

Candidate Name	Centre Number	Candidate Number

WELSH JOINT EDUCATION COMMITTEE
 General Certificate of Education
 Advanced Subsidiary/Advanced



CYD-BWYLLGOR ADDYSG CYMRU
 Tystysgrif Addysg Gyffredinol
 Uwch Gyfrannol/Uwch

342/01

COMPUTING CP2

THE COMPUTER, DATA AND APPLICATIONS

P.M. FRIDAY, 13 January 2006

(1½ hours)

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	6	
2.	4	
3.	5	
4.	4	
5.	6	
6.	3	
7.	7	
8.	6	
9.	6	
10.	2	
11.	11	
Total	60	

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Answers should be written in the spaces provided. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly

The intended marks for questions or part questions are given in brackets [].

You are advised to divide your time accordingly. The total number of marks available is 60.

You are reminded of the necessity for good written communication and orderly presentation in your answers.

1. State, giving a reason in **each** case, the most suitable secondary storage medium for **each** of the following situations.

(i) A school pupil taking home a large database project (5 Megabytes). [2]

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(ii) A business making a back up of the file server’s hard disc drive (300 Gigabytes). [2]

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(iii) A Sunday newspaper distributing, as a supplement, an entertainment guide including photographs, songs and video clips. [2]

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2. Many people use their personal computers for writing letters and managing their household accounts.

(a) Apart from editing and formatting facilities, describe **two** features of a word processing package that would be useful when writing a letter. [2]

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(b) The spreadsheet below shows the amount saved each month to pay household bills.

	A	B	C
1			
2	<i>Monthly Savings</i>	<i>Amount</i>	
3			
4	Mortgage	£200.00	
5	TV licence	£9.00	
6	Gas bill	£30.00	
7	Building insurance	£25.00	
8	Council tax	£80.00	
9	Water rates	£50.00	
10			
11	TOTAL MONTHLY SAVING		
12			
13	TOTAL ANNUAL SAVING		

(i) Write down the formula that should be contained in cell **B11**. [1]

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(ii) Write down the formula that should be contained in cell **B13**. [1]

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3. (a) Draw **two** diagrams that show the difference between a *ring network* and a *star network*. [2]

(b) Give **one** advantage of using a *star network* rather than a *ring network*. [1]

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(c) Describe **two** advantages of an arrangement in which computers are networked, compared with standalone computers. [2]

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4. Validation checks are carried out on data being entered into a database by an estate agent. Two fields in the database are:

- *number of bedrooms*, which should be an integer;
- *postcode*.

Using examples of both **valid** and **invalid** data describe suitable validation checks that could be carried out on the fields *number of bedrooms* and *postcode*. A **different** validation check must be used in **each** case. [4]

Number of bedrooms

Description of validation check

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Example of valid data

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Example of invalid data

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Postcode

Description of validation check

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Example of valid data

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Example of invalid data

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5. (a) Name **two** utilities often provided by an operating system. [2]

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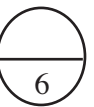
(b) For each of the following situations, state a suitable *mode of operation* for the operating system. In **each** case give **one** reason why it is the most suitable.

(i) Controlling the temperature of a chemical process at an industrial plant. [2]

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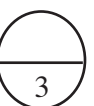
(ii) A gas company producing quarterly bills. [2]

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6. When a computer requires a printer to print a document, *handshaking* is used. Explain the *handshaking* process. [3]

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7. (a) A high street bank posts thousands of questionnaires every month to selected customers. The data from the completed questionnaires has to be entered into a computer system. The bank has been using keyboards for data entry but is considering speech input.

(i) Describe **two** benefits for the bank of using speech input rather than keyboard input. [2]

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(ii) Describe **two** situations where keyboard input would still be required. [2]

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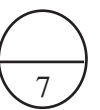
(b) The customers could be asked to complete the questionnaires using the bank’s Internet site.

(i) Describe **two** advantages to the bank of customers completing questionnaires on the bank’s Internet site rather than completing paper questionnaires. [2]

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(ii) Describe **one** drawback of using the Internet site to complete the questionnaires. [1]

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8. An electronics factory uses a computerised payroll system that produces pay slips each month. There is an *employee master file* and a *monthly transaction file*. The transaction file contains, amongst other information, details on each employee's hours worked that month.

- (i) Use a labelled diagram to show how the *employee master file* and the *monthly transaction file* are used to produce the monthly pay slips. [3]

- (ii) For each employee state **two** items of data, other than name, address and telephone number, that should be stored in the *master file*. [2]

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- (iii) When the pay slips are produced, several items of data are updated in the *master file*. State **one** data item that is updated. [1]

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9. A secondary school with a large number of pupils is considering installing a computer system to record and manage pupils' attendance. The teachers will input attendances into a lap top computer. The lap top computers can be connected to the school's Local Area Network (LAN).

(i) Explain **three** benefits, for the senior staff in the school, of using this system to monitor pupils' attendance. [3]

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(ii) Describe **two** benefits for classroom teachers of having access to the school's LAN. [2]

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(iii) Describe **one** concern that a teacher may have about using the new system. [1]

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10. Explain the term *parallel processing* and **briefly** explain why it is used in weather forecasting. [2]

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