

CAMBRIDGE INTERNATIONAL EXAMINATIONS
GCE Advanced Subsidiary Level and GCE Advanced Level

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MARK SCHEME for the May/June 2014 series

9713 APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/02

Paper 2 (Practical Test), maximum raw mark 120

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 May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

Steps 3 & 4

Candidate name, centre number and candidate number

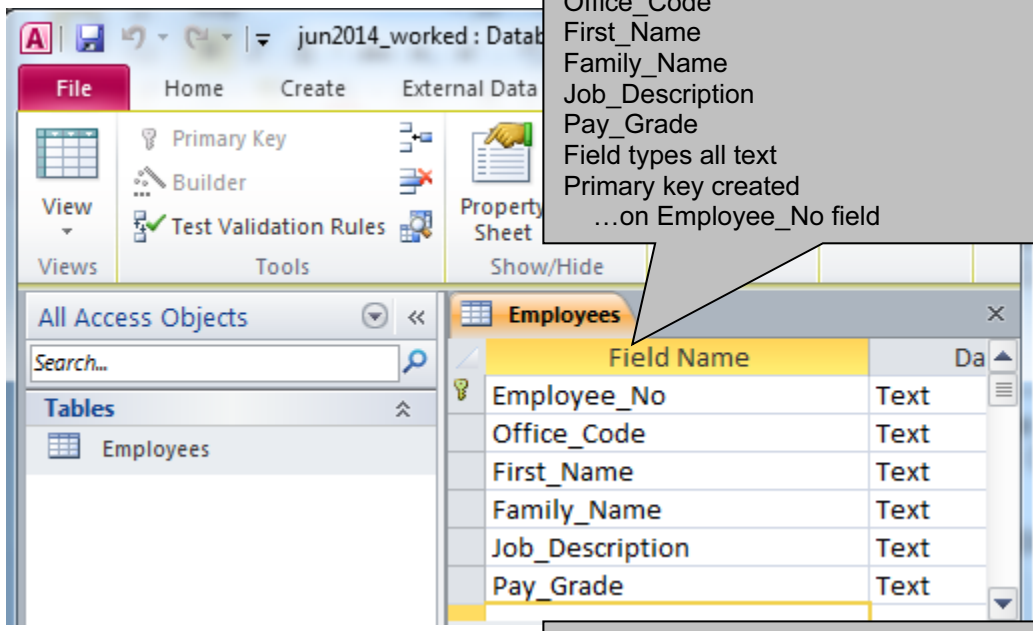
Office code	
Left function	1 mark
Appropriate cell – B2	1 mark
Three characters extracted	1 mark
Evidence of replication	1 mark

	A	B	C	P
1	Employee number	Office	Office code	
2	=CONCATENATE(C2,RIGHT("000000"&D2,6))	London	=LEFT(B2,3)	1
3	=CONCATENATE(C3,RIGHT("000000"&D3,6))	London	=LEFT(B3,3)	2
4	=CONCATENATE(C4,RIGHT("000000"&D4,6))	London	=LEFT(B4,3)	3
5	=CONCATENATE(C5,RIGHT("000000"&D5,6))	London	=LEFT(B5,3)	4
6	=CONCATENATE(C6,RIGHT("000000"&D6,6))	London	=LEFT(B6,3)	7
7	=CONCATENATE(C7,RIGHT("000000"&D7,6))	London	=LEFT(B7,3)	8
8	=CONCATENATE(C8,RIGHT("000000"&D8,6))	London	=LEFT(B8,3)	1
9	=CONCATENATE(C9,RIGHT("000000"&D9,6))	London	=LEFT(B9,3)	1
10	=CONCATENATE(C10,RIGHT("000000"&D10,6))	London	=LEFT(B10,3)	1

Employee number	
Concatenate or &	1 mark
Appropriate cell – C2 or Left (B2, 3)	1 mark
Right/Text function (or 5 nested IFs)	1 mark
Works for all 6 digits	1 mark
Concatenate or & D2	1 mark
6 characters extracted	1 mark
Evidence of replication	1 mark

