

Controlling Blood Glucose level MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	pancreas		1
b)i	A shortest / quicker time (to work)		1 1
b)ii)	D acts for longest time		1 1
b)iii)	diet / exercise	if 'diet' is qualified, then will need correct qualification, e.g. 'less carbohydrate / sugar' accept pancreas transplant / stem cell treatment	1
Total marks			6

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	(concentration high) in the hepatic portal vein is blood with glucose absorbed from the intestine concentration is lower in the hepatic vein because insulin (has caused) glucose to be converted into glycogen or allows glucose into liver cells		1 1 1
b)i	(after 6 hours) most of the glucose has been absorbed from the intestine or from food into the blood		1
b)ii)	because glucagon (made in the pancreas) causes glycogen to be converted into glucose glucose released into blood	if biological terms incorrectly spelt they must be phonetically accurate do not accept glucagon made / produced by the liver allow the liver maintains the correct / constant level of glucose in the blood	1 1 1
Total marks			7

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	B		1
a)ii)	D		1
a)iii)	C		1
b)i)	insulin		1
b)ii)	pancreas		1
Total marks			5

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: amylase / carbohydrase protease lipase	allow trypsin	2
b)i)	high / above normal blood sugar or cannot control blood sugar	allow other symptoms eg frequent / plentiful urination or sugar in urine or thirst or weight loss or coma ignore consequential effects eg blood pressure / circulation / glaucoma / tiredness	1
b)ii)	any one from: ✘ small / regular meals ✘ low sugar (meals) or low GI / GL or carbohydrates as starch	allow high fibre ignore reference to low carbohydrate	
b)iii)	any one from: ✘ keep constant(blood) sugar or prevent high (blood) sugar or reduces surge / rush of sugar into blood ✘ reduce the need for insulin		1
b)iv)	(take) insulin	allow pancreas transplant	1
c)	protein / hormone / enzyme synthesis or synthesis of named example or combine amino acids		1
Total marks			7

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	pancreas	allow phonetic spelling	1
a)ii)	glucose into cells / liver / muscles	allow any named organ / cell allow turned into / stored as glycogen but do not allow hybrid spellings for glycogen allow increases respiration allow stored as / turned into fat	1
b)i)	reference to "98.6% of all people who used Diacure reported an improvement in their condition."	allow claim 1 / 1 / the first one	1
b)ii)	(only) 30 patients or not enough / not many patients	allow only one trial or only done once or not repeated ignore bias	1
b)iii)	little effect / difference suggest drug is not effective (in long term)	allow no effect allow only drops by 4 (± 1) allow wouldn't persuade people to take it	1
b)iv)	avoid bias / owtte	eg company could change / ignore results / might lie ignore fair / accurate / reliable / valid	1
Total marks			7

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	pancreas		1
b)	the diabetic should get more energy from fat the diabetic should get less energy from carbohydrate		1 1
c)	(use) insulin	allow pancreas / stem cell transplant do not allow injection / transplant / stem cells / tablets alone ignore exercise	1
Total marks			4

