CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 series

0417 INFORMATION AND COMMUNICATION TECHNOLOGY

0417/02 Paper 2 (Practical Test A), maximum raw mark 80

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 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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Title data entry, sans-serif 36pt,right align 2 marks
Subtitle data entry, sans-serif 18pt left align 2 marks

Header :
Name and cand no left Centre no right aligned 1 mark

A g urity

Guide presented by: Candidate name

Layout changed on same page 1 mark

Need for security

Have you been the victim of crime in the last 12 months? Do it Yourself or 'plug and play' CCTV (Closed-Circuit Televisi) lets users take control of home and business security. gives a simple and affordable way for you to protect y ily and assets.

DIY replaced by
Do it Yourself X 2 1 mark

W

Traditionally you have needed to on security companies to install and monitor systems for your home or business. For a fraction of the cost of professional surveillance, Do it Yourself CCTV security puts you in control with ease of use convenie

Body text 14 point serif, fully justified, single linespace 2 marks
Two columns with 1 cm gap 1 mark

What could I use CCTV security solutions for?

The most common uses of CCTV are to:

- safeguard your family and monitor your property
- protect valuable pro professional monitori
- deter thieves, graffiti and unwanted behaviour
- create a 'smart home', integrating cameras with your TV and PC.

Bullets applied to list
correct text identified 1 mark

Which solution is right for me?

Do you want to monitor your home, office, family, retail store, warehouse o ilding site?
Do you need day filmi ight vision or both?
Do you want sound, high- n images, mono or colour, wired or wireless from y
Do you want to view wi
Do you want to connect through a TV, monitor or handheld viewer?
Do you need to record through a digital video recorder (DVR) or VCR?

Nine subheads identified + formatted,
to match subtitle 1 mark

How do I connect a camera to my TV/monitor?

Wireless cameras
Wireless camera receive video) cable that plugs connectors on a TV or referred to as phono plug game consoles and DVD players. Plugging the receiver directly into a TV will allow you to view the images, but you

Page layout :
A4 Landscape 1 mark
Margins all 2 cms 1 mark
No widows / orphans 1 mark
Document complete
Consistent para spacing 1 mark

Footer :
Date left 1 mark

Footer :
New file name right aligned 1 mark
with full path 1 mark

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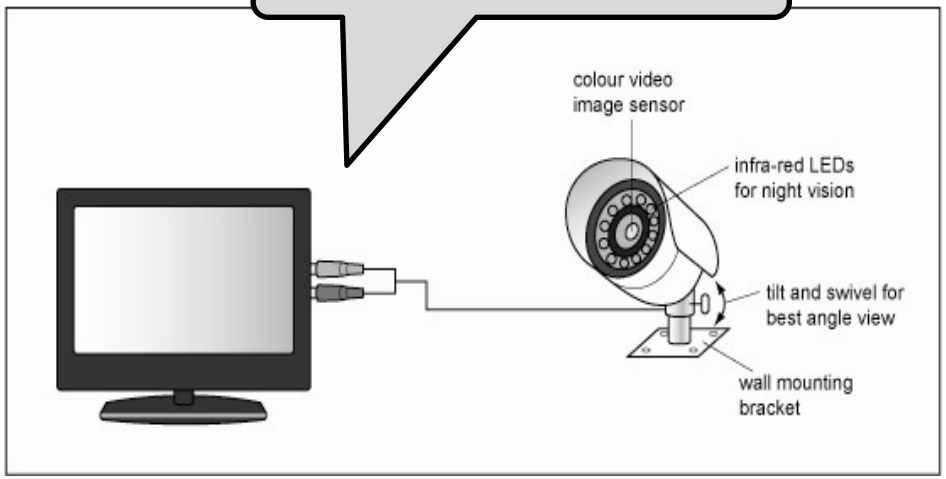
Wired cameras

Wired cameras use phono or BNC plugs to connect to the AV 'in' sockets. You simply connect this to your TV to start monitoring.

Image placed correctly in document 1 mark
Fills column with text wrapped 1 mark



How do I record video from cameras?

New digital video recording (DVR) technology enables you to monitor and record numerous cameras at the same time with motion detection triggers. You save the video on to a hard drive and then can play it back on the DVR or transfer it to alternative media.