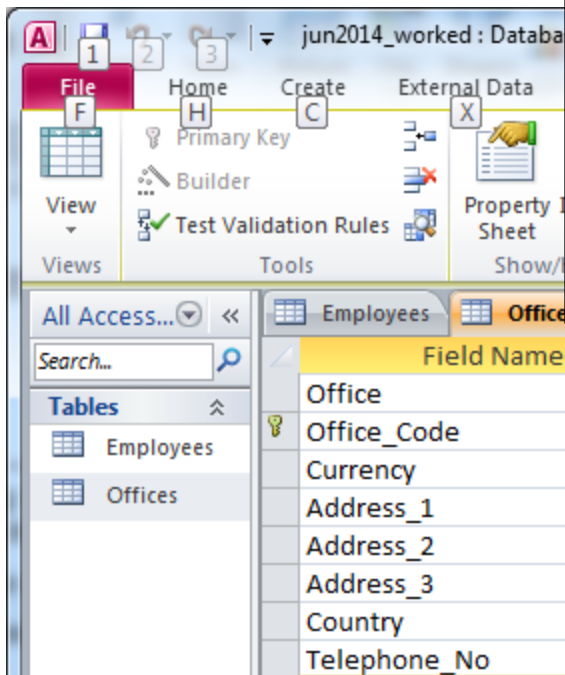
Employees Table created

- Correct table name 1 mark
- Employee_No 1 mark
- Office_Code 1 mark
- First_Name 1 mark
- Family_Name 1 mark
- Job_Description 1 mark
- Pay_Grade 1 mark
- Field types all text 1 mark
- Primary key created 1 mark
- ...on Employee_No field 1 mark



Employees Table
Correct data imported 1 mark

Employee_No	Office_Code	First_Name	Family_Name	Job_Description	Pay_Grade
Ban000001	Ban	Sonja	Steinle	Regional director	J
Ban000003	Ban	Phanteera	Sawangnetr	Recruitment/Talent Scout	E
Ban000005	Ban	Aran	Mookjai	Sales	I
Ban000006	Ban	Phueng	Montri	Admin/clerical	I
Ban000007	Ban	Mali	Boonliang	Admin/clerical	I
Ban000010	Ban	Justin	Brooklands	Studio technician	H
Ban000011	Ban	Isra	Wattanapanit	Studio technician	J
Ban000012	Ban	Chanarong	Willapana	Studio technician	J
Ban000013	Ban	Phailin	Suramongkol	Studio technician	B
Ban000014	Ban	Som	Saowaluk	Sales	B
Ban000016	Ban	Ratana	Wattana		H
Ban000017	Ban	Kamol	Supitayaporn		I
Ban000019	Ban	Mongkut	Sintawichai	IT systems	B
Ban000020	Ban	Tasanee	Wattana	IT systems	B
Ban000021	Ban	Kanya	Charoenkul	Admin/clerical	A
Ban000022	Ban	Rajesh Mansi	Raval	Sales	B
Cai000001	Cai	Shahad	Sharreif	Regional director	K
Cai000004	Cai	Salah	Farhat	Recruitment/Talent Scout	E
Cai000008	Cai	Abdul	Mansoor	Sales	I
Cai000009	Cai	Mohammed	Abdullahi	Recruitment/Talent Scout	E
Cai000010	Cai	Sandy	Ali	Admin/clerical	A
Cai000012	Cai	Salma Abdulrahman Ahmed Ba	Hubalshi	Admin/clerical	A
Cai000013	Cai	Khaled Aly	Elhalawany	Studio technician	G
Cai000014	Cai	Sara Mansoor	Khan	Tours/Promotions crew	C
Cai000015	Cai	Zainah	Adwan	Tours/Promotions crew	C
Cai000016	Cai	Hossam Ahmed	Badawy	Tours/Promotions crew	C
Cai000017	Cai	Michael Magad	Lewis	Studio technician	G
Cai000018	Cai	Mohab Mohamed	Abdelmeged	Studio technician	J
Cai000019	Cai	Mohammed Danish	Malik	Sales	I
Cai000020	Cai	Mohamed Elmohamadi	Elsayed	Studio technician	F
Cai000021	Cai	Mohamed Hazem	Bassiony	Sales	B
Cai000023	Cai	Mohamed Khaled	Aly	Sales	C



