Anaerobic Respiration in Plants and Yeast 2 MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	carbon dioxide / CO2	ignore beer, wine, bread, energy,	1
		heat	
	alcohol / ethanol	3rd wrong chemical cancels a mark	1
b)i)	any two from:	allow volumes / amounts of	2
	₹ volume / amount of sugar	reactants for 1 mark	
	(solution) or volume / amount of		
	solution		
	₹ volume / amount of yeast	do not allow ratio of reactants	
	(suspension) or volume / amount		
	of suspension		
	₹ temperature		
	₹ amount of time		
b)ii)	A and C	if A or C allow the 2nd mark	1
	produced gas / carbon dioxide	wrongly named gas loses the mark	1
	(CO2)	B given = 0 marks for part (b)(ii)	
Total marks			6

QUESTION 2

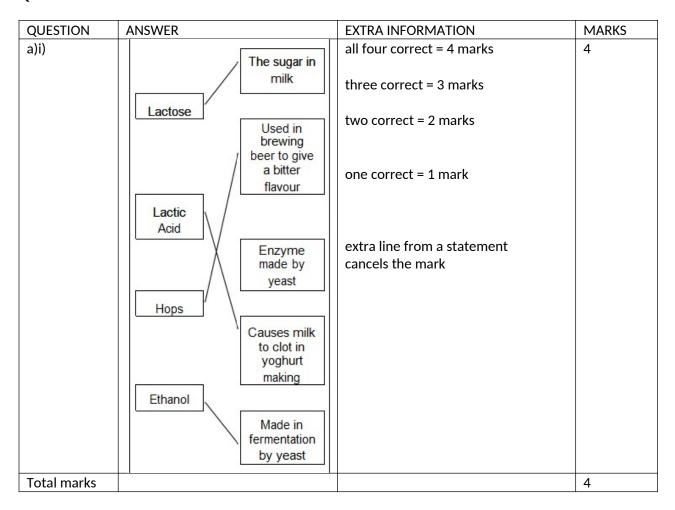
QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	any two from:	allow heat	2
	₹ volume / amount of milk		
	₹ type of milk	ignore ' time' unqualified	
	↑ amount / volume of starter		
	culture / yoghurt / bacteria		
	₹ type of starter culture		
	₹ temperature / 25°C		
	₹ time interval / every 50		
	minutes		
a)ii)	(more) reliable / (more)		1
	representative / typical	do not accept accurate / precise /	
	or detect / allow for / reduce	true	
	effect of	ignore fair / valid	
	/anomalies / errors		

a)iii)	(greater) accuracy of measurement or (greater) sensitivity or (more) precise / exact or can detect smaller changes	accept converse for pH papers allow paper obscured by yoghurt ignore vague answers eg clear / definite do not accept words such as reliable / valid	1
b)	flask 2 at 200 minutes / 5.8		1
c)	lactic	allow decrease in pH	1
	acid production		1
		ignore extras	
Total marks			7

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	yeast grows best / better / well or	allow yeast works best / better /	1
	optimum temperature for yeast / more yeast present CO2 made(by yeast)	well	1
	or respires / respiration (by yeast)	allow fermentation (ignore anaerobic/aerobic)	
b)i)	bacterium grows best / better / well / more bacteria present or optimum temperature for	ignore micro organism / microbes allow works / respires best / better	1
	bacterium (lactic) acid made (by bacterium)	/ well (ignore anaerobic/aerobic) do not allow wrong acid	1
b)ii)	bread still rises (in acid conditions)		1
	or no need to control / monitor pH		
Total marks			5

QUESTION 4



QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	any two from:	accept boil	2
	 sterilise flask before use or 	accept heat to kill organisms	
	method described	ignore heating unqualified	
	 sterilise water / solution 	sterilise unqualified = 1 mark	
	(before yeast added)		
	work near a flame		
	 modification to air lock eg 		
	disinfectant / cotton wool filter		
a)ii)	any one from:	ignore fair test	1

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	•so can see the effect of different	do not accept accurate / reliable /	
	types of sugar	precise	
	 different concentrations give 		
	different rates / affect results		
	•so only one variable / valid		
	•concentration is a control		
	variable		
b)i)	carbon dioxide	accept CO ₂ / CO2	1
b)ii)	less likely to lose count / get tired	ignore precise / accurate / reliable	1
	or experiment lasts a long time or	/ valid	
	less chance of human error		
c)i)	A - more gas / CO ₂ produced	if B – no marks	1
c)ii)	gas production stopped or zero	do not accept levelled off /	1
	rate or no more gas / bubbles	constant	
	produced		
Total marks			7