

Multiple Choice Answers

Q22: B

Q30: A

Multiple Choice Answers

Q34: B

Multiple Choice Answers

Q34: A

5(a)	<i>any three from:</i> 1 less land required / AW, (than extensive farming) ; 2 (so) fewer trees cut down / less deforestation ; 3 more land available for named use ; 4 improved <u>yield</u> ; 5 more efficient named farming practice ; 6 cheaper (named), products / food / meat / milk ; 7 idea of consistent, quality / growth, of product ; 8 increased food security ; 9 (increased) profits (for farmer) ; 10 AVP ;
5(b)	<i>any two from:</i> treat / prevent, (spread of) bacterial, disease / infection ; caused by close proximity / overcrowding / AW ; AVP ;
5(c)(i)	D and F ;
5(c)(ii)	54 ;;;

5(c)(iii)	<i>any four from:</i> 1 <i>ref. to</i> (resistance due to) mutation ; 2 antibiotics kill non-resistant bacteria / resistant bacteria survive ; 3 (resistant bacteria / bacteria that survive the antibiotic) reproduce ; 4 passing on alleles (for resistance) ; 5 <i>idea that</i> over time this increases, the proportion of population of bacteria that is resistant / frequency of resistant allele ; 6 <i>ref. to</i> natural selection ; 7 AVP ;
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3(a)	<i>any two from:</i> (enters) the root hair (cell) ; moves through the (root) cortex (cells to the xylem) ; AVP ;
3(b)(i)	5.8 (g per hour) ;

3(b)(ii)	<i>any four from:</i> 1 as temperature increases, water loss / transpiration, increases ; ora 2 comparative data manipulation with units ; 3 higher <u>kinetic</u> energy (of water molecules) / description of molecules having more energy to, move / collide / AW ; ora 4 increases (the rate of) evaporation (inside leaf) ; ora 5 water evaporates from the surface of mesophyll cells ; 6 increases (the rate of) <u>diffusion</u> (of water vapour) through the <u>stomata</u> ; ora 7 more stomata open / stomata open wider, at high(er) temperatures ; ora
3(b)(iii)	increased rate of transpiration ; increased concentration gradient (of water vapour for diffusion through the stomata) ;
3(b)(iv)	1 (mineral) ions ; 2 tube / vessel / AW ; 3 lignin ; 4 pull ; 5 column / AW ; 6 forces (of attraction) / attraction / AW ;
3(c)(i)	<i>any three from:</i> 1 (plants / cells) exposed to, extreme heat / high temperatures ; 2 (plants / cells have) inadequate / not enough / no, water OR dehydration ; 3 (rate of) water uptake is less than, (rate of) water loss / transpiration ; ora 4 water moves out of cells (by osmosis) ; 5 cells, become flaccid / lose turgor (pressure) / plasmolyse ; 6 <i>ref. to</i> plants / leaves / cells, rely on (turgor) pressure of water on (inelastic) cell walls for, (structural) support / to stay firm / AW ; 7 AVP ;

3(c)(ii)	<i>any one from:</i> 1 inner surface of leaf is folded / AW ; 2 hairs / AW ; 3 sunken stomata or stomata in, pits / AW ; <i>any two from:</i> 4 trap moist air / water vapour / reduce air, flow / movement ; 5 reduce water (vapour) diffusion gradient (out of stomata) ; OR 6 curled / rolled / AW, leaf ; 7 (rolling) traps air / reduce air movement / shields leaf from heat / reduces exposed surface ; 8 reduce water (vapour) diffusion gradient (out of stomata) ; OR 9 few stomata ; 10 few sites where water exits the leaf / AW ; OR 11 thick (waxy) cuticle ; 12 reduces evaporation (from the leaf surface) / creates a waterproof layer ;
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Multiple Choice Answers

Q32: B