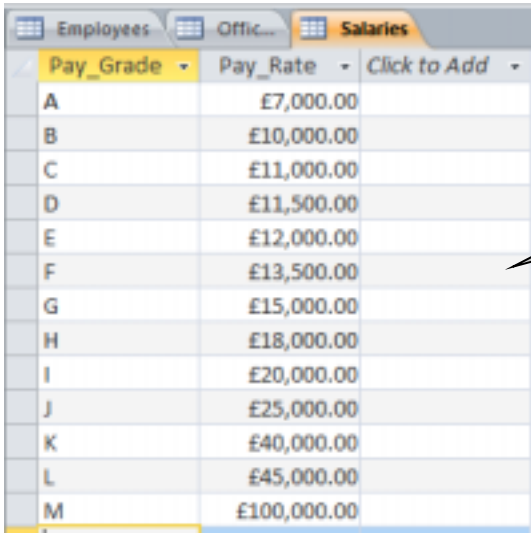
Offices Table created
 Correct table name 1 mark
 Office 1 mark
 Office_Code 1 mark
 ...as key field 1 mark
 Currency 1 mark
 4 Address fields - appropriate names 4 marks
 Within naming conventions 1 mark
 Field types all text 1 mark
 Telephone_No 1 mark
 Text field type 1 mark

Offices Table
 Correct data imported 1 mark
 Correct telephone numbers added 2 marks

Office	Office_Codi	Currency	Address_1	Address_2	Address_3	Country	Telephone
Bangkok	Ban	Thai baht	1090-1105 Soi 1 Thanon Phloer	Bangkok 10330	Thailand	666444422	
Cairo	Cal	Egyptian poun	726 Abd El Aze	Giza	Cairo	Egypt	202345678
Denver	Den	US Dollars	1748 Mountair	Denver	Colorado 8022	USA	15550111
London	Lon	Sterling	Smarthurst Str	London	PO Box 5674	England	4420678787
Male	Mal	US Dollars	54-56 STO Trad	Male	Republic of Maldives	52345678	
New York	New	US Dollars	1200 6th Aveni	Manhattan	New York 1002	USA	15550101
Rio de Janeiro	Rio	Real	Rua Dos Boque	11525-732	Rio De Janeiro	Brasil	55555555
Shanghai	Sha	Yuan	56-71 Mogansf	Putuo	Shanghai	China	86440044001
Tawara	Taw	Aus Dollars	1427-1439 Acai	Tawara	VIC 8040	Australia	614514514614

Salaries Table created
 Correct table name 1 mark
 Field names meet conventions 1 mark
 Correct data types 1 mark
 Pay_Grade as key field 1 mark