How can I monitor remotely?

Many DVRs now include software and an Ethernet port to enable viewing on remote PCs with broadband internet connections. Video is sent to the host PC via the DVR, PCI card or USB; the remote PC, with the appropriate software, is then able to access video streamed over the internet or network connection. More sophisticated systems email and SMS alerts in the event of the cameras detecting motion.

Can other devices interfere with wireless CCTV?

Yes, some common causes of interference are Wireless LAN equipment, cordless 2.4GHz telephones and microwave ovens (whilst they are actually cooking). Using a camera that has four switchable channels will allow you to change to a channel that is further away from the interference source. This will minimise the potential for interference.

Commonly used CCTV security terms

CCD

Charge Coupl[illegible] Device. A high quality image sensor commonly found [illegible]table camcorders and similar video equipment.

Text file inserted in correct place and formatted to match body text 1 mark
Three items of text bold and underscored 1 mark

CMOS

Complementary [illegible]m quality image sensor used in digital cameras and many low-powered image devices such as USB webcams.

Infrared (IR)

Infrared night vision allows cameras to 'see in the dark', or in low-light conditions, using IR LEDs (Infrared Light Emitting Diodes) as illumination for a camera.

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Name and candidate number

Centre Number

Here are some inexpensive wireless recording kits to help you get going:

Text added 100% accurately as body text 1 mark

Description	GHz	Contents	Location
250GB H.264 Wireless Network DVR with DVDRW Backup 4 CCD Security Cameras	2.4GHz wireless CMOS	Recorder kit	Indoor
320GB DVR4950 PNP1504 7 inch Wireless LCD Monitoring & Recording LCD pack	2.4GHz wireless CMOS	Recorder kit	Indoor

Wireless recorder kits	1 mark
Indoor use	1 mark
Four specified fields only	1 mark
Table in correct place and fits in correct place and within column	1 mark
No words split on text wrapping	1 mark
Font 14 point serif fully justified single linespacing (as body text)	1 mark
Gridlines all visible when printed	1 mark

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Name and details top right of report 1 mark

