2014 Managing Environmental Resources

Intermediate 2

Finalised Marking Instructions

Part One: General Marking Principles for Managing Environmental Resources Intermediate 2

This information is provided to help you understand the general principles you must apply when marking candidate responses to questions in this Paper. These principles must be read in conjunction with the specific Marking Instructions for each question.

(a) Marks for each candidate response must always be assigned in line with these general marking principles and the specific Marking Instructions for the relevant question. If a specific candidate response does not seem to be covered by either the principles or detailed Marking Instructions, and you are uncertain how to assess it, you must seek guidance from your Team Leader/Principal Assessor.

(b) Marking should always be positive ie, marks should be awarded for what is correct and not deducted for errors or omissions.

GENERAL MARKING ADVICE: Managing Environmental Resources Intermediate 2

The marking schemes are written to assist in determining the "minimal acceptable answer" rather than listing every possible correct and incorrect answer. The following notes are offered to support Markers in making judgements on candidates' evidence, and apply to marking both end of unit assessments and course assessments.

Part Two: Marking Instructions for each Question

SECTION 1

Question			Expected Answer(s)	Max Mark	Additional Guidance
1	**(a)**	**(i)**	Water or land/forest Provide adequate toilets/provide bins.	**1** **1**	 Any reasonable suggestion.
1	**(a)**	**(ii)**	**Advantage:** Economic. **Disadvantage:** Noise/visual pollution or increased traffic/litter.	 **1** **1**	
1	**(a)**	**(iii)**	Forestry/transport.	**1**	**Not** tourism.
1	**(b)**		Charity shop for **reuse**, so less resources required. Textile company for redesigning is a reduction in natural resources which are used or reuse with an explanation. Factory – recycled for insulation is less resources being used.	**1** **1** **1**	Must give idea and supporting environmental policy
1	**(c)**		Agenda 21.	**1**	
1	**(d)**		Development which meets the needs of the present **(1)** without compromising the requirements of future generations **(1)**.	**2**	
2	**(a)**	**(i)**	Cuba.	**1**	
2	**(a)**	**(ii)**	Greater population and increasing industrial output/ELDC to EMDC.	**1**	
2	**(a)**	**(iii)**	Lots of industry, much transport/fly between coastal cities due to distance.	**1**	

Question			Expected Answer(s)	Max Mark	Additional Guidance
2	(a)	(iv)	1 Half fill kettle to boil water. 2 No TVs/computers left on standby.	**1**	Accept loft insulation, etc.
2	(b)	(i)	Oil seed rape/Sitka Spruce/Willow.	**1**	
2	(b)	(ii)	1:125.	**1**	
2	(b)	(iii)	1 Chemical (Energy). 2 absorbs carbon dioxide/ reduces global warming/makes more oil/faster/are renewable. 3 Uses up land at expense of food farming.	**1** **2** **1**	
2	(b)	(iv)	Too cold/cold climate.	**1**	
2	(c)		**Advantage** – no emissions/sustainable. **Disadvantages** – do not work all the time/habitat destruction.	**1** **2**	Not cost.
2	(d)		Crude oil.	**1**	Accept oil.
3	(a)	(i)	Earthworm/slug/moth.	**1**	Any two
3	(a)	(ii)	Thrush.	**1**	
3	(a)	(iii)	Sparrow hawk/earthworm. Sparrow hawk/shrew. Sparrow hawk/thrush. Fox, shrew/thrush.	**1**	Any correct with explanation.
3	(a)	(iv)	Decrease because more eaten by shrew.	**1**	
3	(a)	(v)	Wants to eat the lettuce himself/slugs would eat lettuce plants.	**1**	

Question			Expected Answer(s)	Max Mark	Additional Guidance
3	(a)	(vi)	Accumulation along a food chain resulting in the death of the sparrow hawk.	**1**	Must have explanation.
3	(b)		Heat/movement/indigestible food.	**1**	Any two
3	(c)		Water butts for rainwater/reusing household water.	**1**	
3	(d)	(i)	Peppered Moth. Wing span 30mm and above. Common Heath. Six spot Burnett.	**2**	All correct 2 marks 2/3 correct 1 mark
3	(d)	(ii)	Camouflaged in moorland to escape predators.	**1**	Must contain an explanation
4	(a)	(i)	Y, Z and X.	**1**	
4	(a)	(ii)	Bacteria.	**1**	
4	(a)	(iii)	To be available to all organisms/can't be locked up with.	**1**	
4	(a)	(iv)	Carbon.	**1**	
4	(b)		Stops excess fertiliser being washed into streams (**1**) where eutrophication takes place (**1**).	**2**	Not killing plants. Explanation of eutrophication is acceptable.
5	(a)		1 A river. 2 A forest.	**1**	Both for 1 mark
5	(b)		No predator or lots of food.	**1**	
5	(c)		Causes flooding/damages crops/ prevents use of tractors/causes soil erosion.	**1**	Any two

