APPLIED INFORMATION & COMMUNICATION TECHNOLOGY   **9713/02**

Paper 2 Practical Test A   **May/June 2016**

MARK SCHEME

Maximum Mark: 120

Published

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 2016 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

This document consists of **11** printed pages.

Evidence document

Q3

	A	B
1	Venues	
2	Code	VCode
3	ECAB2500X	=MID(A3,3,2)&LEFT(A3,2)
4	MHAB1453	=MID(A4,3,2)&LEFT(A4,2)
5	ANBA1400	=MID(A5,3,2)&LEFT(A5,2)
6	ODBE7100	=MID(A6,3,2)&LEFT(A6,2)
7	ATBI1347	=MID(A7,3,2)&LEFT(A7,2)
8	NEBI13000	=MID(A8,3,2)&LEFT(A8,2)
9	NIBI12700	=MID(A9,3,2)&LEFT(A9,2)
10	OTBI700	=MID(A10,3,2)&LEFT(A10,2)
11	SHBI2262	=MID(A11,3,2)&LEFT(A11,2)

Given evidence document printed	1 mark
Footer:	
Name and numbers	1 mark

Rows 2 and 3:	
Blank rows deleted	1 mark

VCode:	
MID	1 mark
Correct relative reference to A3	1 mark
Start at third character	1 mark
2 (characters extracted	1 mark
& or Concatenate used)	1 mark
LEFT	1 mark
Correct relative reference to A3	1 mark
2 characters extracted	1 mark
Replicated	1 mark

Q4

	E	
	Working	Capacity
	=MID(A3,5,LEN(A3)-4)	=IF(RIGHT(E3,1)="X",LEFT(E3,LEN(E3)-1),E3)
	=MID(A4,5,LEN(A4)-4)	=IF(RIGHT(E4,1)="X",LEFT(E4,LEN(E4)-1),E4)
	=MID(A5,5,LEN(A5)-4)	=IF(RIGHT(E5,1)="X",LEFT(E5,LEN(E5)-1),E5)
	=MID(A6,5,LEN(A6)-4)	=IF(RIGHT(E6,1)="X",LEFT(E6,LEN(E6)-1),E6)
	=MID(A7,5,LEN(A7)-4)	=IF(RIGHT(E7,1)="X"
	=MID(A8,5,LEN(A8)-4)	=IF(RIGHT(E8,1)="X"
	=MID(A14,5,LEN(A14)-4)	=IF(RIGHT(E14,1)="X
	=MID(A15,5,LEN(A15)-4)	=IF(RIGHT(E15,1)="X
	=MID(A16,5,LEN(A16)-4)	=IF(RIGHT(E16,1)="X",LEFT(E16,LEN(E16)-1),E16)

Capacity – extract right characters:	
MID	1 mark
Code	1 mark
Start at 5th character	1 mark
LEN(Code column)	1 mark
-4	1 mark

Capacity:	
IF	1 mark
Right	1 mark
Code	1 mark
1 (character extracted	1 mark
=	1 mark
X (or any Text character)	1 mark
LEFT	1 mark
Correct relative reference to Code	1 mark
LEN(Code column)	1 mark
-1	1 mark
Replicated – all Capacity columns	1 mark

Footer (mark awarded above)

