

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International Advanced Subsidiary and Advanced Level

## **MARK SCHEME for the October/November 2015 series**

# **9713 APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY**

**9713/13**

Paper 1 (Written A), maximum raw mark 80

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1 (a)

Flyers are usually produced using presentation software.	
You can distribute them so that they only go to the people you want to see them.	✓
They are very expensive to produce.	
They can hold more information than a website.	

[1]

(b)

Posters are never defaced.	
Posters are smaller than flyers.	
Posters are produced using a standard printer.	
Posters will not necessarily be noticed by everybody.	✓

[1]

(c)

A small potential customer base is covered by using a website.	
Paying website designers is much cheaper than producing a flyer.	
Websites are less interactive than posters.	
Websites are easier to update as you do not have to reprint the whole advertisement.	✓

[1]

(d)

Uses sound and video unlike flyers.	✓
They are produced more quickly than flyers.	
You can cover a wider audience than a website would.	
It would cost less to pay a company to produce this rather than produce their own flyers.	

[1]

2

They can pay the workers lower salaries.		
It is easier to get all the workers together for meetings and briefings.	✓	[1]
It would be easier for managers to supervise workers.	✓	[1]
Not so much money would have to be spent on the company's utility bills.		
Workers would work longer hours.		
Travelling expenses would have to be paid to employees to attend face to face conferences.		
Do not have to subsidise home workers equipment.	✓	[1]
Data is more secure as it doesn't leave the office.	✓	[1]
Workers wouldn't have to travel so far to work.		
There would be fewer workers.		

3 (a) Two from:

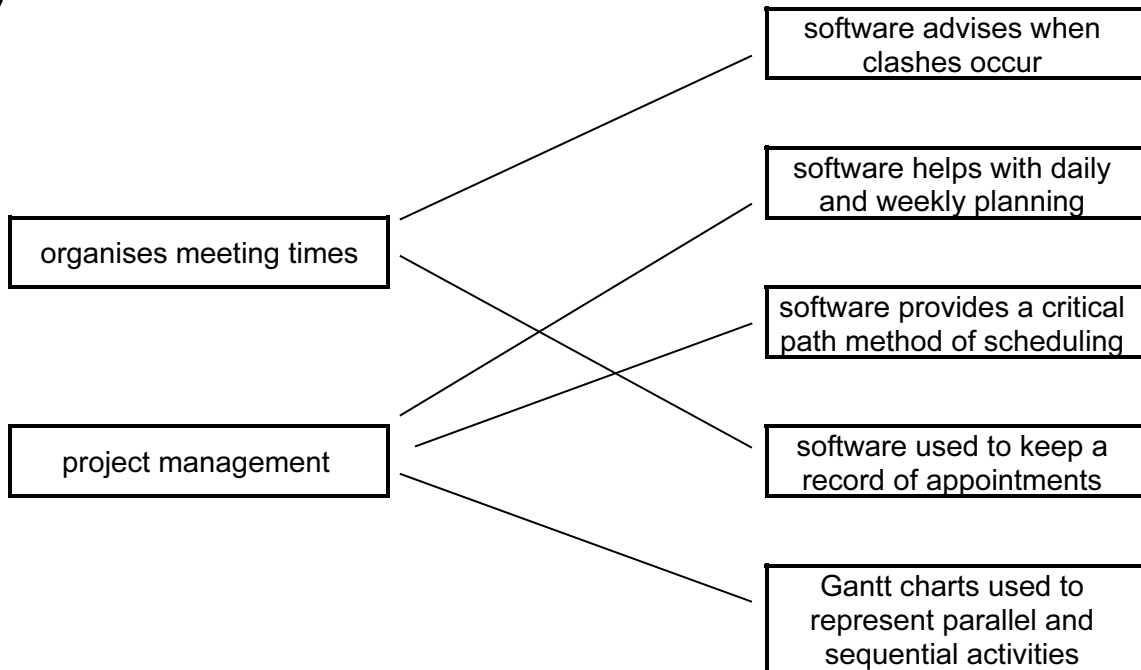
- Working less than the normal working hours of a full time employee
  - Working mornings or afternoons only, rather than a whole day
  - Working fewer days, rather than a full working week
- [2]

(b) Two from:

- Two people sharing a job normally done by one person
  - Each person is paid on a part time basis though together they do a full time job
  - One person works specific days/mornings/afternoons while other works the remainder
- [2]

4 (a) Public calendars keep a record of meetings and appointments of all workers so that they can all access it to arrange meetings [1]  
Private calendar keeps a detailed record of meetings and appointments of a worker so that only he/she can see these [1]

(b)



One mark for each correctly placed line

[5]

5 **Four descriptions** from:

- Send emails
- Send texts
- Phone call
- Instant messaging
- Video call

[4]

6 (a) **Two** from:

- Computer to process the calls/look up customer information/to record orders
- Monitor to display customer/call details
- Headset to speak with/listen to customers
- Keyboard to type up details of the call/action taken

[2]

(b) First party call control  
Third party call control

[1]

[1]

