

Vaccines and Drugs 2 MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	dead or inactive or weak form of pathogen / bacterium / virus / microorganism introduced (stimulates) white cells / lymphocytes / leucocytes to produce antibodies antibodies made quickly on re-infection / idea of memory cells	ignore disease / germ accept B and T cells ignore phagocytes ignore antitoxins / antigens ignore already has antibodies ignore 'body remembers'	1 1 1 1
b)i)	alters / causes chemical processes / body chemistry	ignore craving / withdrawal symptoms	1
b)ii)	any two from: combined molecule / vaccine stimulates antibody production if nicotine taken, antibodies bind to nicotine molecules making them too large to get to brain / making them ineffective	ignore destroys nicotine allow prevents nicotine entering brain	2
Total marks			7

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	both lead to reduction / fall (in measles cases) measles vaccine caused a big drop or correct use of figures MMR wipes out measles or drops to (almost) zero or doesn't fall as much as measles vaccine or correct use of figures.	can be implied	1 1 1
b)	mump(s) rubella / german measles	either order allow phonetic spelling	1 1
c)	white blood cells (wbc) produce antibodies in future / if re-infected antibody production rapid / fast(er) / quick(er)	allow lymphocytes / leucocytes ignore memory cells ignore antitoxins / antigens / antibiotics / engulfing allow ecf from antitoxins / antigens / antibiotics ignore engulfing ignore reference to specificity	1 1 1
Total marks			8

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	any one from: <ul style="list-style-type: none"> • (produce) toxins / poisons • (cause) damage to cells 	kill / destroy cells allow kills white blood cells	1
a)ii)	produce antitoxins engulf / ingest / digest pathogens / viruses / bacteria / microorganisms	accept phagocytosis or 1 description ignore eat / consume / absorb for engulf ignore references to memory cells	1
b)i)	dead / inactive / weakened (measles) pathogen / virus	accept idea of antigen / protein ignore bacteria	1 1
b)ii)	(after infection) rise begins sooner / less lag time steeper / faster rise (in number) longer lasting or doesn't drop so quickly	accept converse if clearly referring to before vaccination idea of staying high for longer ignore reference to higher starting point	1 1 1
b)iii)	antibodies are specific or needs different antibodies	accept antigens are different or white blood cells do not recognise virus	1
c)	reduces spread of infection / less likely to get an epidemic	accept idea of eradicating measles	1
Total marks			10

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	antibodies antitoxins antibiotics		1 1 1
b)	any two from: <ul style="list-style-type: none"> • measles • mumps • rubella / German measles 		2
c)	less / low / no chance of getting named or all condition(s) if vaccinated quantitative figure(s) eg 5 times less likely to get convulsions		1 1
Total marks			7

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: ☑ resistant to (most) antibiotics ☑ contagious or easily passed on or reference to open wounds ☑ patients ill therefore less able to combat disease	virus is neutral	2
b)i)	chloride of lime / hand washing killed bacteria (picked up from corpses)	allow disease / germs / infection / disinfectants	1
b)ii)	people to wash hands after contact with patient so bacteria / pathogen / MRSA not transferred to other patient		1 1
Total marks			5

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	viruses live inside cells viruses inaccessible to antibiotic	allow drug / antibiotic (if used) would (have to) kill cell	1 1
a)ii)	mutation natural selection or no longer recognised by antibiotics	ignore mutation caused by antibiotic accept description of natural selection	1 1
b)	(stimulate) antibody production (by) white cells rapidly produce antibody on re- infection	ignore antitoxin ignore antibodies remain in blood	1 1 1
Total marks			7

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	antibiotic or named antibiotic	ignore antibodies accept antiseptic do not accept disinfectant	1
a)ii)	painkillers	accept named painkillers eg aspirin	1
b)i)	5.5 / 5 ½ weeks		1
b)ii)	rose gains 1 mark rose, then fell then rose again		3

	gains 2 marks a further 1 marks for one quantitative statement eg ☑rose for 3 weeks / to 14–15 units ☑dropped to 4 weeks / 9 units ☑rose to 7 weeks / 64–65 units		
b)iii)	(no) level begins to fall / is falling (after 7 weeks)		1
Total marks			7