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Q5

Named range:
VC   1 mark
B3:B125   1 mark

New Name

Name: VC
Scope: Workbook
Comment:
Refers to: =j16_venues1!$B$3:$B$125

OK   Cancel

Named range:
NM   1 mark
C3:C125   1 mark

New Name

Name: NM
Scope: Workbook
Comment:
Refers to: =j16_venues1!$C$3:$C$125

OK   Cancel

Named range:
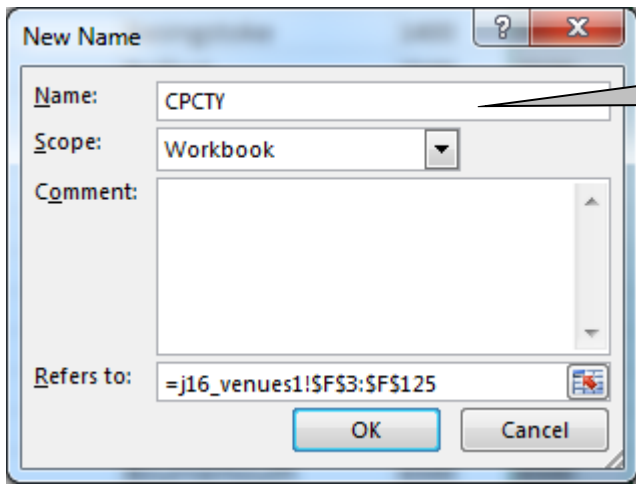LCTN   1 mark
D3:D125   1 mark

New Name

Name: LCTN
Scope: Workbook
Comment:
Refers to: =j16_venues1!$D$3:$D$125

OK   Cancel

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New Name

Name: CPCTY

Scope: Workbook

Comment:

Refers to: =j16_venues1!$F$3:$F$125

OK   Cancel

Named range:
CPCTY   1 mark
Correct range   1 mark

Q6

Header:
Name and numbers on right   1 mark

Row 1:
Cells A1-H1 merged & centre aligned
                                   1 mark
Black background   1 mark
White font   1 mark
36 point   1 mark
Serif   1 mark

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Lyryx Tour Plan 2017

Vcode	Venue name	Location	Arrive	Leave	Concert	Capacity	Crew
ZZZZ	Storage	London		05/01/2017 09:00			
BIOT	O2 Academy	Birmingham	05/01/2017 01:00	07/01/2017 07:00	06/01/2017 19:00	700	
BLKG	King George's Hall	Blackburn	07/01/2017 12:30	09/01/2017 02:00	08/01/2017 21:00	2000	
BLOH	Opera House	Blackpool	09/01/2017 04:50	10/01/2017 08:00	09/01/2017 20:30	3000	
GLBA	Braehead Arena	Glasgow	10/01/2017 16:45		11/01/2017 20:00	5200	
GLBA	Braehead Arena	Glasgow		13/01/2017 02:00	12/01/2017 20:00	5200	
EDUH	Usher Hall	Edinburgh	13/01/2017 04:00	15/01/2017 09:00	14/01/2017 21:00	3000	
HUCH	City Hall	Hull	15/01/2017 19:00	17/01/2017 08:30	16/01/2017 19:30	1684	
YOGO	Grand Opera House	York	17/01/2017 11:00	18/01/2017 08:00	17/01/2017 20:00	1000	
SWOL	Oasis Leisure Centre	Swindon	18/01/2017 21:00	20/01/2017 07:30	19/01/2017 20:30	3000	
ZZZZ	Storage	London	20/01/2017 14:15				

Values printout:
Single page & fully visible   1 mark
No row and column headings   1 mark

	A	B	C
3	Vcode	Venue name	Location
4	ZZZZ	=LOOKUP(A4,j16_venues1.xlsx!VC,j16_venues1.xlsx!NM)	=LOOKUP(A4,j16_venues1.xlsx!VC,j16_venues1.xlsx!LCTN)
5	BIOT	=LOOKUP(A5,j16_venues1.xlsx!VC,j16_venues1.xlsx!NM)	=LOOKUP(A5,j16_venues1.xlsx!VC,j16_venues1.xlsx!LCTN)
6	BLKG	=LOOKUP(A6,j1___nues1.xlsx!VC,j16_venues1.xlsx!NM)	=LOOKUP(A6,j1___enues1.xlsx!VC,j16_venues1.xlsx!LCTN)
7	BLOH	=LOOKUP(A7,j1___es1.xlsx!VC,j16_venues1.xlsx!NM)	=LOOKUP(A7,j1___es1.xlsx!VC,j16_venues1.xlsx!LCTN)
8	GLBA	=LOOKUP(A8,j16___.xlsx!VC,j16_venues1.xlsx!NM)	=LOOKUP(A8,j16___1.xlsx!VC,j16_venues1.xlsx!LCTN)
9	GLBA	=LOOKUP(A9,j16_____sx!VC,j16_venues1.xlsx!NM)	=LOOKUP(A9,j16_____sx!VC,j16_venues1.xlsx!LCTN)
10	EDUH	=LOOKUP(A10,j16_____VC,j16_venues1.xlsx!NM)	=LOOKUP(A10,j1_____VC,j16_venues1.xlsx!LCTN)
11	HUCH	=LOOKUP(	=LOOK
12	YOGO	=LOOKUP(	=LOOK
13	SWOL	=LOOKUP(	=LOOK
14	ZZZZ	=LOOKUP(	=LOOK

