

Q5.

Question	Answer	Additional guidance	Mark
	<p>B2 for a complete answer, e.g.</p> <ul style="list-style-type: none"> • Not suitable AND a personal question / people may not be willing to answer • Not suitable AND no option boxes / an open question • Not suitable AND there is no time frame <p>OR if B2 not earned... B1 for an incomplete answer i.e. giving reasons but no conclusion</p>	<p>B2 for assessing the appropriateness of the given question and reaching the correct conclusion</p> <p>OR if B2 not earned... B1 for an incomplete attempt at assessing the appropriateness of the given question.</p>	(2)

Q6.

Question	Answer	Additional guidance	Mark
	<p>B1 Qu 1 is leading/biased B1 Qu 2 does not contain a time frame B1 Qu 3 is a sensitive question (people may not want to say why they were in hospital) OR there are lots of missing options so lots of people will tick other</p>	<p>B3 for a complete assessment that the questions are not appropriate and the reason why for each question (B2 for an incomplete response with 2 out of 3 bullet points correct B1 for an incomplete response with 1 out of 3 bullet points correct)</p>	(3)

Q8.

5ST1F_01 Mark Scheme		Marks
(a)	<p>Advantage:</p> <ul style="list-style-type: none"> • People can give a more considered response/feel less pressured / take their time • Avoids possible interviewer bias / ensures all get questions asked the same way • Cheaper/no need to pay interviewers • Faster way to collect lots of data <p>Disadvantage:</p> <ul style="list-style-type: none"> • Questions cannot be explained if not understood • May have many non-responses 	<p>B1</p> <p>B1</p> <p>(2)</p>
(b)	<p>One reason from each of:</p> <ul style="list-style-type: none"> • Biased/leading question or says "do you agree..." • Open question (allows for too many different answers) or no response boxes 	<p>B1</p> <p>B1</p> <p>(2)</p>
(c)	<p>e.g. <i>How much would you be willing to pay to park at the theatre (per visit)?</i></p> <p>Set of unique boxes – must include units</p>	<p>B1</p> <p>B1</p> <p>(2)</p>
(d)	<p>Any two of:</p> <ul style="list-style-type: none"> • A sample is quicker • A sample is easier • A sample is cheaper to do • A sample is convenient • A sample has less data to handle 	<p>B1 B1</p> <p>(2)</p>
(e)	<p>Any two of:</p> <ul style="list-style-type: none"> • Not a good sample • Sample too small • Not everyone is in telephone directory • Sample not representative • Not everyone has a chance of being asked • Not random/Is biased 	<p>B2</p> <p>(2)</p> <p>[10]</p>
Notes		
(a)	<p>For part (a), (b), (d) and (e) ignore excess comments if not contradictory.</p> <p>B1 for a suitable advantage. Condone 'quicker'. Condone 'may be more honest' / 'anonymous' B1 for a suitable disadvantage which does not contradict their advantage. Condone 'cannot ask follow up questions'. Do not allow 'cannot expand on answers'</p>	
(b)	<p>B1 for biased or leading or a comment which directly implies biased/leading B1 for open question or equivalent Both marks may be scored in one line</p>	
(c)	<p>B1 for a suitable non-biased question about the cost of parking B1 for at least 3 response boxes. (Must be non-overlapping but need not be exhaustive) but must include units (£/p) in the question or response boxes.</p>	
(d)	<p>B1 B1 for any two correct statements. Both marks may be scored in one line. Do not allow converse statements about census unless compared with sample.</p>	
(e)	<p>B2 for any two correct statements (B1 for any one correct statement)</p>	

Q9.

Question number	Answer	Additional guidance	Mark
	<p>B1 for the questions are personal/people may be embarrassed AND B2 for a correct comment assessing the appropriateness of the interview and a reason e.g.</p> <ul style="list-style-type: none"> • appropriate and e.g. an interview will have a good response rate (or higher response rate than e.g. postal survey) • appropriate and e.g. the interviewer could be trained to put people at their ease when answering the personal questions • not appropriate and e.g. people may not feel comfortable talking about their health/fitness with the interviewer <p>OR (if B2 not earned) B1 for a correct commenting relating to the appropriateness of the interview without a decision</p>	<p>B1 for assessing appropriateness of questions B2 for a correct comment assessing the appropriateness of the interview and a reason OR (if B2 not earned) B1 for an incomplete assessment of the appropriateness of the interview</p>	(3)

Q10.

