

Multiple Choice Answers

Q14: D

Multiple Choice Answers

Q26: B

Multiple Choice Answers

Q26: B

Multiple Choice Answers

Q17: C

2(a)

component of blood	letter from Fig. 2.1	function
red blood cell	F	transport / carry / AW, oxygen
lymphocyte	G	production of antibodies
plasma	H	transport / carries / contains / holds / AW, (blood) cells / ions / nutrients / hormones / proteins / antibodies / carbon dioxide / urea / waste / heat A solvent OR maintain, blood pressure / pH / osmotic balance
phagocyte	E	phagocytosis
platelet	J	(description of blood) clotting / prevent blood loss / release fibrin

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2(b)(i)

HIV / human immunodeficiency (virus) / AVP ;

2(b)(ii)

any two from:
 (contaminated) surfaces / objects ;
 food ;
 water ;
 faeces / sewage ;
 soil ;
 air ;
 (named) animals / vector ;

2(c)	<i>any three from:</i> 1 ref. to specificity OR antibodies have complementary (shape) to, antigen / pathogen ; 2 fit / bind, to (specific) <u>antigens</u> ; 3 mark / clump / immobilise / neutralise / inactivate, pathogens / toxins ; 4 (for) destruction of pathogens / phagocytosis / described ; 5 AVP ;
2(d)	<i>any three from:</i> <i>active immunity:</i> 1 (gained) as a result of infection / vaccination ; 2 antibodies are produced (by the body / lymphocytes / memory cells) ; 3 produces <u>memory</u> cells / ref to secondary immune response ; 4 long-term / permanent ; 5 slower response ;

5(a)(i)	bacteria / prokaryote(s) ;
5(a)(ii)	<i>any two from:</i> only use for bacterial infections / when essential / when necessary ; use appropriate antibiotic ; AVP ;
5(b)(i)	genus ;
5(b)(ii)	fungus / fungi ;
5(c)(i)	insulin / mycoprotein / ethanol / (named) alcohol / carbon dioxide / amino acids / hormones / proteins / factor VIII / AVP ;
5(c)(ii)	oxygen ;

5(c)(iii)	<i>any five from:</i> 1 monitoring ; 2 temperature ; 3 water jacket / described / water bath ; 4 pH ; 5 carbon dioxide might reduce pH ; 6 buffer / described ; 7 keep, pH / temperature, at suitable value for enzyme activity ; 8 (named) nutrient supply ; 9 carbon dioxide / waste products, removal ; 10 stirrer to equally (distributed), temperature / pH / nutrient concentration / oxygen concentration / microorganisms ; 11 idea of regulating (gas) pressure ; 12 vent or exhaust ; 13 sealed to prevent contamination / AW ;
5(d)	yeast ;

Multiple Choice Answers

Q24: D