Venue name:

LOOKUP ( )	1 mark
A4 (Vcode)	1 mark
External spreadsheet	1 mark
First named range VC	1 mark
External spreadsheet	1 mark
Second named range NM	1 mark

Location:

LOOKUP (A4,)	1 mark
External spreadsheet for both ranges	1 mark
First named range VC	1 mark
Second named range LCTN	1 mark

	D	E	F	G
3	Arrive	Leave	Concert	Capacity
4		42740.375		
5	42740.0416666667	42742.2916666667	42741.7916666667	=1*LOOKUP(A5,j16_venues1.xlsx!VC,j16_venues1.xlsx!CPCTY)
6	42742.5208333333	42744.0833333333	42743.875	=1*LOOKUP(A6,j16_venues1.xlsx!VC,j16_venues1.xlsx!CPCTY)
7	42744.2013888889	42745.3333333333	42744.8541666667	=1*LOOKUP(A7,j16_ve___VC,j16_venues1.xlsx!CPCTY)
8	42745.6979166667		42746.8333333333	=1*LOOKUP(A
9		42748.0833333333	42747.8333333333	=1*LOOKUP(A
10	42748.1666666667	42750.375	42749.875	=1*LOOKUP(A
11	42750.7916666667	42752.3541666667	42751.8125	=1*LOOKUP(A
12	42752.4583333333	42753.3333333333	42752.8333333333	=1*LOOKUP(A
13	42753.875			OKUP(A13,j16_venues1.xlsx!VC,j16_venues1.xlsx!CPCTY)
14	42755.59375			

Capacity:

1*	1 mark
LOOKUP (A4,)	1 mark
External spreadsheet for both ranges	1 mark
First named range VC	1 mark
Second named range CPCTY	1 mark

Formulae printout:

Row and column headings visible	1 mark
A3 to G14 only	1 mark
Replication -3 columns	1 mark

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Lyryx Tour Plan 2017

Vcode	Venue name	Location	Arrive	Leave	Concert	Capacity	Crew
BIOT	O2 Academy	Birmingham	05/01/2017 01:00	07/01/2017 07:00	06/01/2017 19:00	700	9
BLKG	King George's Hall	Blackburn	07/01/2017 12:30	09/01/2017 02:00	08/01/2017 21:00	2000	9
BLOH	Opera House	Blackpool	09/01/2017 04:50	10/01/2017 08:00	09/01/2017 20:30	3000	11
GLBA	Braehead Arena	Glasgow	10/01/2017 16:45		11/01/2017 20:00	5200	16
GLBA	Braehead Arena	Glasgow		13/01/2017 02:00	12/01/2017 20:00	5200	16
EDUH	Usher Hall	Edinburgh	13/01/2017 04:00	15/01/2017 09:00	14/01/2017 21:00	3000	11
HUCH	City Hall	Hull	15/01/2017 19:00	17/01/2017 08:30	16/01/2017 19:30	1684	11
YOGO	Grand Opera House	York	17/01/2017 11:00	18/01/2017 08:00	17/01/2017 20:00	1000	7
SWOL	Oasis Leisure Centre	Swindon	18/01/2017 21:00	20/01/2017 07:30	19/01/2017 20:30	3000	11

Crew:
Correct cells ONLY	1 mark
Correct values	3 marks
No row and column headings, fully visible	1 mark