Question number	Answer	Additional Guidance	Mark
	<p>B1 B1 B1 B1 for each of four aspects from:</p> <ul style="list-style-type: none"> • Understanding e.g. Questions/responses can be explained in an interview or may not be understood in a questionnaire • Candour e.g. Employee may be less open/honest in an interview or questionnaire can be done without pressure • Resources e.g. Interviewing can be time consuming/expensive or questionnaire can be done by all at the same time (or in their own time, or more cheaply) • Inclusivity e.g. interviews more likely to include all employees or questionnaires might not be returned or directors' views are not included by interview • Interviewer bias e.g. Possible bias from director (in interview)/ no interviewer bias with questionnaire 	<p>B1 for each correct comment assessing the appropriateness of the data collection methods.</p>	(4)

Q11.

Question number	Answer	Additional guidance	Mark
	<p>B1 B1 for any two reasons from:</p> <ul style="list-style-type: none"> • Leading question / suggestive • Open question / no options / no scale / too many ways to answer / 'generous' is open to interpretation • May not wish to answer (honestly) / may feel pressured (into answering positively) 	<p>B1 for each of two from 3 options given, maximum 2 marks (allow equivalent wording)</p> <ul style="list-style-type: none"> • bias • responses will not be limited (and hence difficult to analyse) • may be seen as a sensitive question <p>Allow each bullet once only.</p>	(2)

Q12.

Question	Scheme	Marks
(a)	Any equivalent reason from: <ul style="list-style-type: none"> • not all have a telephone / not all in phone book / to avoid bias • quicker/cheaper (way to get lots of data) • residents can take their time / give considered response / are less pressured • responses may be more candid / more honest / more reliable 	B1 (1)
(b)	Question A: open question / no answer boxes / no units specified / too vague Question B: leading / biased / negative options only	B1 B1 (2)
*(c)	They should carry out a pilot survey/study... ... to check <ul style="list-style-type: none"> ◦ if questions are understood ◦ that required information is obtained / likely answers ◦ the response rate / see how long it takes ◦ for any errors / see if changes needed <p style="text-align: right;">Two clear reasons based on the list (or B1 for at least one acceptable reason)</p>	B1 B2 (3) [6]
Notes		
(a)	Allow wording equivalent to one of these reasons. Do not accept non-response: they may not answer / don't like unwanted calls Assume comment is about questionnaires, BUT accept converse statements if clear reference is to telephone survey.	
(b)	Allow equivalent wording but: A: do not allow 'may not know how far away' B: do not allow 'insufficient options' / 'no box for other' on its own	
(c)	QWC 1 st B1: require 'pilot' or 'pre-test' B2: Use professional judgement for two reasons clearly based on the list (allow only one answer from each bullet point). Otherwise B1 for at least one <i>acceptable</i> reason, e.g. to check questions are good. Note: check it works / check for bias / check spelling /see what people think of it, alone are B0	

Q13.

Question	Answer	Additional guidance	Mark
(a)	<p>B1 for e.g.</p> <ul style="list-style-type: none"> A pilot study is a small scale version of the overall study used to evaluate and improve the design of the overall study <p>B1 for e.g.</p> <ul style="list-style-type: none"> makes sure questionnaire gets relevant answers makes sure questions are understood to check response rate/likely responses identifies ambiguity improvements can be made to questionnaire checks how long it will take 	<p>B1 for an explanation of a pilot study</p> <p>B1 for any sensible reason for doing a pilot study Do not allow: Checks spelling/proofread Checks for bias/leading questions Checks not offensive</p>	(2)
(b)	<p>B1 for e.g.</p> <ul style="list-style-type: none"> Easy and quick to answer Response choice can clarify the question meaning Improves consistency of responses Easy to compare with other respondents or questionnaires Easier, quick, and less costly to analyse 	B1 for a correct statement assessing the appropriateness of closed questions	(1)

Q14.