candidate name, centre number and candidate number

List of cameras in stock

Report title 1 mark

Code	Description	GHz	Contents	Location	Price	Reorder	Stock_item	Stock_level
N1302GN	Sentient Robust Colour CCTV Camera	Wired CCD	Camera	Outdoor	€59.99	20	Yes	4
N1304CX	Digital Wireless Camera with Receiver	2.4GHz wireless CMOS	Camera	Outdoor	€100.00	20	Yes	3
N1305JT	High Resolution Sonic Effio Outdoor Camera	Wired CCD	Camera	Outdoor	€89.99	20	Yes	0
N1308CX	Miniature Covert Nightvision CCTV Camera with Audio	Wired CMOS	Camera	Outdoor	€49.99	20	Yes	7
N1310JU	PRO660 Super WideAngle Security Camera 540TVL	Wired CCD	Camera	Outdoor	€119.99	20	Yes	12
N1311JU	PRO670 Professional All Purpose Security Camera 25m Night Vision	Wired CCD	Camera	Outdoor	€129.99	20	Yes	11
N1312JU	PRO680 Ultimate Optical Zoom Security Camera 35m Night Vision	Wired CCD	Camera	Outdoor	€149.99	20	Yes	10
N1313JU	Day and Night 420TVL CCD Outdoor Camera	Wired CCD	Camera	Outdoor	€39.99	20	Yes	2
N1321AZ	Waterproof Colour CCTV Camera pack	Wired CCD	Camera	Outdoor	€49.99	20	Yes	3
N1323GZ	Professional High Resolution 540TVL IR CCTV Camera	Wired CCD	Camera	Outdoor	€79.99	20	Yes	7
N1323KF	Pro 530TVL Outdoor Day Night CCTV Camera	Wired CCD	Camera	Outdoor	€79.99	20	Yes	0
N1332CX	Smart Witness Wireless Outdoor Camera	2.4GHz wireless CMOS	Camera	Outdoor	€99.99	20	Yes	10
N1334KC	Smart Witness Wireless Outdoor Camera	2.4GHz wireless CMOS	Camera	Outdoor	€99.99	20	Yes	0
N1337CX	Mini Wireless Colour CCTV Camera	2.4GHz wireless CMOS	Camera	Indoor	€49.99	20	Yes	0
N1338CX	Discreet Wireless Colour CCTV Camera	2.4GHz wireless CMOS	Camera	Indoor	€49.99	20	Yes	5
N1338HJ	High Resolution 540TVL IR CCTV Camera	Wired CCD	Camera				Yes	8
N1354HL	Professional High Resolution 540TVL IR CCTV Camera	Wired CCD	Camera				Yes	6
N1355HL	40m High Resolution Night Vision Outdoor CCTV Camera	Wired CCD	Camera		€89.99	20	Yes	5
N1356GQ	Sentient Nightvision Colour Bullet Camera	Wired CMOS	Camera	Outdoor	€49.99	20	Yes	9
N1359JN	Addonics Wide Angle Dome Camera with 20m Night Vision	Wired CCD	Camera	Outdoor	€49.99	20	Yes	9
N1360JN	Addonics Wide Angle CCTV Bullet Camera with 25m Night Vision	Wired CCD	Camera	Outdoor	€49.99	20	Yes	8
N1361JN	Addonics Pro HiRes Long Range VariFocal Dome Camera with 30m Night Vision	Wired CCD	Camera	Outdoor	€70.00	20	Yes	7
N1362JN	Addonics Pro HiRes Long Range VariFocal Bullet Camera with 40m Night Vision	Wired CCD	Camera	Outdoor	€89.99	20	Yes	6
N1363JU	KGuard Outdoor CCD Night Vision Camera	Wired CCD	Camera	Outdoor	€39.99	20	Yes	1
N1385CX	PRO650 Pan Tilt Zoom Dome Camera	PTZ	Camera	Outdoor	€200.00	20	Yes	1
N1392GB	2.4GHz Wireless 10m Nightvision CCTV Camera with Audio	2.4GHz wireless CMOS	Camera	Indoor	€69.99	20	Yes	5

All fields displayed (9) 1 mark
All data and labels fully visible 1 mark

Orientation landscape 1 mark
Fits one page wide 1 mark

Select *camera* only 1 mark
Where *Stock_item* = yes 1 mark

Sorted *Code* ascending 1 mark

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Code	Description	GHz	Contents	Location	Price	Reorder	Stock_item	Stock_level
N1393GC	Colour Mini Indoor CCD CCTV Dome Camera	Wired CCD	Camera	Indoor	€49.99	20	Yes	0
N1394FQ	DIY SecurityCam CCTV Colour Video Camera with Tripod	Wired CMOS	Camera	Indoor	€29.99	20	Yes	6
N1395CX	Wired Outdoor CCTV Camera with Audio	Wired CMOS	Camera	Outdoor	€24.99	20	Yes	8
N1397CJ	**Colour CCTV DomeCam**	**Wired CMOS**	**Camera**	**Indoor**	**€29.99**	**20**	**Yes**	**5**
N1398JZ	**CCTV Dome Camera**	**Wired CCD**	**Camera**	**Indoor**	**€59.99**	**20**	**Yes**	**10**
N1399JZ	**Outdoor CCTV Camera**	**Wired CCD**	**Camera**	**Outdoor**	**€49.99**	**20**	**Yes**	**2**

Add three records 3 marks

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Items to place on order

Report title 1 mark

Only these fields 1 mark

Description	Code	Price	Stock_item	Stock _level	Reorder_cost
Colo… Mini Indoor CCD CCTV Dome Camera	N1393GC	€49.99	Yes	0	€999.80
Day and N… …TVL CCD Outdoor Camera	N1313JU	€39.99	Yes	2	€799.80
Hig…	N1305JT	€89.99	Yes	0	€1,799.80
KGuard Outdoor CCD Night Vision Camera	N1363JU	€39.99	Yes	1	€799.80
Mini Wireless Colour CCTV Camera	N1337CX	€49.99	Yes		€999.80
Outdoor CCTV Camera	N1399JZ	€49.99	Yes		€999.80
Pro 530TVL Outdoor Day / Night CCTV Camera	N1323KF	€79.99	Ye…	…	€1,599.80
Smart Witness Wireless Outdoor Camera	N1334KC	€99.99		0	€1,999.80
Waterproof Colour CCTV Camera P…					€999.80
Wireless Colour High Resolution C…					€1,599.80
Xvision 10 Metre Infra Red LEDlam…					€359.80
Candidate name, number and Centre number			Cost of order		€12,957.80