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	H
3	Crew
4	
5	=5+INT((G5+499)/500)+IF(HOUR(F5)<20,2,0)
6	=5+INT((G6+499)/500)+IF(HOUR(F6)<20,2,0)
7	=5+INT((G7+499)/500)+IF(HOUR(F7)<20,2,0)
8	=5+INT((G8+499)/500)+IF(HOUR(F8)<20,2,0)
9	=5+INT((G9+499)/500)+IF(HOUR(F9)<20,2,0)
10	=5+INT((G10+499)/500)+IF(HOUR(F10)<20,2,0)
11	=5+INT((G11+499)/500)+IF(HOUR(F11)<20,2,0)
12	=5+INT((G12+499)/500)+IF(HOUR(F12)<20,2,0)
13	=5+INT((G13+499)/500)+IF(HOUR(F13)<20,2,0)

Crew:

Correct print area H3-H13 only		1 mark
5+		1 mark
INT()	or ROUNDUP()	1 mark
G5	G5	1 mark
+499	/500	1 mark
/500	,0	1 mark
+IF()		1 mark
HOUR()		1 mark
F5		1 mark
<20		1 mark
,2		1 mark
,0		1 mark
Row and column headings		1 mark

Venue capacity and number of crew required
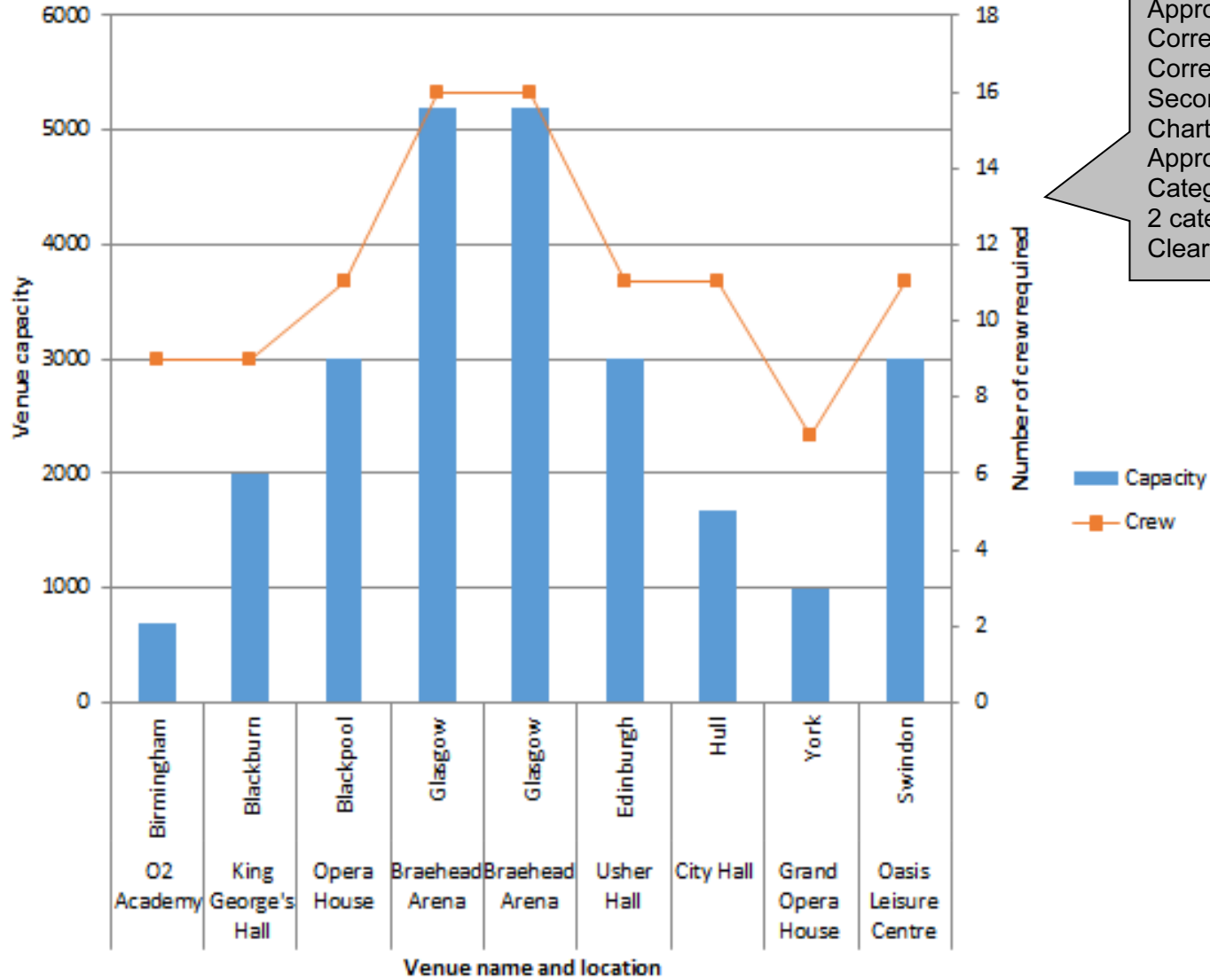
Chart:
Comparative chart	1 mark
Appropriate chart type	3 marks
Correct capacity values	2 marks
Correct crew values	1 mark
Secondary value axis added	1 mark
Chart title	1 mark
Appropriate value axis labels	2 marks
Category axis title	2 marks
2 category axis labels	2 marks
Clear and easy to read	1 mark

