GradeMax

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 **May/June 2017**

MARK SCHEME

Maximum Mark: 60

Published

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Question	Answer	Marks
1(a)	*4 correct [3]* *2 to 3 correct [2]* *1 correct [1]* *continental crust* **B** *core* **D** *mantle* **A** *oceanic crust* **C**;;;	**3**
1(b)	*any four of:* *idea of* plates move; earthquakes; volcanic eruptions; cause, injury / death / disease; volcanic bombs / lava flows / pyroclastic flow / (fast moving) mudflows / lahars/ nuée ardente / hot ash / poisonous gas / correct named gas; homes / shops / business / buildings, destroyed; gas pipe explosions / fires; landslides; tsunamis; damage or disruption, to transport links or communications;	**4**
1(c)	*any three of:* if nearby can be obtained quickly; less expensive to transport; (more likely to) blend in with the environment / less visually polluting; less, air pollution/ correctly named pollution / reduces pollution from fossil fuel burning; creates local jobs;	**3**

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Question	Answer	Marks
2(a)(i)	*3 correct [2]* *1 to 2 correct [1]* *adit (drift) mine* **Q** *open-pit (opencast) mine* **P** *shaft mine* **R**;;	**2**
2(a)(ii)	*any four of:* **R** (roofs) can collapse / miners trapped; **R** more workers so more chance of accidents or human error; **R** can flood; **R** gas can (build up) cause, explosions / fires / poisoning; **R** more dust (confined spaces); **R** more difficult to deal with accidents;	**4**
2(a)(iii)	oil / (natural) gas;	**1**
2(b)	*any three of:* only a small amount of raw material or uranium needed (to release a large amount of power); long-term source of energy; no emissions of CO_2 / no / reduced, greenhouse effect / global warming; no emissions of SO_2 / reduced / no, acid rain; low (operating) costs; produces only relatively small amounts of waste; location (of power station) less dependent on fuel supply;	**3**

Question	Answer	Marks
3(a)(i)	North America AND Central and South America;	**1**
3(a)(ii)	Asia AND Africa;	**1**
3(a)(iii)	Asia AND Africa;	**1**
3(b)(i)	urbanisation;	**1**

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Question	Answer	Marks
3(b)(ii)	*any three of:* employment / job opportunities; level of pay / wages / poverty / wealth; amenities / electricity / shops / food supplies; education; housing; doctors / hospitals / health services; water supply or quality / sanitation; family / friends / isolation; (forced) eviction / development projects / 'land grabbing'; flood / famine / drought / eruption / earthquake / outbreak of disease; entertainment / leisure; safety / security / crime / war; transport services;	**3**
3(b)(iii)	*any three of:* destruction of habitats / deforestation; air pollution by (industries or vehicles) burning fossil fuels; increased pollution from, litter / rubbish / sewage / factory effluent; noise pollution (from vehicles or people); visual pollution / slums / urban sprawl / spontaneous or squatter settlements; landfill / disposal of waste / waste tips;	**3**

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Question	Answer	Marks
4(a)	*any three of:* **high precipitation**: provides supply of water / less chance of lake drying up; **low temperatures**: little evaporation / little water loss; **steep sides** / **deep valley**: (good) storage potential / good potential for HEP; **steep sides**: assists construction of dam; **impermeable rock**: *idea of* water will not seep / drain away; **lake**: (in valley) provides water; **river**: (dammed to) provide water;	**3**
4(b)	*any four of:* contains, toxic / industrial / transport waste or pollutants; heavy metals / mercury / lead / copper / arsenic / cadmium / oil / road salt; contains runoff from, farms / agriculture; pesticides / manure / faeces / urine / nitrates; contains domestic, waste / pollutants or (raw) sewage; named waterborne diseases such as, *E.coli* / *Salmonella* / cholera / typhoid / dysentery;	**4**
4(c)	*any three of:* construct wells / access groundwater / aquifer; use of, pumps / pressure if artesian well; desalination; by, evaporation (thermal desalination) / distillation / reverse osmosis (use of semi-permeable membrane); buy it / pipelines, from neighbouring countries; AVP, e.g. icebergs;	**3**

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Question	Answer	Marks
5(a)(i)	*any three of:* increase from, 1950 / 40 000 tonnes to, 1974 / 920 000 tonnes; slower increase 1950 to 1958; increased rate of production 1958 to 1974; levels off 1974 to 1982; increase, 1982 / 880 000 tonnes to, 1987 / 1 080 000 tonnes; slight increase / increases less consistently / fluctuates, from 1974 to 1987; decrease, 1987/9 / 1 080 000 tonnes to, 2010 / zero; rapid decrease, 1987/9 / 1 080 000 tonnes to, 1996 / 180 000 tonnes; slower decrease, 1996 / 180 000 tonnes to, 2010 / zero tonnes;	**3**
5(a)(ii)	*any three of:* international, bans / laws / policies / treaties; Montreal protocol; alternatives to CFCs introduced; such as, HCFCs / HFCs; economic downturn; education to use less products with CFCs;	**3**
5(b)(i)	*any two of:* carbon dioxide, carbon monoxide, methane, nitrous oxide, water vapour, ozone, hydrofluorocarbons / HFCs / HCFCs, perfluorocarbons / PFCs, sulfur hexafluoride / SF6;	**1**
5(b)(ii)	*any three of:* short wave radiation / light energy from the sun reaches the Earth's surface; long wave radiation / heat reflected from Earth's surface; long wave radiation / heat is trapped by the greenhouse gases; this warms up the Earth's atmosphere / causes global warming; *reference to* the amount of greenhouse gases **higher** than in the past (enhanced greenhouse effect) making the Earth warmer or causing global warming;	**3**

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Question	Answer	Marks
6(a)	*any two of:* in north AND south; across all of the N / more in north / 6 countries in N / in south west / 2 countries; where the deserts are;	**2**
6(b)(i)	*any four of:* weakness / anaemia / lethargy; paralysis; fever; death (20 000–200 000 people p.a.); kidney / bladder, infections; muscle / abdominal pain / diarrhoea / dehydration; cough; rash; (increases the risk of) cancer; infertility; malnutrition; (children) stunted growth; learning difficulties; reduced ability to work; lack of income; economic consequences / poverty;	**4**
6(b)(ii)	*any four of:* improved, detection and treatment / medication of sick people; vaccination / use of drugs / medication / correct named drug (e.g. praziquantel, oxamniquine, metrifonate); do not, swim / wade wash clothes / bathe in infested water; provide, clean / safe water for, bathing / washing; improve / provide, sanitation; health or hygiene education; wear, boots / leg covering; vector, control / eradication; kill / remove, snails / larvae / worms; destroy, snail habitats / food sources by draining or filling in or line canals (with concrete);	**4**

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