii)   principle source of data for an application (1)
               it is the most complete and up-to-date version of a file (1) **2**

    (b) (i)   stock file   **1**

        (ii)   updated stock file   **1**

        (iii) the oldest master file called the Grandfather run with the
               transaction file to produce the father file (1)

                                                                              2

    (c) checkout sales are recorded in the daily sales file
        daily sales file is compared with the stock file
        stock adjustments are made and the updated stock file produced
        some mention of a calculation to produce the stock report   **3**

                                                        Total 11 marks

13. (a) switch on heaters (1)
        switch off cooling fans (1)   2

    (b) 0
        1   each point must be correct for 1 mark
        0
        1   2

    (c) the system has failed   (1)
        e.g. complimentary equipment on at same time (1)   2

    (d) answers may include:
        a (digital) thermometer measures the temperature
        ADC is used to convert the analogue signal to digital
        the measured temperature is compared with the set level
        an error signal is produced
        the error signal is used to control the devices e.g.
        fans/heaters/ventilators/misters
        this continues until the set temperature is reached

                                                                            5

                                                          Total 11 marks
14. (a) Investigate old system/problems in old system
        produce detailed objectives of the proposed system
        details of parts of old system to be replaced by new system
        constraints on the system   max
        update of costs involved based on new information   3
        update of plan for further development

    (b) outputs required (documents, forms, screens etc)
        inputs required (data sources, data types, how much data etc)
        data preparation (verification and validation checks, code design)
        file design (how many, structure etc)
        hardware configuration (how many computers, type of computer,

           peripherals etc)   max
                                                                      3
        software used (specially written, off the shelf, operating system)

    (c) purchase hardware/install hardware/software
        oversee hardware software purchase
        implement changeover strategy
        fault find/monitor system running /testing new system   max
        manage training/produced manually/documentation   3

                                                          Total 9 marks

                                                    TOTAL 100 MARKS

Paper 2H

Question Number	Answer	Mark
1(a)	floppy disk (1)	
	small storage capacity (1)	
	easily portable around machines (1)	
	ACCEPT any valid medium if the reason justifies it	(3)

Question Number	Answer	Mark
1(b)	CD-ROM (1)	
	stores images and text (1)	
	cost is negligible (1)	
	ACCEPT any valid medium if the reason justifies it	(3)

Question Number	Answer	Mark
1(c)	portable hard drive (1)	
	very large capacity (1)	
	can be stored off site/moved easily (1)	
	ACCEPT any valid medium if the reason justifies it	(3)

Question Number	Answer	Mark
2 (a)	Use anti glare screens/take regular breaks away from the screen (1) this will protect eyesight/stop headaches (1) Use a wrists support/ergonomic keyboard (1) to prevent RSI (1) Use a fully adjustable chair/foot rest/desk at the right height (1) this will help to prevent posture problems (1)	(6)

Question Number	Answer	Mark
2 (b)	any two from: lock keyboards when not in use to prevent unauthorised access (1) don't leave workstations logged on when unattended (1) to allow access to data (1) don't disclose passwords (1) to allow unauthorised access (1) install firewalls (1) to prevent access over the internet (1)	(4)

Question Number	Answer	Mark

3 (a)	(i) Files holding temporary data (1)
	
	    used to update the master file (1)
	
	    principle source of data for an application (1)
	
	(ii) it is the most complete and up-to-date version of a file (1)
		(2)

Question Number	Answer	Mark
3(b)	(i) Stock file (1) (ii) updated stock file (1) (iii) the oldest master file called the Grandfather (1) run with the previous transaction file to produce the father file(1)	(2)

Question Number	Answer	Mark
3(c)	Checkout sales are recorded in the daily sales file daily sales file is compared with the stock file stock adjustments are made and the updated stock file produced some mention of a calculation to produce the stock report	(3)

Question Number	Answer	Mark
4(a)	switch on heaters (1) switch off cooling fans (1)	(2)

Question Number	Answer	Mark
4(b)	0 1 each point must be correct for 1 mark 0 1	(2)

Question Number	Answer	Mark
4(c)	the system has failed (1) e.g. complimentary equipment on at the same time(1)	(2)

Question Number	Answer	Mark
4(d)	answers may include: a (digital) thermometer measures the temperature ADC is used to convert the analogue signal to digital the measured temperature is compared with the set level an error signal is produced the error signal is used to control the devices e.g. fans/heaters/ventilators/misters this continues until the set temperature is reached	(5)