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Merged cell:
Merged A1 to K1   1 mark
   …formatting retained   1 mark
Red background   1 mark

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Lyryx Tour Plan 2017

Vcode	Venue name	Location	Arrive	Leave	Concert	Capacity	Crew	Sound	Light	General
ZZZZ	Storage	London		05/01/2017 09:00						
BIOT	O2 Academy	Birmingham	05/01/2017 01:00	07/01/2017 07:00	06/01/2017 19:00	700	9	4	3	2
BLKG	King George's Hall	Blackburn	07/01/2017 12:30	09/01/2017 02:00	08/01/2017 21:00	2000	9	4	3	2
BLOH	Opera House	Blackpool	09/01/2017 04:50	10/01/2017 08:00	09/01/2017 20:30	3000	11	5	4	2
GLBA	Braehead Arena	Glasgow	10/01/2017 16:45		11/01/2017 20:00	5200	16	7	5	4
GLBA	Braehead Arena	Glasgow		13/01/2017 02:00	12/01/2017 20:00	5200	16	7	5	4
EDUH	Usher Hall	Edinburgh	13/01/2017 04:00	15/01/2017 09:00	14/01/2017 21:00	3000	11	5	4	2
HUCH	City Hall	Hull	15/01/2017 19:00	17/01/2017 08:30	16/01/2017 19:30	1684	11	5	4	2
YOGO	Grand Opera House	York	17/01/2017 11:00	18/01/2017 08:00	17/01/2017 20:00	1000	7	3	3	1
SWOL	Oasis Leisure Centre	Swindon	18/01/2017 21:00	20/01/2017 07:30	19/01/2017 20:30	3000	11	5	4	2
ZZZZ	Storage	London	20/01/2017 14:15							

Correct values:
Sound   1 mark
Light   1 mark
General   1 mark

Values printout:
Single page & fully visible   1 mark
No row and column headings   1 mark

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	I	J	K
3	Sound	Light	General
4			
5	=ROUNDUP(H5*0.4,0)	=ROUNDUP(H5*0.3,0)	=H5-I5-J5
6	=ROUNDUP(H6*0.4,0)	=ROUNDUP(H6*0.3,0)	=H6-I6-J6
7	=ROUNDUP(H7*0.4,0)	=ROUNDUP(H7*0.3,0)	=H7-I7-J7
8	=ROUNDUP(H8*0.4,0)	=ROUNDUP(H8*0.3,0)	=H8-I8-J8
9	=ROUNDUP(H9*0.4,0)	=ROUNDUP(H9*0.3,0)	=H9-I9-J9
10	=ROUNDUP(H10*0.4,0)	=ROUNDUP(H10*0.3,0)	=H10-I10-J10
11	=ROUNDUP(H11*0.4,0)	=ROUNDUP(H11*0.3,0)	=H11-I11-J11
12	=ROUNDUP(H12*0.4,0)	=ROUNDUP(H12*0.3,0)	=H12-I12-J12
13	=ROUNDUP(H13*0.4,0)	=ROUNDUP(H13*0.3,0)	=H13-I13-J13