**Two** from:

- Requires a dedicated telephony server (to connect the telephone network and the computer network)
- Operator's phone communicates directly with the server
- Operator's phone is not directly connected to their computer
- The server controls all the phones
- The server can direct a call to the appropriate operator
- Any computer in the system can control any phone

[2]

*Third party:* Reason is because it is suitable for large call centres

[1]

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(c) Health risks arise from long term use of computers [1]

Two from:

Staring at a computer screen continuously can cause problems with one's sight

Typing at a keyboard continuously can cause RSI

Gripping a mouse and repetitive clicking can cause carpal tunnel syndrome/RSI

Sitting in the same position/with wrong posture all day can cause lower back pain

Staring at a computer screen all day can cause eye strain/headaches

Poor positioning of screen can cause upper back/neck/shoulder pain/eyestrain/headaches

Glare from screen can cause eye strain/headaches [2 max]

Safety risks can result in a sudden accident [1]

Two from:

Too many plugs connected to a socket/overheating of computers can be a fire hazard

Bare wires can cause electrocution

Trailing wires could cause an operator to trip over

Heavy equipment incorrectly positioned can fall off a desk and cause injury [2 max]

7 (a) Four from:

Can order goods and they do not get delivered

Goods are not to the same standard as those ordered/cannot check the standard of goods before buying

May be hidden costs such as delivery charges

Expense of buying a computer with a broadband internet connection/must have a reliable electricity supply/basic computer skills

May lose contact with their friends/less socialising as they may not go out of the house as much

Disabled people may have problems navigating through screens

Customers who do not have a credit/debit card will not be able to use online shopping [4]

(b) Four from:

Less face to face contact, so it is harder to sell other services

Running costs/initial cost, such as having to pay website developers

Initial costs such as buying the hardware when starting up

Initial costs such as redundancy payments

May need to retrain staff, which is costly/time consuming

More delivery staff needed, so costs increase [4]

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(c) Four from:

- Do not have to spend time queuing in online shopping/going around different shops
- Can shop at any time of day or night/at a convenient time for them
- Can compare products and prices at their leisure/more easily
- There will be a greater choice of goods
- Items are usually cheaper as staff costs are lower/rental/running costs are lower than shopping malls

[4]

8 (a) One mark per point

Phased implementation – implementing one part of the system while rest of system remains unchanged/implementing system part by part

Advantage – Cheaper than parallel running as you do not employ two complete sets of workers

Disadvantage – If there is a problem with the new system, only have bulk of old system to fall back on/parallel running has whole system

Direct changeover – involves replacing the old system with the new system all in one go/immediately/overnight

Advantage – Cheaper than parallel running as you don't have to employ two sets of workers (if not mentioned before)/quicker method of implementation as there is no delay waiting for bugs to be fixed /benefits of the new system become apparent immediately

Disadvantage – If there is a problem with the new system do not have old system to fall back on

[6]

(b) Four from:

- Description of the software/purpose of the software
- Reasons for choosing those pieces of existing software that were used instead of the programmer having to write code
- Input and output data formats
- Program flowcharts/algorithms
- Program listing – a complete copy of the code used with annotation explaining what each module of code does
- Notes that will help any future programmer to make modifications to the system

[4]

9 (a) LEFT(A3,1)

- LEFT – 1 mark
- (A3,1) – 1 mark

[2]

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**(b) MID(A3,2,1)**

MID – 1 mark  
(A3,2 – 1 mark  
,1) – 1 mark

**[3]**

**10 (a) Three** matched pairs from:

Format check on serial number  
Must be one letter followed by six numbers

Range check on price  
Must not be less than \$300 and no more than \$1500

Lookup check on type of computer  
Must be tablet, laptop or PC

**[6]**

**(b) Six** from:

Observation  
Benefit –enables the systems analyst to see the process as a whole  
Drawback – Description of the ‘Hawthorne effect’

Interviews  
Benefits –  
Interviewer can move away from their ‘script’ and ask a more in-depth question if a particular response is given  
Can interpret body language  
Drawbacks –  
Users have to be available at the time the systems analyst wants to interview them  
May not have the time/can take a long time to interview all the users  
Interviewees might try and provide answers which they think the interviewer wants to hear

Questionnaires  
Benefits –  
Answers tend to be, on the whole, more accurate  
Everyone can complete the questionnaire at the same time instead of one after the other (as with interviews)/can complete it at their leisure  
Drawbacks -  
They may give answers which are exaggerated as they are anonymous  
Questions cannot be changed once they are typed up  
Follow up questions cannot be asked

Maximum of 4 marks if only two are compared  
One mark is available for a reasoned conclusion

**[6]**

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**(c) Four** from:

- Easy to read font
- Easy to read font size
- Attractive to look at
- Based on user requirements
- Appropriate headers and footers
- Appropriate use of colour
- Fields spaced out so the data is clear to read

**[4]**

**(d) Two** from

- Inkjet printer produces higher quality printout than a dot matrix printer
- They are faster for printing documents than dot matrix printers'  
(They are easier to move than dot matrix printers)
- Small company, so changing cartridges, which is not so necessary with laser printers and dot matrix printers, is not an issue

**[2]**

**[Total:80]**