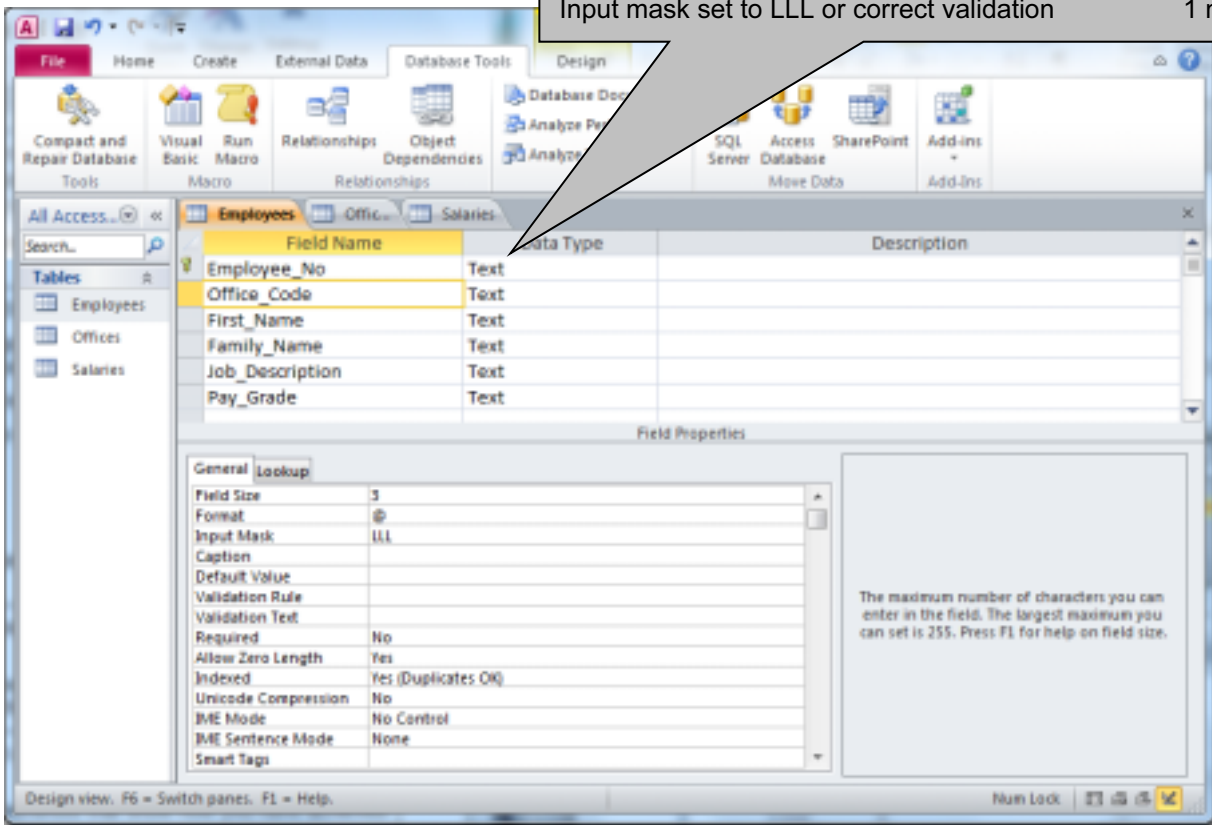
Field Name	Data Type
Pay_Grade	Text
Pay_Rate	Currency



Pay_Grade	Pay_Rate
A	£7,000.00
B	£10,000.00
C	£11,000.00
D	£11,500.00
E	£12,000.00
F	£13,500.00
G	£15,000.00
H	£18,000.00
I	£20,000.00
J	£25,000.00
K	£40,000.00
L	£45,000.00
M	£100,000.00

Salaries Table
 Correct data imported 1 mark
 Pay_Rate set to Sterling & 2dp 2 marks

Input mask for Employees.Office_Code field

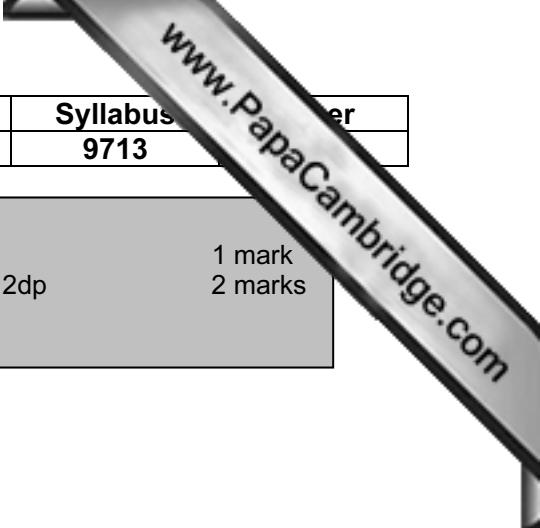


Field Name	Data Type	Description
Employee_No	Text	
Office_Code	Text	
First_Name	Text	
Family_Name	Text	
Job_Description	Text	
Pay_Grade	Text	

Field Properties

Field Size	3
Format	@
Input Mask	LLL
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	Yes (Duplicates OK)
Unicode Compression	No
BME Mode	No Control
BME Sentence Mode	None
Smart Tags	

Correct table & field 1 mark
 Field length 3 characters 1 mark
 Input mask set to LLL or correct validation 1 mark



