



ENVIRONMENTAL MANAGEMENT

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Paper 1

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MARK SCHEME

Maximum Mark: 60

Published

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Question	Answer	Marks
1(a)(i)	<p><i>any three from:</i></p> <p><i>soil provides,</i></p> <p>the minerals / nutrients which the plant needs;</p> <p>named relevant mineral;</p> <p><i>ref to</i> humus content;</p> <p>a suitable pH;</p> <p>it will be adequately drained / not waterlogged;</p> <p>pore space / infiltration;</p> <p>it will be aerated;</p> <p><i>ref to</i> texture;</p>	3
1(a)(ii)	<p><i>any three from:</i></p> <p>terracing / correct description and reduces run-off down a slope;</p> <p>contour ploughing / correct description and reduces run-off down a slope / stops soil being washed away;</p> <p>afforestation / tree planting / mixed cropping / improve vegetation cover / crop rotation / do not leave soil bare / do not allow overgraze / and reduces loss of soil due to wind / water / roots bind soil / increase interception;</p> <p>wind break / correct description and reduces loss of soil due to wind;</p> <p>use of organic material which hold soil together;</p>	3

Question	Answer	Marks
1(b)	<p><i>agree</i></p> <p>oil palm trees (still) take in carbon dioxide / acts as a carbon sink; no increase in global warming; transpire water; hold the soil so stop erosion / run-off / maintains interception; AVP;</p> <p><i>disagree</i></p> <p>fewer habitats in palm forest; less biodiversity / tree species in palm forest / food chains disrupted; <i>ref to a use of biodiversity;</i> do not provide aesthetically pleasing environment / encourage tourism; <i>ref to removal of rain forest might lead to an increase in carbon dioxide levels in the atmosphere / global warming;</i> palm trees are a monoculture and could lead to soil deterioration; AVP;</p>	4

Question	Answer	Marks
2(a)(i)	correct plot;	1
2(a)(ii)	China and 5.6;	1
2(a)(iii)	Japan and 18 184;	1
2(a)(iv)	C ;	1
2(a)(v)	<p><i>any three from:</i></p> <p>rural vs. urban / <i>ref to</i> degree of isolation;</p> <p><i>ref to</i> population density / size;</p> <p>time of day it occurs;</p> <p><i>ref to</i> quality of response / emergency procedures / education;</p> <p><i>ref to</i> quality of buildings;</p> <p>duration of earthquake;</p> <p>distance from, epicentre / focus / plate boundary;</p> <p>level of poverty;</p> <p>underlying geology;</p> <p>close to the coast / tsunami;</p>	3

Question	Answer	Marks
2(b)	<p><i>any three from:</i></p> <p>provision of, shelter / clothes / hygiene facility;</p> <p>evacuation;</p> <p>cut off gas supply;</p> <p>education of people as to what to do;</p> <p>food / water;</p> <p>medical stock piles / medical centres;</p> <p>teams of rescue workers;</p> <p>availability of machinery to lift heavy collapsed buildings;</p> <p>maintaining communication;</p> <p>searches for missing people;</p> <p>policing;</p> <p>international appeals / funds available;</p>	3

Question	Answer	Marks
3(a)(i)	$(750\,000\,000 / 7\,500\,000\,000 \times 100) = 10\%$;	1
3(a)(ii)	$7\,100\,000\,000 \times 0.52 = 3\,692\,000\,000$ (people);	1

Question	Answer	Marks
3(a)(iii)	<p><i>push</i> any 3 from B, C, F, G;</p> <p><i>pull</i> A, D, E;</p>	2
3(a)(iv)	<i>ref to</i> education / housing / war / drought / water / electricity / persecution <u>and</u> if a pull or push;	1
3(b)(i)	<p>paper, glass, (food, garden waste, plastic <i>in any order</i>), metal, other ;;</p> <p><i>6 or 7 correct [2 marks]</i> <i>3, 4 or 5 correct [1 mark]</i> <i>0, 1 or 2 [0 marks]</i></p>	2
3(b)(ii)	<p><i>any three from:</i></p> <p>harbours disease / attracts vermin / flies;</p> <p>qualified with relevant disease;</p> <p>fire risk;</p> <p>visual pollution;</p> <p>smells;</p> <p><i>ref to</i> effects on tourism;</p> <p>physical injuries to, humans / domestic animals;</p> <p>water pollution, qualified;</p> <p>blocking drains / flooding;</p>	3

Question	Answer	Marks
4(a)	<p><i>any two from:</i></p> <p>between the tropics / around equator;</p> <p>one exception listed as either does or doesn't grow coffee;</p> <p>more in southern hemisphere / south of the equator;</p> <p>one named region (central America, south of North America, north of South America, central South America, middle / central Africa, India, south Asia, far east);</p>	2
4(b)(i)	<p>plants, make food / photosynthesise / have chlorophyll / trap, light / energy in leaves;</p> <p>so less, glucose / food / energy to grow / make beans / seeds;</p>	2
4(b)(ii)	<p>as climate warms it may get warmer at high altitude / there will be less cold land;</p> <p>so rust can grow higher up;</p>	2
4(c)	<p><i>any four from:</i></p> <p><i>use of,</i></p> <p>pesticide / fungicide / herbicide;</p> <p>(pest) resistant plants;</p> <p>mixed cropping for biological control;</p> <p>introduce predator for biological control / described;</p> <p>crop rotation;</p> <p>physical method described / weeding / fencing;</p> <p>grow the crop in a pest-free environment;</p>	4

Question	Answer	Marks
5(a)(i)	E ;	1
5(a)(ii)	B (evapo)transpiration C interception D evaporation ;; <i>3 correct [2 marks]</i> <i>2 correct [1 mark]</i> <i>1 correct [0 marks]</i>	2
5(a)(iii)	removal of trees / urbanisation / burning fossil fuels; loss of roots / trees to hold / take up water / reduction of interception / infiltration / melting ice cap;	2
5(b)(i)	plot at 38; plot at 82;	2
5(b)(ii)	Middle East and (N) Africa; Middle East and (N) Africa; two / 2 / 2.1;	3

Question	Answer	Marks
6(a)(i)	<p><i>any three from:</i></p> <p>close / dense;</p> <p>correct comment on the percentage cover;</p> <p>more than one species present;</p> <p><i>ref to</i> lack of, grasses / herbs;</p> <p>all (woody) shrubs / bushes, circular in shape;</p> <p>low / short vegetation;</p> <p>no trees;</p>	3

Question	Answer	Marks
6(a)(ii)	<p><i>any four from:</i></p> <p><i>ref to</i> succession;</p> <p>lichens / mosses / pioneer plants;</p> <p>can colonise, rock / bare surfaces / don't need soil;</p> <p><i>ref to</i> soil created / described / weathering;</p> <p>soil improves due to, death / decay / faeces of organisms;</p> <p>gets more, humus / water / minerals / nutrients;</p> <p><i>ref to</i> seed carried into the area;</p> <p>allowing small plants / named plants to root / grow;</p> <p>tall plants / shrubs / bushes grow;</p> <p><i>ref to</i> competition between named types of plants, e.g. taller / shorter;</p> <p>for water / light / nutrients;</p>	4
6(b)	<p><i>any three from:</i></p> <p>core (area) in which, strict protection / monitoring / no development allowed;</p> <p>buffer (area) in which, local community involvement in management / ecotourism / recreation / education / research;</p> <p>transition (area) in which, sustainable development / agriculture / settlements allowed;</p> <p>an area which protects the environment and benefits local people;</p>	3