



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

ENVIRONMENTAL MANAGEMENT

0680/23

Paper 2

October/November 2016

MARK SCHEME

Maximum Mark: 80

Published

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This document consists of 7 printed pages.

Page 2	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
1(a)(i)	an earthquake is a tremor or vibration in the Earth's crust / tectonic plates moving past each other causing shaking of the ground;	1
1(a)(ii)	<i>any 3 of:</i> uneven distribution / not found all over the world; along plate margins; appropriate example to illustrate; narrow belts; around the edge of the Pacific Ocean; middle of Atlantic Ocean; edges of some continents / example;	3
1(a)(iii)	<i>any 4 of:</i> oceanic and continental plates converge / move together / tremors or vibrations through the earth's crust; dragged by convection currents in the mantle; oceanic plate moves below continental; friction; pressure build up; pressure release;	4
1(b)(i)	correct use of scale; countries labelled on x-axis; all bars correctly plotted;;	4
1(b)(ii)	China Indonesia Italy United States of America (Allow USA) 4 correct = 2, 3 correct = 1, 1/2 correct = 0	2
1(b)(iii)	it has a low death toll but a high magnitude compared to the others;	1

Page 3	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
1(b)(iv)	<p><i>any 3 of:</i> land use zoning; appropriate example to reinforce; design of buildings to withstand earthquakes; appropriate example(s) (max 2); design of other structures to withstand earthquakes; appropriate example; earthquake drills; earthquake survival kits / deployment of rescue teams; education (if qualified);</p>	4
1(c)(i)	<p><i>any 3 of:</i> closer to epicentre; epicentre is where earthquake is strongest; therefore more damage is done; Sendai also affected by the tsunami whereas Nagasaki is not; Nagasaki is sheltered by land mass;</p>	3
1(c)(ii)	<p><i>any 5 of:</i> buildings collapsed / washed away; roads / bridges / highways collapse; cars swept away or crushed by collapsed roads; deaths / injuries; people trapped in buildings; buildings buried in debris (washed in by tsunami); power lines cut; people lose homes; loss of farmland; outbreak of disease; ports destroyed / eq; grief / emotional distress; insurance claims; loss of employment and income; money to repair damage;</p>	5

Page 4	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks								
	people have to live in relief shelters; food shortages from destroyed farmland; loss of imports/exports / money from trade / eq;									
1(d)(i)	<table border="1"> <tr> <td>river:</td> <td>Mississippi</td> </tr> <tr> <td>cause of flooding</td> <td>storms / heavy rainfall / snowmelt;</td> </tr> <tr> <td>impact</td> <td>evacuation of houses / land flooded;</td> </tr> <tr> <td>how managed</td> <td>channel opened / land flooded;</td> </tr> </table>	river:	Mississippi	cause of flooding	storms / heavy rainfall / snowmelt;	impact	evacuation of houses / land flooded;	how managed	channel opened / land flooded;	3
river:	Mississippi									
cause of flooding	storms / heavy rainfall / snowmelt;									
impact	evacuation of houses / land flooded;									
how managed	channel opened / land flooded;									
1(d)(ii)	<p><i>any 4 of:</i> loss of protective canopy; less interception; increased surface run-off; less water taken up by trees; no roots to encourage through-flow; no roots to bind the soil so increased soil erosion; silt raises level of river so increasing flooding risk;</p>	4								
1(e)	<p><i>any 6 of:</i> forecasting of, storms / rainfall events; early warning and evacuation; settlement patterns e.g. not building on floodplain; buildings on stilts / reinforced buildings; disaster relief; modification of river and river channel e.g. building dams; tree planting; coastal defences / river defences; education / emergency drills;</p>	6								

Page 5	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
2(a)	<i>any 3 of:</i> poorest continent is Africa / most low GDP countries are in Africa; few countries (with a GDP of under 2000 US Dollars) above / north of the Tropic of Cancer; named example of a specific country; most low GDP countries are between the Tropic of Cancer and Tropic of Capricorn;	3
2(b)(i)	Mali;	1
2(b)(ii)	38 025;	1
2(b)(iii)	6;	1
2(b)(iv)	<i>any 3 of:</i> Higher GDP countries have lower birth rates lower GDP countries have higher birth rates; as GDP increases, birth rates decrease; paired statistics for two countries to compare; anomalies exist which do not fit the pattern; example of an anomaly;	3
2(b)(v)	Japan because lowest birth rate / USA because highest GDP; appropriate reason;	2
2(c)(i)	<i>any 4 of:</i> less food; fewer doctors per person; less, hospitals / medical facilities; fewer vaccinations; unclean / unsafe water; lack of sanitation; overcrowded housing / people living in shanty towns; greater incidence of disease / epidemics; lack of knowledge of how to prevent disease;	4

Page 6	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks												
2(c)(ii)	<p><i>any 3 of:</i> number of persons per room; percentage of houses with access to electricity; persons of houses with running water; overall percentage of literacy; primary school enrolment; average calorie intake; people per doctor; access to safe water; employment levels;</p>	3												
2(d)(i)	<table border="1"> <thead> <tr> <th>country</th> <th>type of Exports</th> <th>example</th> <th>value</th> </tr> </thead> <tbody> <tr> <td>developed</td> <td>manufactured Goods</td> <td>cars</td> <td>high</td> </tr> <tr> <td>developing</td> <td>primary products</td> <td>cocoa</td> <td>low</td> </tr> </tbody> </table>	country	type of Exports	example	value	developed	manufactured Goods	cars	high	developing	primary products	cocoa	low	2
country	type of Exports	example	value											
developed	manufactured Goods	cars	high											
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2(d)(ii)	product might run out / price may fall / crops may fail / reduction in demand;	1												
2(d)(iii)	<p><i>any 2 of:</i> guaranteed / minimum, price for farmers; good working conditions; sustainable development/ attention to the environment; long term contracts; social premium / investment in community; specific example; employment for women; removal of trade barriers;</p>	2												
2(e)(i)	correctly placed lines;; correct shading using key;	3												

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Question	Answer	Marks
2(e)(ii)	<i>any 4 of:</i> improved schools / education / free; better hospitals / more doctors ; more jobs; better paid jobs in factories; bright lights / entertainment opportunities; improved accessibility / communications; modern homes with improved living conditions; better infrastructure / supply of resources e.g. electricity;	4
2(e)(iii)	correctly placed line; correctly shading using the key;	2
2(e)(iv)	<i>any 2 of:</i> lack of electricity; crime; air pollution; noise; poverty; poor quality jobs / underemployment;	2
2(f)	Level of response marked question Indicative content: human lives more important than the environment reliable supply of food for people food security for countries food is currently wasted reduces malnutrition / hunger people will be healthier/have more energy to work irrigation and impact on soils overgrazing and desertification over cultivation and desertification fertilisers and eutrophication pesticides and impact on food chain	6