Question number	Answer	Additional guidance	Mark
(a)	<p>B2 The method is appropriate as this is</p> <ul style="list-style-type: none"> a sensitive question, people may not answer it honestly otherwise people may not want to answer it otherwise maintains confidentiality <p>Award maximum 2 marks from any 2 of the above.</p> <p>OR</p> <p>B1 The method is appropriate as this is</p> <ul style="list-style-type: none"> only one of the above reasons 	<p>B2 for a completely correct assessment of the appropriateness of using the random response technique</p> <p>They must state that it is appropriate for at least B1 plus one reason.</p> <p>OR</p> <p>B1 for appropriate with attempt at reason</p> <p>If they state inappropriate B0B0</p>	(2)
(b)	<p>B1 $615 - \frac{4}{6}(615+102) *$</p> <p>OR</p> <p>B1 $\frac{2}{6}(615+102) - 102 *$</p>	<p>NB</p> <p>This is a show question, the full method must be seen for the award of this mark.</p>	(1)

Q15.

Question number	Answer	Additional guidance	Mark
(a)	B1 for e.g. this is a sensitive question or people may not want to answer it otherwise	B1 for a correct response referring to the sensitivity of the question	(1)
(b)	e.g. M1 for $0.5 \times (743 + 679) (= 711)$ M1 for $\frac{743 - "711"}{"711"}$ A1 for 0.045(007...)	M1 for method to estimate the number of people who answered yes because they got Heads M1 for method to estimate the proportion of people who have downloaded illegally A1 for a correct proportion, e.g. 0.045 or 4.5% or better	(3)
(c)	B1 for not appropriate B1 for a correct reason, e.g. the town may not be representative of the UK B1 for a different correct reason, e.g. the telephone directory may not include everyone in the town	B1 B1 B1 for assessing the appropriateness of the statistical methodology with correct reasons	(3)

Q16.

Question	Answer	Additional guidance	Mark
(a)	B1 for reference to respondents are more likely to be honest if answering the question	B1 for a correct justification of the appropriateness of the method	(1)
(b)	M1 for $0.5 \times (426 + 354)(= 390)$ M1 for $\frac{426 - "390"}{"390"}$ OR for $2 \times (426 - "390")$ AND $0.059 \times (426 + 354)$ OR for $2 \times ("390" - 354)$ AND $0.059 \times (426 + 354)$ A1 for 0.092(307...) OR for 72 AND 46(.02) A1 for comparison of '0.092(307...)' and 0.059 with appropriate conclusion about effectiveness eg $0.092 > 0.059$ so the random response technique appears to be effective as more people admitted to avoiding tax OR for comparison of '72' AND '46.02' with appropriate conclusion about effectiveness B1 for eg we don't know the population used in the research	M1 for method to estimate the number of people who answered yes because they got 1, 2 or 3 M1 for method to estimate the proportion of people who have avoided tax OR for method to find 5.9% of the total number of respondents A1 for a correct proportion OR for comparable values based on the proportions A1 for comparison of values with appropriate conclusion about effectiveness B1 for identifying a limitation of the conclusion	(5)

Q17.

Question	Scheme	Marks																		
(a)	e.g. Which do you prefer as a pet? Dog <input type="checkbox"/> or Cat <input type="checkbox"/> (or Neither <input type="checkbox"/>)	B1 (1)																		
(b)	e.g. <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td></td> <td>Dog</td> <td>Cat</td> <td>Fish</td> <td>Mouse</td> <td>other</td> </tr> <tr> <td>Male</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Female</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Dog	Cat	Fish	Mouse	other	Male						Female						B2,1,0 (2)
	Dog	Cat	Fish	Mouse	other															
Male																				
Female																				
(c)	Data is qualitative/non-numeric	B1 (1)																		
		[4]																		
Notes																				
(a)	Any non-biased closed question about pet preference or ownership which can be responded to with dog/cat as minimum. With response box o.e.																			
(b)	B2 for a usable table with both features: <ul style="list-style-type: none"> • male/female • at least two pet options listed (may include 'other' or 'none') or B1 for at least one correct feature																			
(c)	Allow any equivalent statement that data is non-numeric Ignore excess statements																			

Q18.

Question	Scheme	Marks
(a)	500 (accept '500 out of 1000' BUT '500/1000' is B0)	B1 (1)
(b)	560 – '500' (= 60) $\frac{60}{500}$ or $\frac{120}{1000}$ o.e. (e.g. $\frac{3}{25}$, 0.12, 12%)	M1 A1 (2)
		[3]
Notes		
(b)	M1 for identifying 60 or 120 (implied by correct answer or 0.06) A1 allow any correct equivalent answer, including words. (e.g. twelve in every hundred). Condone 120 as final answer.	