Validation rule for Salaries.Pay_Rate field

Correct field 1 mark
 >=7000 1 mark
 AND 1 mark
 <=100000 1 mark

Text

Appropriate text 1 mark
 Including both parameters 2 mark

Correct fields 2 marks
 One-to-many 1 mark

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Table/Query: Salaries Related Table/Query: Employees

Pay_Grade Pay_Grade

Enforce Referential Integrity

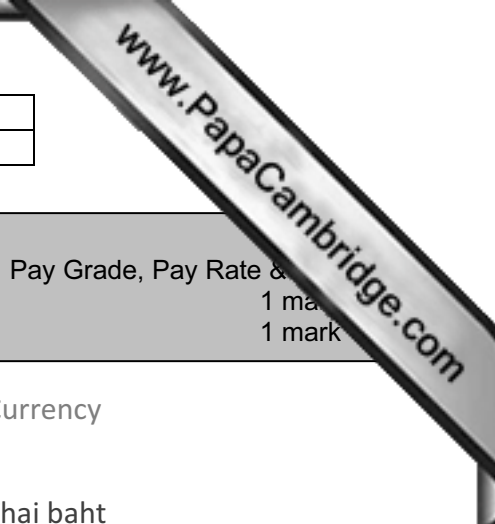
Cascade Update Related Fields

Cascade Delete Related Records

Relationship Type: One-To-Many

Correct fields 2 marks
One-to-many 1 mark

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Employees paid in Thai baht or US dollars

by A.Candidate, ZZ999, 0099

Header:- Appropriate title & candidate details
 Fields:- Office, Employee_No, 2 names, Job_Desc, Pay Grade, Pay Rate & Currency only
 Single page wide & fully visible

Office	Employee_No	First_Name	Family_Name	Job_Description	Pay_Grade	Pay_Rate	Currency
Bangkok	Ban000001	Sonja	Steinle	Regional director	J	£25,000.00	Thai baht
	Ban000011	Isra	Wattanapanit	Studio technician	J	£25,000.00	Thai baht
	Ban000012	Chanarong	Willapana	Studio technician	J	£25,000.00	Thai baht
	Ban000005	Aran	Mookjai	Sales	I	£20,000.00	Thai baht
	Ban000007	Mali	Boonliang	Admin/clerical	I	£20,000.00	Thai baht
	Ban000006	Phueng	Montri	Admin/clerical	I	£20,000.00	Thai baht
	Ban000017	Kamol	Supitayaporn	Sales	I	£20,000.00	Thai baht
	Ban000016	Ratana	Wattana	Sales	H	£18,000.00	Thai baht
	Ban000010	Justin	Brooklands	Studio technician	H	£18,000.00	Thai baht
	Ban000003	Phanteera	Sawangnetr	Recruitment/Talent Scout	E	£12,000.00	Thai baht
	Ban000014	Som	Saowaluk	Sales	B	£10,000.00	Thai baht
	Ban000019	Mongkut	Sintawichai	IT systems	B	£10,000.00	Thai baht
	Ban000020	Tasanee	Wattana	IT systems	B	£10,000.00	Thai baht
	Ban000022	Rajesh Mansi	Raval	Sales	B	£10,000.00	Thai baht
	Ban000013	Phailin	Suramongkol	Studio technician	B	£10,000.00	Thai baht
	Ban000021	Kanya	Charoenkul	Admin/clerical	A	£7,000.00	Thai baht

Search:
 Thai baht or US Dollars 2 marks
 Grouping:
 Ascending order of Office 2 marks
 Sorting
 Pay_Grade 1 mark
 ...descending order 1 mark

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Denver

Den000001	Cindy	Brown	Office manager	J	£25,000.00 US Dollars
Den000010	Stuart	Guttermann	Sales	J	£25,000.00 US Dollars
Den000009	Steve	Brown	Sales	I	£20,000.00 US Dollars
Den000023	Moshe	Harris	Studio technician	H	£18,000.00 US Dollars
Den000004	Tally	Telfer	Recruitment/Talent Scout	E	£12,000.00 US Dollars
Den000026	Lois	Thomas	IT systems	E	£12,000.00 US Dollars
Den000028	Kevin	White	Tours/Promotions crew	C	£11,000.00 US Dollars
Den000015	Tanon	Bridges	Studio technician	C	£11,000.00 US Dollars
Den000027	Elijah	Arnott	Tours/Promotions crew	C	£11,000.00 US Dollars
Den000024	Joshua	Bui	IT systems	C	£11,000.00 US Dollars
Den000020	Jayden	Anderson	Studio technician	B	£10,000.00 US Dollars
Den000022	Alejandro	Jackson	Studio technician	B	£10,000.00 US Dollars
Den000014	Karl	Bloomsfeld	Admin/clerical	A	£7,000.00 US Dollars