Sound

INT()	or ROUNDUP()	1 mark
H5	H5	1 mark
*0.4	*0.4	1 mark
+0.9	,0	1 mark

Light:

INT()	or ROUNDUP()	1 mark
H5	H5	1 mark
*0.3	*0.3	1 mark
+0.9	,0	1 mark

General:

=H5	1 mark
-I5-J5	1 mark
Replication	
All 3 formulae	1 mark

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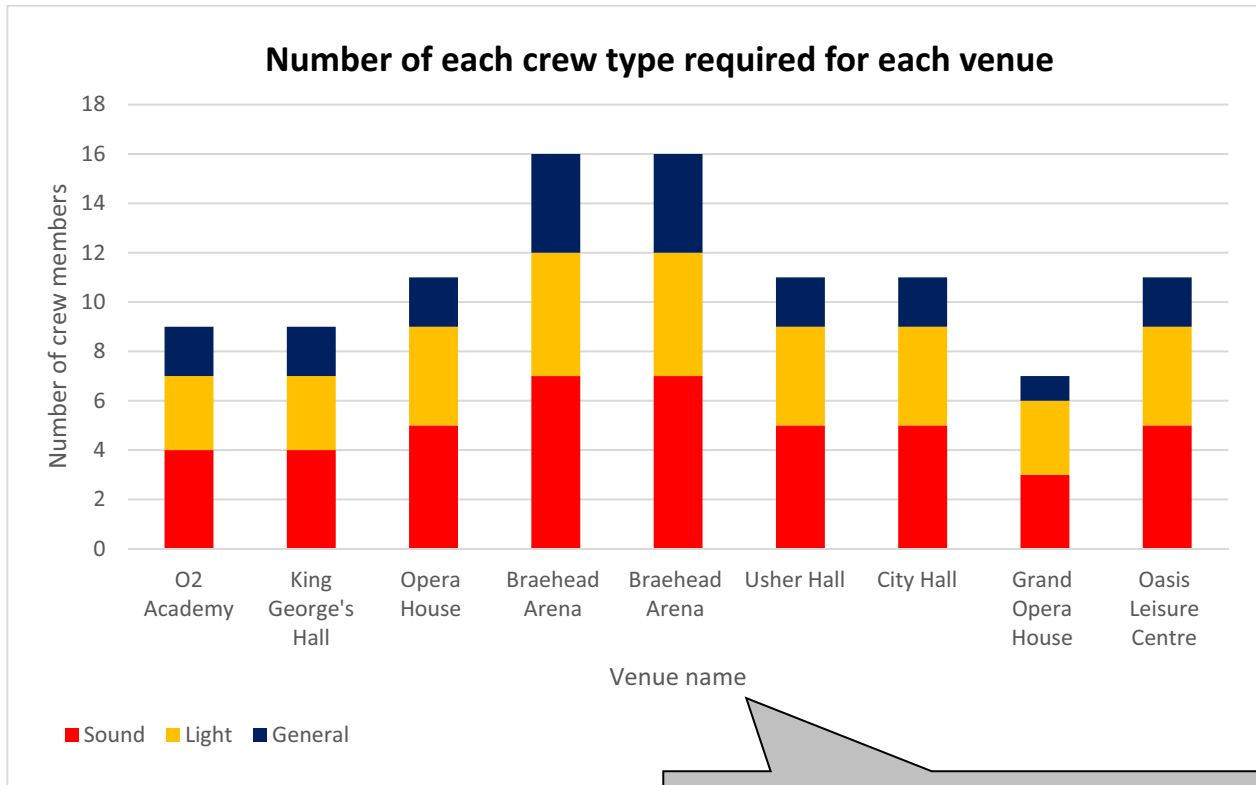## Number of each crew type required for each venue

Chart:
Stacked bar chart with legend   2 marks
Correct values (allow follow through)   1 mark
Chart title   1 mark
Appropriate axis labels   1 mark

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