

Question number	Answer	Marks	Guidance
1 a	non-infectious disease that cannot be passed from one individual to another	1	
1 b	<p>something you choose to do in life that may increase or lower your risk of developing certain non-communicable diseases, or have no effect at all.</p> <p>Any three from:</p> <ul style="list-style-type: none"> • taking regular exercise • drinking heavily • smoking • overeating 	3	<p>1 mark for correct definition.</p> <p>2 marks for three examples.</p> <p>Award 1 mark for one or two correct examples.</p>
1 c i	correlation is when data shows similar pattern between lifestyle factor and incidence of non-communicable disease so it appears that one is linked to the other	1 1	
1 c ii	causal link is when scientists have evidence of how lifestyle factor affects body and causes particular communicable disease or increases risk of it occurring	1 1 1	
2 a	<p>(a)</p> <p>as it is normal lung tissue with lots of small alveoli visible</p> <p>in (b) alveoli have broken down, common in smokers</p>	1 1 1	
2 b	<p>severe breathlessness</p> <p>eventual death</p>	1 1	

2 c	tar in cigarette smoke affects delicate alveoli causing breakdown of alveolar structure and development of big spaces and scarring This reduces alveolar surface area, so less gas exchange takes place inefficient gas exchange means individual is short of oxygen and carbon dioxide levels build up in the blood causing breathlessness	1 1 1 1 1	
2 d i	Any two from: • bronchitis • lung cancer • other cancers of breathing system	2	
2 d ii	the more cigarettes smoked, the higher the concentration of damaging chemicals in body cells and the higher the risk of developing a smoking-related disease the longer a person smokes, the longer body cells are exposed to chemicals in cigarette smoke and the higher the risk that cells will be damaged and disease will result	1 1 1 1	
3 a i	700	1	
3 a ii	death rate for non-smoker aged 45–54: 100 per 100 000 men death rate for smoker aged 45–54 smoking more than 25 cigarettes a day: 390 per 100 000 men $390/100 = 3.9$ times higher	1 1 1	

3 b	Death rate for smokers higher in every age group because they are exposed to chemicals that cause potentially fatal diseases.	1	
	Death rate increases with age as people are more susceptible to damage as they get older	1	
	and they have usually been smoking for longer so their tissues have been exposed to cigarette smoke for longer	1	
4 a	liver	1	
	brain	1	
4 b	alcohol affects nervous system	1	
	slowing thought processes and reaction times	1	
	safe driving depends on quick judgement and fast reactions to situations, so drinking alcohol makes you less safe	1	
	higher amounts of alcohol affect judgement and lead to lack of self-control, which makes driving even more dangerous	1	
4 c	alcohol affects judgement and self-control	1	
	drunk people more sensitive to threats or insults	1	
	also more likely to lose control of temper and hit out due to reduced inhibitions	1	
4 d	Scientists know that alcohol crosses placenta and reaches fetus	1	
	and that developing liver cannot process alcohol effectively	1	
	High levels of alcohol can cause damage to developing brain and body of fetus	1	
	especially in early pregnancy	1	
	Scientists do not know what level of alcohol consumption is safe in pregnancy (too dangerous to test this)	1	
	so it is sensible not to drink at all so as not to put fetus at any risk	1	

5 a	steady increase in obesity in men, women, and children	1	
5 b	increased availability of food increased relative wealth increased availability of relatively cheap, high-calorie convenience/junk foods falling rates of exercise as jobs change and computers become increasingly significant in leisure time.	1 1 1 1	Credit other valid points.
5 c	Data shows correlation between increase in obesity and increase in cases of type 2 diabetes. Similar correlation exists between lack of exercise and incidence of type 2 diabetes, and between lack of exercise and obesity. If people who are overweight and have type 2 diabetes lose weight and/or exercise more, type 2 diabetes can be reversed. This is strong evidence of a link between the two. Obesity seems to reduce the ability of body cells to respond to insulin.	1 1 1 1	