INFORMATION TECHNOLOGY **9626/02**

Paper 2 Practical **October/November 2017**

MARK SCHEME
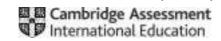
Maximum Mark: 110

Published

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

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This document consists of **7** printed pages.

Step 1: Data Dictionary

Employees/Personnel table

Field	Data type	Field size	Other metadata – input mask, validation, default value etc.			
Payroll_Number	Text/Alphanumeric	7 chrs	Primary Key			
Given_Name	Text/Alphanumeric					
Family_Name	Text/Alphanumeric					
Street_Address	Text/Alphanumeric					
City/Town	Text/Alphanumeric					
Post_Code	Text/Alphanumeric					
Date_of_Birth	Date/Time		dd/mm/yyyy			
Site	Text/Alphanumeric					
Job_Code	Text/Alphanumeric					
Contract_Hours	Number		Integer?			
Date_Employed	Date/Time					

Data dictionary	with 3 tables	1 mark
Employees table	Table name – appropriate e.g. Employees/Personnel	1 mark
	Payroll number as primary key	1 mark
	Personal information fields	1 mark
	Personal information data types	1 mark
	Job information fields	1 mark
	Job information data types	1 mark
	DOB once only	1 mark
	Employment date once only	1 mark
	Any extra metadata	1 mark

Sites table

Field	Data type	Field size	Other metadata – input mask, validation, default value etc.			
Site	Text/Alphanumeric	7 chrs	Primary Key			
Address_1	Text/Alphanumeric	2 chrs				
Address_2	Text/Alphanumeric					
Town/City	Text/Alphanumeric					
Post_Code	Text/Alphanumeric					
Office_Tel_Number	Text/Alphanumeric					
Office_Fax_Number	Text/Alphanumeric					

Sites table	Table name – appropriate e.g. Sites	1 mark
	Correct fields	1 mark
	Primary key	1 mark

Job_Codes/Job description table

Field	Data type	Field size	Other metadata – input mask, validation, default value etc.			
Job_Code	Text/Alphanumeric	2 chrs	Primary key			
Job_Description	Text/Alphanumeric					

Job_codes / job description table		
	Table name – appropriate e.g. Job codes	1 mark
	Job code = Primary Key	1 mark
	Correct fields	1 mark
	Correct data types	1 mark
	Some field sizes set	1 mark
	Any extra metadata	1 mark

Step 2: Prepare data

Payroll_Number	Site	Job_Code	Contract_Hours	Date_of_Employment	Given_Name	Family_Name	Date_of_Birth
AS3722C	Ashford	TO	16	08/08/2001	Caitlin	Anderson	03/08/1999
AS3187B	Ashford	SA	16	08/05/2007	Benjamin	Archer	27/02/1984
AS5495J	Ashford	SM	40	19/10/2004	Hannah	Atkins	27/06/1978
AS5676E	Ashford	WO	8	24/04/2014	Rosie	Baker	20/12/1983
AS5394C	Ashford	SA	8	07/11/2009	Abbie	Baldwin	10/02/1982
AS2940C	Ashford	TO	40	26/04/2016	Sean	Bolton	25/06/1970
AS5010D	Ashford	TO	16	28/06/2003	Holly	Burton	24/07/2000
BO5150F	Bolton	WO	24	28/02/2001	Isaac	Butler	16/04/1993
BO6598M	Bolton	LE	32	02/03/2007	Isabella	Campbell	14/12/1977
BO5288M	Bolton	AA	32	07/05/2010	Bradley	Cooper	12/10/1973
BO4488F	Bolton	WO	8	24/06/2002	Madeleine	Davey	21/06/1970
BO3722G	Bolton	TO	8	22/07/2007	Lauren	George	20/05/1985
BO3627H	Bolton	LO	24	08/11/2015	Jake	Hammond	11/08/1977
CA4845C	Cardiff	LE	8	05/02/2000	Maya	Alexander	09/07/1982
CA5494K	Cardiff	AA	32	10/06/2008	Alisha	Andrews	14/12/1983
CA6175A	Cardiff	LO	40	23/08/2016	Jasmine	Atkinson	03/11/1987
CA6382L	Cardiff	LO	24	05/10/2008	Naomi	Burrows	22/06/1984
CA6749A	Cardiff	WO	16	14/09/2007	Callum	Chan	12/10/1997
CA3423K	Cardiff	WM	40	27/06/1999	Taylor	Clark	11/04/1970
CA6689K	Cardiff	LO	8	25/12/2013	Amy	Collier	22/11/1988
DU3666M	Dundee	TM	40	16/04/2015	Jonathan	Allen	02/01/1997
DU4446F	Dundee	LO	16	01/11/2000	Luca	Atkinson	13/09/1974
DU6576J	Dundee	SA	40	15/08/1999	Alfie	Barker	27/01/1976
DU3843G	Dundee	LO	24	17/10/1998	Rosie	Bartlett	02/11/1982
DU2634E	Dundee	AM	40	15/01/2007	Lewis	Bevan	16/04/1969
DU3541C	Dundee	WO	24	16/12/2003	Charlotte	Buckley	05/06/1978
DU5240K	Dundee	AA	32	19/09/2015	Alicia	Chadwick	09/03/1989