Sorted *Description* ascending 1 mark

New field heading 1 mark
Reorder_cost = Price x Reorder 2 marks
Formatted as currency (Euro and 2dp) 1 mark

Orientation is portrait
and data and labels fully visible 1 mark

Select records
Stock_item = Yes 1 mark
Stock_level <=3 1 mark
Price <100.00 1 mark

Cost of order calculated 2 marks
Formatted Euro and 2dp 1 mark
Cost of order label 1 mark

Candidate details
on left below report 1 mark

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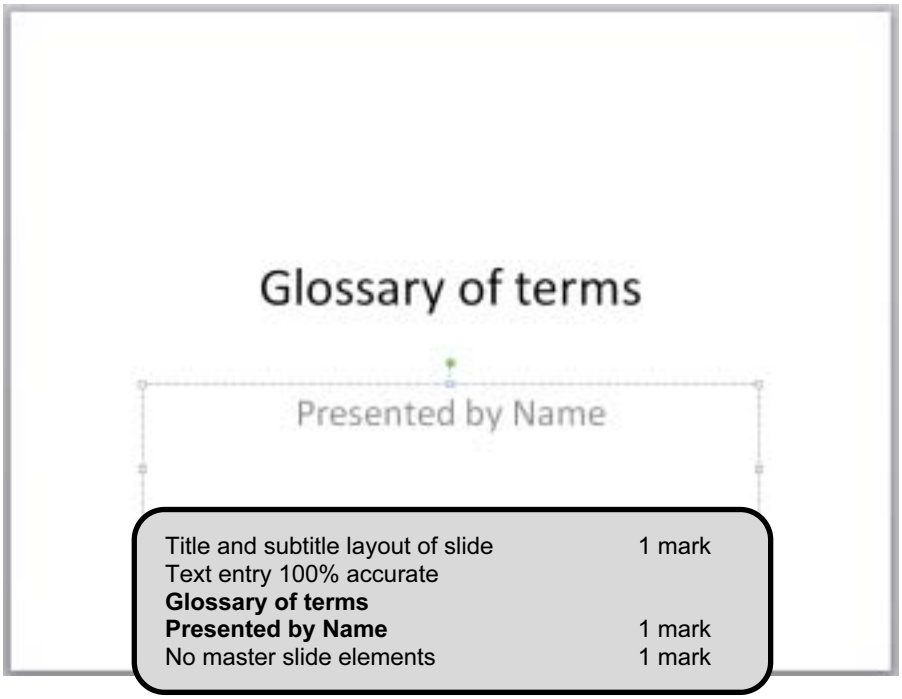
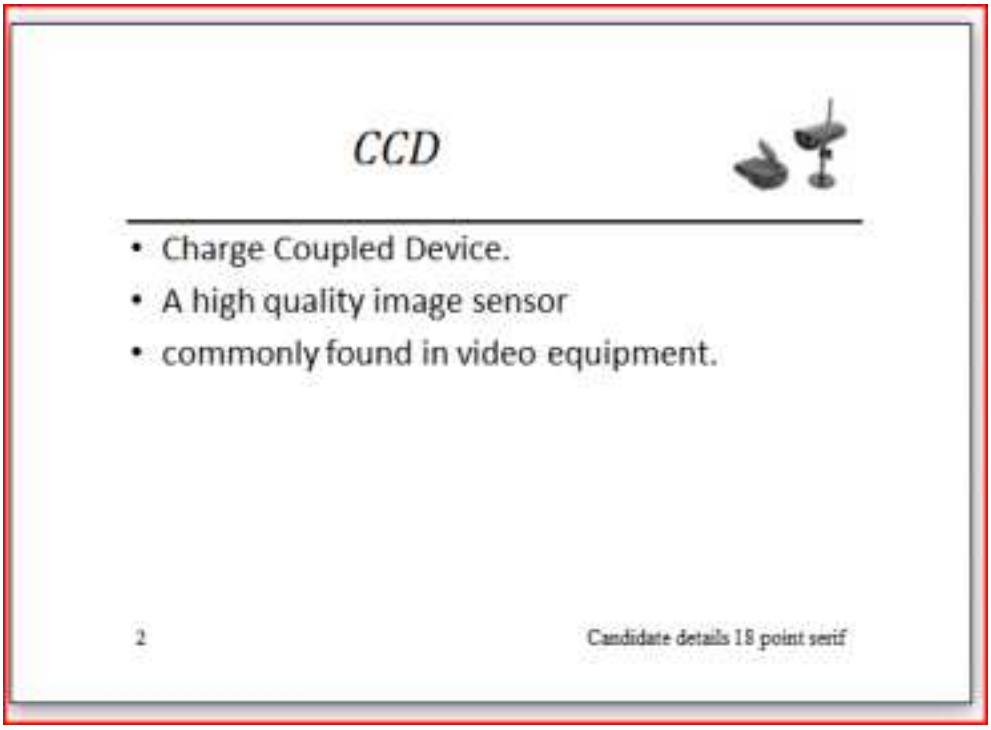


