



General Certificate of Secondary Education
February 2011

Science: Single Award (Modular)

Human Activity and Health
Module 2

Foundation Tier

[GSC21]

THURSDAY 24 FEBRUARY 2011, MORNING

**MARK
SCHEME**

1 (a)

Substance	Harmful effect
	is addictive
tar	
carbon monoxide	

[3]

(b) (i) binge drinking; liver [2]

(ii) drink less on each occasion/drink on fewer occasions/
education/seek help
Any **two** [2](iii) violence/relationship problems/work/school problems/cost to
NHS/accidents due to drunk driving/antisocial behaviour/crime [1]

8

2 (a) UV – genes – cancer [3]

(b) sunny/continental holidays/tanning studios [1]

(c) uncontrolled cell division [1]

5

3 (a) (i) 4 correct [2], 2/3 correct [1] [2]

(ii) corncrake difficult to see [1]

(iii) numbers falling/numbers low [1]

(b) living/biological [1]

5

4 (a) (i) $5 + 10 + 15 + 20 + 25$; 75 [2]

(ii) fighting/competition; for light/space/water/nutrients [2]

(iii) same pots/same length of time/same seed/[not plants]/seedlings [2]

(b) (i) roots produce poisonous substances/rhododendron will spread;
damage/kill plants at X/or explain how, e.g. less light/less water/
nutrients [2]

(ii) grey squirrel/zebra mussel [1]

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			AVAILABLE MARKS
5	(a) (i) D	[1]	
	(ii) penicillin	[1]	
	(iii) gonorrhoea/salmonella/tuberculosis/MRSA	[1]	
	(b) ill people in close proximity/weakened immune systems/ open wounds/antibiotic resistance [principle of antibiotics won't work]	[1]	4
6	(a) combustion; respiration	[2]	
	(b) increase in combustion/ reduction in photosynthesis; carbon dioxide levels increase/trap heat/rays	[2]	
	(c) willow renewable; takes in carbon dioxide; during photosynthesis; so no increase/reduced increase/carbon dioxide/carbon neutral Any three or peat not renewable; doesn't take in carbon dioxide; from photosynthesis; so increases carbon dioxide/global warming Any three	[3]	
7	(a) (i) antibodies linked accurately to microbes/antigens	[1]	
	(ii) phagocytosis	[1]	
	(iii) each disease-causing microbe/antigen different shape	[1]	
	(b) passive immunity is faster acting; lasts short period of time; antibodies not produced by body Any two	[2]	
	(c) vaccination lasts throughout winter/longer; flu could strike at any time over the winter	[2]	
Total			45