Prepare data		
	Ashford, Bolton, Cardiff data in one table	1 mark
	Dundee data added	1 mark
	No repeated headings	1 mark
	No duplicated fields	1 mark

Site	Job_Code	Contract_Hours
=VLOOKUP($A2,All_sites_info!$A$2:$H$128,2,0)	=VLOOKUP($A2,All_sites_info!$A$2:$H$128,3,0)	=VLOOKUP($A2,All_sites_info!$A$2:$H$128,4,0)
=VLOOKUP($A3,All_sites_info!$A$2:$H$128,2,0)	=VLOOKUP($A3,All_sites_info!$A$2:$H$128,3,0)	=VLOOKUP($A3,All_sites_info!$A$2:$H$128,4,0)
=VLOOKUP($A4,All_sites_info!$A$2:$H$128,2,0)	=VLOOKUP($A4,All_sites_info!$A$2:$H$128,3,0)	=VLOOKUP($A4,All_sites_info!$A$2:$H$128,4,0)
=VLOOKUP($A5,All_sites_info!$A$2:$H$128,2,0)	=VLOOKUP($A5,All_sites_info!$A$2:$H$128,3,0)	=VLOOKUP($A5,All_sites_info!$A$2:$H$128,4,0)
=VLOOKUP($A6,All_sites_info!$A$2:$H$128,2,0)	=VLOOKUP($A6,All_sites_info!$A$2:$H$128,3,0)	=VLOOKUP($A6,All_sites_info!$A$2:$H$128,4,0)

All_Employee_Data.xlsx

Sites s/s		
	Lookup to factory data	1 mark
	Absolute column reference	1 mark
	Site lookups from column 2	1 mark
	Job_Code lookups from column 3	1 mark
	Contract_Hours lookups from column 4	1 mark
	,FALSE or ,0	1 mark
	Replication	1 mark
	Job_Codes prepared as All_Employee_Data	1 mark

Step 3: Create database

Database structure	Employees/Personnel table	1 mark
	Job Codes table	1 mark
	Sites table	1 mark
	Fields match dictionary	1 mark
	Data types match	1 mark
	Primary Keys match	1 mark
	No repeated fields	1 mark
	127 records correctly imported	1 mark
	Job Codes.Job Code to Employees.Job Code	1 mark
	1 to Many	1 mark
	Employees.Site to Sites.Site	1 mark
	1 to Many	1 mark

Step 4: Create and export report

Staff numbers at each factory

Total company staff   127

Site	Admin Assistant	Admin Manager	Line Engineer	Line operative	Line Supervisor	Site Assistant	Site Manager	Technical Manager	Technical Operative	Warehouse Manager	Warehouse Operative
Ashford	7	1	2	5	2	4	1	2	4	1	6
Bolton	4	1	2	5	2	1	1	1	7	1	5
Cardiff	3	1	2	8	2	1	1	1	3	1	3
Dundee	5	1	2	10	2	1	1	1	4	1	8