Male

Mal000001	Adi	Gunawardena	Regional director	J	£25,000.00 US Dollars
Mal000002	Arnav	Ranatunga	Sales	I	£20,000.00 US Dollars
Mal000006	Vihaan	De Silva	Admin/clerical	E	£12,000.00 US Dollars
Mal000004	Ananya	Perera	Recruitment/Talent Scout	E	£12,000.00 US Dollars
Mal000007	Saanvi	Jayasuriya	Admin/clerical	B	£10,000.00 US Dollars
Mal000008	Khushi	Gunawardena	IT systems	A	£7,000.00 US Dollars

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New York

New000002	William	Davis	Regional director	K	£40,000.00 US Dollars
New000022	Logan	Jackson	Admin/clerical	J	£25,000.00 US Dollars
New000017	Aiden	Miller	Recruitment/Talent Scout	I	£20,000.00 US Dollars
New000009	Liam	Williams	Sales	I	£20,000.00 US Dollars
New000018	Luis	Hernandez	Admin/clerical	H	£18,000.00 US Dollars
New000019	Martina	Martinez	IT systems	G	£15,000.00 US Dollars
New000004	Emma	Jones	Recruitment/Talent Scout	E	£12,000.00 US Dollars
New000011	Olivia	Murphy	Sales	D	£11,500.00 US Dollars
New000020	Ethan	Smith	Admin/clerical	A	£7,000.00 US Dollars
New000012	Addy	Gomez	Sales	A	£7,000.00 US Dollars

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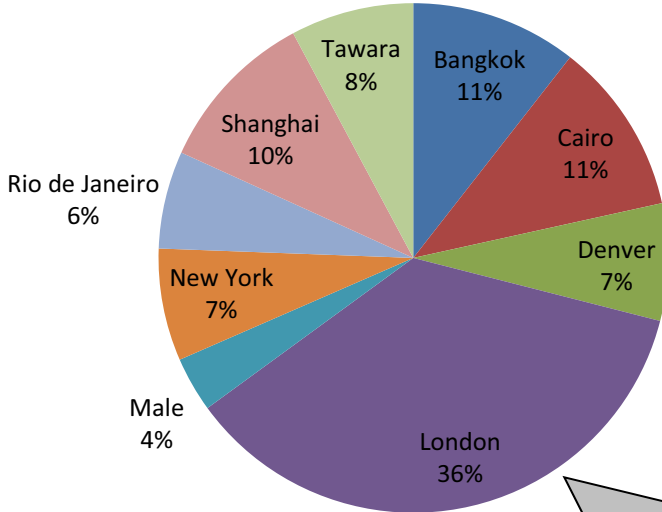


Extract to calculate average Pay_Rates for each office

Office	Avg Of Pay_Rate
Bangkok	£16,250.00
Cairo	£15,027.78
Denver	£14,076.92
London	£16,407.41
Male	£14,333.33
New York	£17,550.00
Rio de Janeiro	£15,250.00
Shanghai	£16,000.00
Tawara	£14,807.69

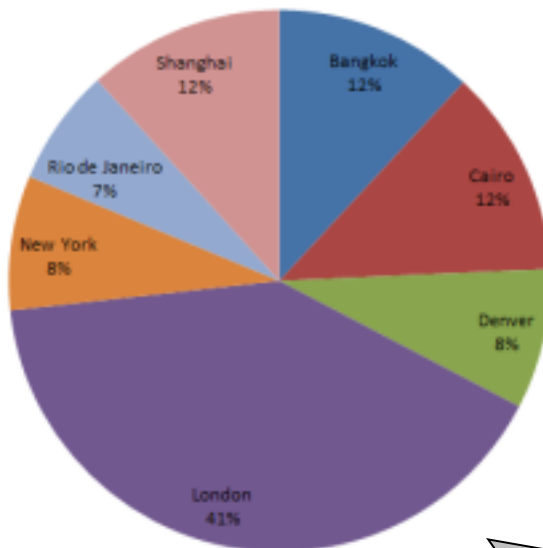
Correct calculated totals: 9 marks
 Only these 2 columns fully visible 1 mark
 Sorted ascending on Office 1 mark
 Sterling 1 mark
 with 2dp 1 mark

