This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners’ meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.
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]
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) software advises when clashes occur

organises meeting times

software helps with daily and weekly planning

software provides a critical path method of scheduling

project management

software used to keep a record of appointments

Gantt charts used to represent parallel and sequential activities

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]

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

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

Safety risks can result in a sudden accident

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

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

(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
(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

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

(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

9 **(a) LEFT(A3,1)**

LEFT – 1 mark
(A3,1) – 1 mark
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

(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
(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

(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