Name, Centre number, candidate number

	Staff Report.pdf	09/03/2016 22:36	Adobe Acrobat D...	117 KB

Report 1	Header set to 2cm	1 mark
	Footer set to 2cm	1 mark
	Both black	1 mark
	All text white	1 mark
	Sans serif font	1 mark
	24pt and 16pt text	1 mark
	Correct title text	1 mark
	Correct totals text	1 mark
	No bounding boxes, gridlines or other shading	1 mark
	Total shown in header	1 mark
	Correct Total (127) shown	1 mark
	Correct totals for Jobs	1 mark
	Layout - Site aligned with numbers	1 mark
	Layout - Labels fully visible	1 mark
	Layout - Labels aligned with information	1 mark
	Correct 4 sites shown	1 mark
	Correct 11 roles shown	1 mark
	Description not codes used	1 mark
	No Warehouse Assistants column	1 mark
	Exported as pdf one page	1 mark

Step 5: Edit video

Video clip		
	All text in a Serif font	1 mark
	All text in 48pt	1 mark
	Clips in correct order	1 mark
	No transition at start	1 mark
	Glacier.png used for title frames	1 mark
	Voice over 1 at start of video	1 mark
	Fly to the ICE caption shown	1 mark
	Caption starts after 1 second	1 mark
	Caption seen for 2 seconds	1 mark
	Caption Scrolls up	1 mark
	Froztbite Tours caption shown	1 mark
	Caption shown just after 1st	1 mark
	Caption does not scroll	1 mark
	Caption seen for 4 seconds	1 mark
	Caption lasts 2 seconds into Take_Off clip	1 mark
	Blank frames deleted from Take_Off clip	1 mark
	Helicopter sound reduced/low both clips	1 mark
	Voice over 2 during Take_Off clip	1 mark
	Transition between Take_Off and Landing	1 mark
	Landing clip speed doubled (9 seconds)	1 mark
	Voice over 3 added	1 mark
	Helicopter.png used for caption frames	1 mark
	Helicopter frames show for 4 seconds	1 mark
	See the power…caption shown	1 mark
	Caption shown for 2 seconds	1 mark
	See Froztbite… caption shown	1 mark
	Caption shown for remainder of clip	1 mark
	Transitions between Landing clip and caption	1 mark
	Voice over 4 added	1 mark
	Voice over 4 (during display of website)	1 mark
	Voice over 4 completes before end of clip	1 mark
	Widescreen format set (16:9)	1 mark
	Video format saved at 854 x 480	1 mark
	Video about 21 +? seconds long	1 mark
	Saved as FroztbiteVideo	1 mark
	In mp4 format	1 mark

Step 6: Edit audio and add as soundtrack to video

	All beeps removed	1 mark
	All clips trimmed	1 mark
	Audio clips < 4 seconds each	1 mark
	Clips re-saved as VoiceOverN	1 mark

Step 7: Audio theory questions
The AIFF Audio files were converted to MP3 files.

Give 2 reasons for this conversion

1	Reduced file size – download times – email attachment limits – any valid
2	Compatible with more applications

Conversion to .mp3	*2 from:*
	Reduced file size
	Reduce download times
	Email attachment limits
	Compatible with more applications 2 marks

You have been asked to resave the audio files in WAV format.

Give 2 reasons for advising against this.

1	Increased file size etc.
2	Data lost in compression cannot be replaced.

Advise against .wav	Increased file size etc.	1 mark
	Data lost in compression cannot be replaced	1 mark

List the following:

Audio file	File size	Bit rate
Soundclip1.mp3	169 KB	256 kbps

File size	169 kb	1 mark
Bit rate	256 kbps	1 mark

Explain why some people would say the bit rate used is unnecessarily high.

Average human cannot discern any increase in quality above 128kbps

Average human cannot discern any increase in quality above 128kbps	1 mark