Question Number	Answer	Mark
5(a)	Answers may include: Produce detailed objectives of the proposed system Details of the parts of the old system to be replaced by new system Constraints on the system Update of costs involved based on new information Update of plan for further development	(3)

Question Number	Answer	Mark
5(b)	Answers may include: Outputs required (documents, forms, screens etc) Inputs required (data sources, data types, how much data etc) Data preparation (verification and validation checks, Code design File design (how many, structure etc) Hardware configuration (how many computers, type of computer, peripherals etc) Software used (specially written, off the shelf, operating system	(3)

Question Number	Answer	Mark
5(c)	Answers may include: Use direct implementation (start the system on a given date - small companies only can play havoc with operational details) Phased implementation (each job will be introduced separately e. g. look at order processing first - takes a long time) Parallel running (run the new system along side the old - allows comparison of results etc)	(3)

Question Number	Answer	Mark
6(a)	answers may include: calling up a help menu switch on or off the monitor or other devices	(2)

Question Number	Answer	Mark
6(b)	Wireless/infra-red/mechanical/optical any two main differences in the methods used (1 mark each)	(2)

uestion Number	Answer	Mark
7(a)	Complex page layouts can be created in the form of templates Documents can be imported from Word processing packages A wider range of fonts, sizes and styles are available Graphics and text can be easily moved on the page Text and graphics can easily be resized to fit the available space Page layout uses guides for accurate positioning of text and graphics Any two valid points – there are many more	(2)

Question Number	Answer	Mark
7(b)	Costume list can be ordered alphabetically to easily locate them list can easily be updated/amended location of the costume can be entered and easily found costumes can be linked to a particular play Costumes can be listed under many different categories e.g.- gender/size/colour/by play etc Any two valid points – there are many more	(2)

Question Number	Answer	Mark
8(a)	**fields** are items of data relating to a customer (1) a collection of fields relating to one customer make up a **record** for that customer (1) **tables** will hold all the records for customers in the database (1))	(3)

Question Number	Answer	Mark
8(b)	key field/unique identifier (1) many customers can have the same name (1)	(2)

Question Number	Answer	Mark
8(c)	any three from: faster data entry faster processing speeds less storage space required validation is easier easier to relate tables/files	(3)

Question Number	Answer	Mark
9(a)	= (F2-D2) * 100 Allow 1 mark for = (F2-D2) F2 F2	(2)

Question Number	Answer	Mark
9(b)	Construct and If statement in cell G11 the IF statement is =IF(G9>G10,"Target met", "Target not met")	(1) (2)

Question Number	Answer	Mark
10(a)	a transcription error is an error that can occur when a pers inputting data to a system (1) It can happen if a person misreads from the original data source or mis-keys information whilst entering data (1)	(2)

Question Number	Answer	Mark
10(b)	presence check (1) to ensure a date has been entered in each place (1) type check on each set of digits (1) to ensure they are of the correct form (1) range check on each set of digits (1) to ensure they conform to the correct calendar (1) length check on the year (1) to ensure 4 digits have been entered (1)	(4)

Question Number	Answer	Mark
11	Example (1) What is input/output (1) Message or signal generated (1) e.g. a long document is being printed and an attempt is made to close the program in use before the printing has finished an error message will be generated (3) OR a second document is 'sent' to be printed before the first document is loaded, a message is generated to this effect (3) OR if there is an external disk drive attached to your computer the system will recognise the presence of this device (3) Any other suitable explained answer is acceptable	(3)

Question Number	Answer	Mark
12	ADC conversion (1m) Transmission Storage data import to suitable package processing displayed on screen/ chart etc	(4)

Question Number	Answer	Mark
13 (a)	three computers in each room suitably networked each network linked to a hub server identified hub linked to the server printer attached to server/print server identified	(4)

Question Number	Answer	Mark
13 (b)	any two from: router **(1)** ensures data is transmitted in the quickest way **(1)** **heavy duty** printer **(1)** to cope with the demand **(1)** cables**(1m)** e.g. between router and hub **(1)** wireless access points**(1)** to connect between offices **(1)** **NB –** must be device and reason	(4)

Question Number	Answer	Mark
14 (a)	The last digit shown on the bar code is a check digit (1) the computer applies a set of calculations to the individual digits (1) if the answer does not equal the check digit an error message will be generated (1)	(3)

Question Number	Answer	Mark
14 (b)	the item code is included in the barcode; this is also stored in the stock file the price of the item is stored against the stock code the POS sends the item code to the computer the computer is programmed to detect the multiple purchase offers and charge the agreed price	(3)