Percentage of the annual salary expenditure allocated to each office



Correct data	1 mark
Pie chart	2 marks
Appropriate title	1 mark
% values shown	1 mark
Appropriate labels – office names	1 mark

Percentage of the annual salary expenditure allocated to each office without Male & Tawara



Correct data	1 mark
Same chart type & labels	1 mark
Edited title	1 mark

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The screenshot shows the Microsoft Access Query Design View for a query named "Tour or technician". The design grid is as follows:

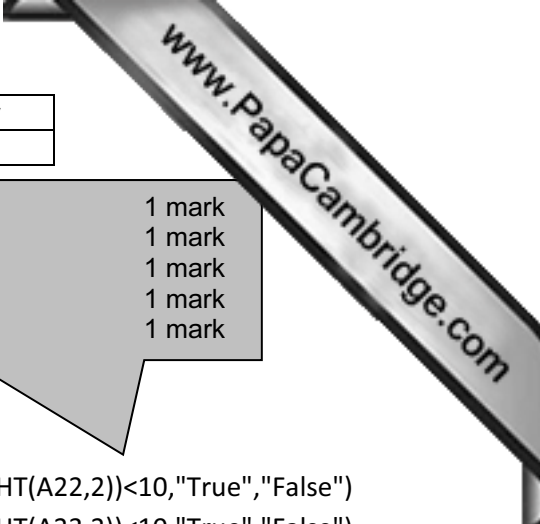
Field	Table	Sort	Show	Criteria	or
Employee_No	Employees		<input checked="" type="checkbox"/>		
First_Name	Employees		<input checked="" type="checkbox"/>		
Family_Name	Employees		<input checked="" type="checkbox"/>		
Job_Description	Employees		<input checked="" type="checkbox"/>	Like *Tour*	Or Like *technician*
Pay_Rate	Salaries		<input checked="" type="checkbox"/>		
Office	Offices		<input checked="" type="checkbox"/>		
Currency	Offices		<input checked="" type="checkbox"/>		

The field list below the grid is:

Field	Table
Employee_No	Employees
First_Name	Employees
Family_Name	Employees
Job_Description	Employees
Pay_Rate	Salaries
Office	Offices
Currency	Offices

- Correct fields 1 mark
- Like Tour 1 mark
- ...wildcard search 1 mark
- OR 1 mark
- Like technician 1 mark
- ...wildcard search 1 mark

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Extraction to find Right string 1 mark
 of employee number 1 mark
 To 2 places 1 mark
 VALUE function to return numeric 1 mark
 IF and /or autofilter to refine 1 mark

Employee_No	First_Name	Family_Name	Job_Description	Pay_Rate	Office	Currency
Sha000006	Yi	Zhang	Tours/Promotions crew	11000	Shanghai	Yuan
Sha000007	Lan	Cheung	Tours/Promotions crew	11000	Shanghai	Yuan
Taw000008	Paulo	Villa	Studio technician	12000	Tawara	Aus Dollars
Lon000003	Clemantine	Leadbetter	Tours/Promotions director	45000	London	Sterling

=IF(VALUE(RIGHT(A22,2))<10,"True","False")
 =IF(VALUE(RIGHT(A23,2))<10,"True","False")
 =IF(VALUE(RIGHT(A26,2))<10,"True","False")
 =IF(VALUE(RIGHT(A45,2))<10,"True","False")