Title and subtitle layout of slide	1 mark
Text entry 100% accurate **Glossary of terms** **Presented by Name**	1 mark
No master slide elements	1 mark



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CMOS

- Complementary Metal Oxide Semiconductor.
- A medium quality image sensor
- used in digital cameras
- and many low-powered image devices such as USB webcams.

3 Candidate details 18 point serif

Infrared (IR)

- Infrared night vision
- allows cameras to 'see in the dark', or in low-light conditions,
- using IR LEDs (Infrared Light Emitting Diodes) as illumination for a camera.

4 Candidate details 18 point serif

Master slide items :	
Applied to all three slides with no overlap	1 mark
Image top right	1 mark
Thick eg 3 pt line across slide below image	1 mark
Slide number bottom left	1 mark
Name and details bottom right serif 18 pt	1 mark
Three slides imported as title plus bullets	1 mark
Print two slides per page	1 mark

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Evidence document

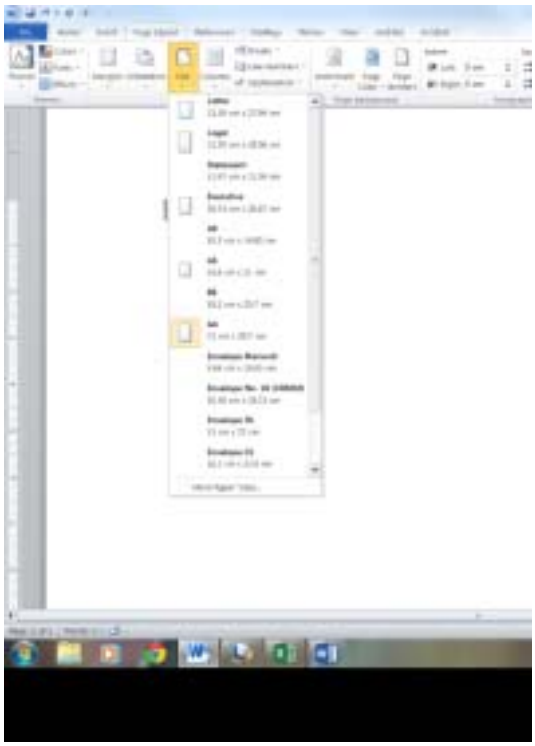
Contact added

Contact name and job title 1 mark
Contact address 1 mark

Michael Wenn Publishing editor M.Wenn@cie.org.uk

Page layout

A4
Margins all 2 cm
(Mark already awarded)