Correct results 2 marks

Values printout

Employee_No	First_Name	Family_Name	Job_Description	Pay_Rate	Office	Currency	
Sha000006	Yi	Zhang	Tours/Promotions crew	£11,000.00	Shanghai	Yuan	True
Sha000007	Lan	Cheung	Tours/Promotions crew	£11,000.00	Shanghai	Yuan	True
Taw000008	Paulo	Villa	Studio technician	£12,000.00	Tawara	Aus Dollars	True
Lon000003	Clemantine	Leadbetter	Tours/Promotions director	£45,000.00	London	Sterling	True

Named range

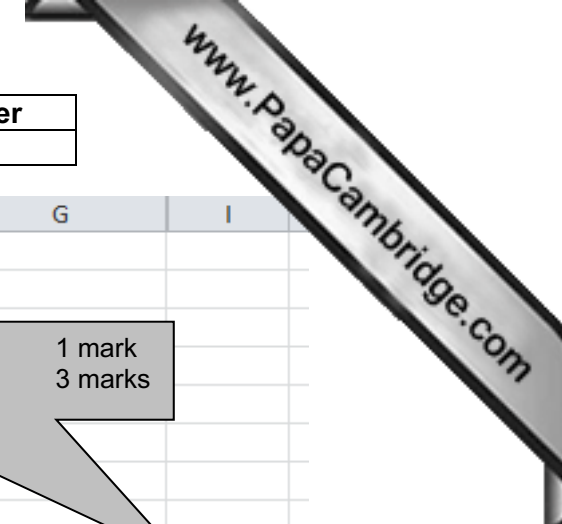
Correct name 1 mark
 Correct cells 1 mark

9 rows inserted 1 mark
 Contents of J14exchange copied in 1 mark

	A	B	C	D	E	F	G	H
1	Currency	1 pound sterling =						
2	Thai baht	49.3125						
3	Egyptian pounds	9.61846						
4	US Dollars	1.58085						
5	Real	3.20263						
6	Yuan	10.045						
7	Sterling	1						
8	Aus Dollars	1.51835						
9								
10	Employee_No	First_Name	Family_Name	Job_Description	Pay_Rate	Office	Currency	Bonus
31	Sha000006	Yi	Zhang	Tours/Promotions crew	11000	Shanghai	Yuan	=VLOOKUP(G31,Exchange,2,FALSE)*E31/10
32	Sha000007	Lan	Cheung	Tours/Promotions crew	11000	Shanghai	Yuan	=VLOOKUP(G32,Exchange,2,FALSE)*E32/10
35	Taw000008	Paulo	Villa	Studio technician	12000	Tawara	Aus Dollars	=VLOOKUP(G35,Exchange,2,FALSE)*E35/10
54	Lon000003	Clemantine	Leadbetter	Tours/Promotions director	45000	London	Sterling	=VLOOKUP(G54,Exchange,2,FALSE)*E54/10

New column called **Bonus** 1 mark
 Lookup or VLOOKUP used 1 mark
 Relative reference to Currency column 1 mark
 Named range called **Exchange** 1 mark
 Correct return column – 2 & False 1 mark
 Multiplied by Pay_Rate 1 mark
 Divided by 10 1 mark

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	A	B	C	D	E	F	G	I
1	Currency	1 pound sterling =						
2	Thai baht	฿49.31						
3	Egyptian pounds	EGP 9.62						
4	US Dollars	\$1.58						
5	Real	R\$ 3.20						
6	Yuan	¥10.0						
7	Sterling	£1.00						
8	Aus Dollars	\$1.52						
9								
10	Employee_No ▾	First_Name ▾	Family_Name ▾	Job_Description ▾	Pay_Rate ▾	Office ▾	Currency ▾	Bonus
31	Sha000006	Yi	Zhang	Tours/Promotions crew	£11,000.00	Shanghai	Yuan	¥11,049.5
32	Sha000007	Lan	Cheung	Tours/Promotions crew	£11,000.00	Shanghai	Yuan	¥11,049.5
35	Taw000008	Paulo	Villa	Studio technician	£12,000.00	Tawara	Aus Dollars	\$1,822.02
54	Lon000003	Clemantine	Leadbetter	Tours/Promotions director	£45,000.00	London	Sterling	£4,500.00
55								

Correct calculations
Correct formatting

1 mark
3 marks