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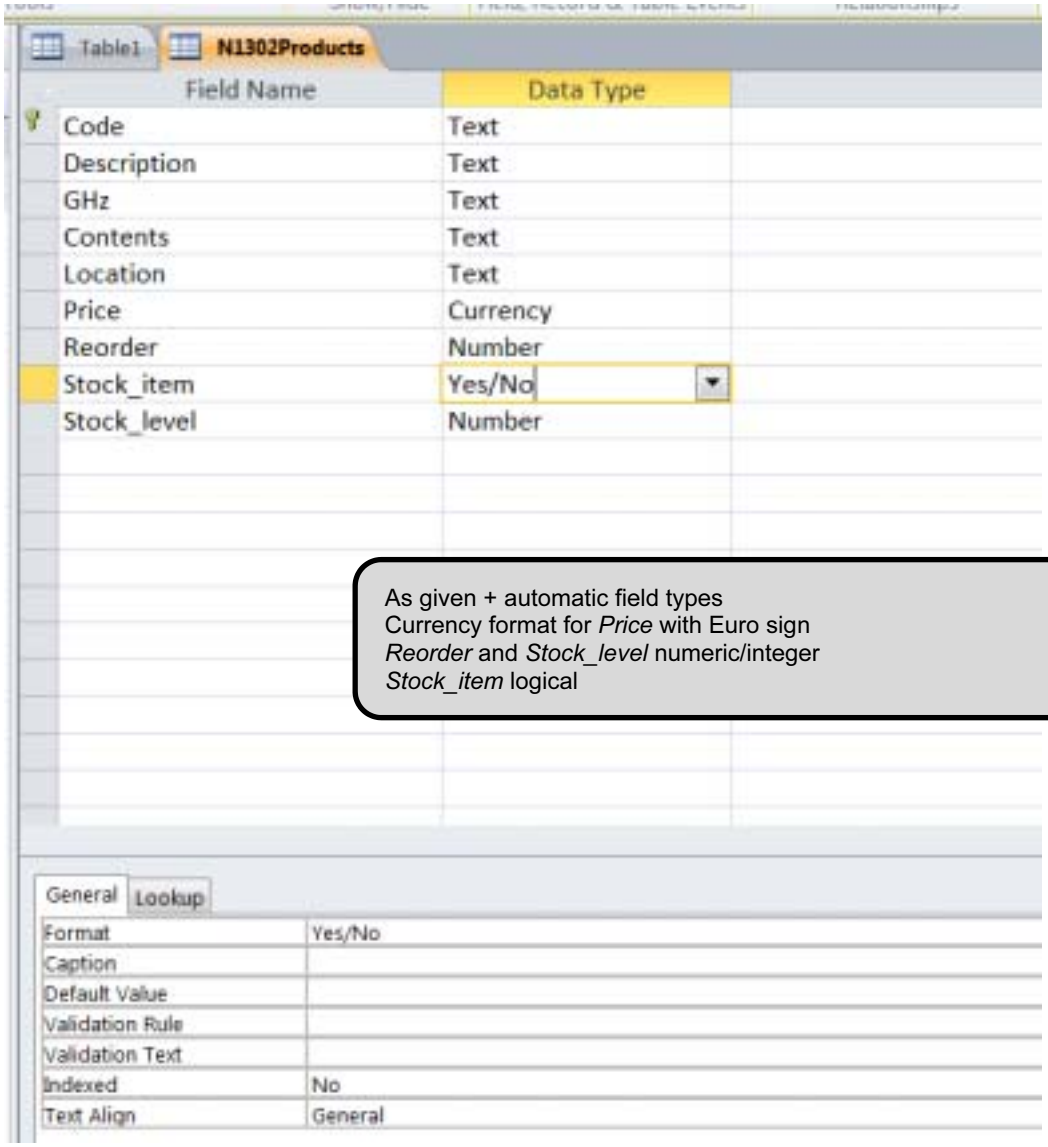
Database Structure



As given + automatic field types	1 mark
Currency format for *Price* with Euro sign	1 mark
Reorder and *Stock_level* numeric/integer	1 mark
Stock_item logical	1 mark

E-Mail Message

To **design.h@cie.org.uk**	1 mark
and to the **Publishing editor** (from the contacts list)	1 mark
subject line **CCTV Guide**	1 mark
The body text of the message should include:	
your name your Centre number your candidate number	
Please check the contents of this draft guide.	1 mark
File attached (document as saved by candidate)	1 mark

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