Question			Expected Answer(s)	Max Mark	Additional Guidance
5	**(d)**		Species that once lived in Scotland.	**1**	
5	**(e)**		Remote so animals undisturbed/ not many people so animals undisturbed/sparsely populated.	**1**	
5	**(f)**		Yes – ruining the countryside. No – improving biodiversity.	**1**	
5	**(g)**	**(i)**	Carbon dioxide/water vapour/any nitrogen oxide/methane.	**1**	
5	**(g)**	**(ii)**	Cut down carbon dioxide emissions/flood barriers/less hard landscaping.	**1**	
6	**(a)**	**(i)**	One mark for each correct part	**3**	
6	**(a)**	**(ii)**	Indirect relationship.	**1**	
6	**(a)**	**(iii)**	C	**1**	
6	**(a)**	**(iv)**	Mean was calculated.	**1**	
6	**(b)**		Quadrat.	**1**	
6	**(c)**		Carbon dioxide required for photosynthesis, it will be contained in air of bladder floating keeps them nearer the surface for light.	**1**	
7	**(a)**	**(i)**	Water/barley/yeast/hops.	**1**	Any two for 1 mark.
7	**(a)**	**(ii)**	Glass bottles/machinery/buildings.	**1**	

Question			Expected Answer(s)	Max Mark	Additional Guidance
7	(b)	(i)	pH/temperature	1	
7	(b)	(ii)	If certain species are found it shows the water is polluted – rat tailed maggot lives in low oxygen so matter is polluted, mayflies live in high oxygen which indicates no pollution.	2	
7	(c)	(i)	Economic.	1	
7	(c)	(ii)	No build-up of waste to landfill.	1	
7	(d)		Large breweries less popular/less economic/less transport involved/provide variety to consumer.	1	
8	(a)		Fort, 795484, stone circle, crannog, 7944.	3	5 for 3 marks 3 or 4 for 2 marks 1 or 2 for 1 mark
8	(b)	(i)	BP – narrow crossing point of River Tay so cheaper bridge to build. RC – junction of four roads meeting. FL – easy to build on around cross roads. WP – water in burn used as a source of water power.	1	
8	(b)	(ii)	Distillery – 867496. Info centre – 856492. Golf course – 855495. Caravan/campsite – 862495. Monument – 852493. Picnic site – 854485. Walks/trail –855485. Mill – 854491. Sports centre – 853486. Long Distance path – 855485.	1	Any two
8	(c)	(i)	Fencing/paper/furniture/fuel/wood chip.	1	Any two
8	(c)	(ii)	Walking/mountain biking, pony trekking, bird watching.	1	Any one

Question			Expected Answer(s)	Max Mark	Additional Guidance
8	**(c)**	**(iii)**	When trees cut down, area is replanted/no more clear fell.	**1**	
8	**(c)**	**(iv)**	Mixed woodland greater because more food sources/habitats.	**1**	
8	**(d)**		1 Cave. 2 Waterfalls/Falls of Achorn.	**1** **1**	
8	**(e)**	**(i)**	Plenty of streams/constant water supply/big vertical drop from 500m to 150m for speed/velocity of water to generate electricity.	**2**	Not near a village. Not up high.
8	**(e)**	**(ii)**	To see if any endangered species are there.	**1**	
8	**(e)**	**(iii)**	To protect endangered species/protecting habitat damage/maintaining biodiversity.	**1**	Not reused.
8	**(f)**	**(i)**	Non-renewable – because it cannot be remade/takes many years to reform.	**1**	
8	**(f)**	**(ii)**	Visual pollution/eyesore, dust from HGV's, roads/verges/plants, water source could be contaminated/ milky, habitats for wildlife destroyed.	**1**	
8	**(f)**	**(iii)**	Isolated from main road, transport to market in HGV's along narrow roads. Very steep.	**1**	
8	**(f)**	**(iv)**	National nature reserve/SSSI/bird reserve/ tourist attraction/Mountain bike centre.	**1**	

Question			Expected Answer(s)	Max Mark	Additional Guidance
8	**(g)**	**(i)**	Avoid flat land on flood plain in case of flooding, contours around hillside to avoid steep inclines, restricted to going through steep sided valley in one place.	**1**	
8	**(g)**	**(ii)**	Car parking on grass verges destroys vegetation, litter, locals trapped in their own homes and cannot go out on road, emergency services cannot get through.	**1**	
8	**(h)**	**(i)**	Provides jobs for local residents eg water ski instructor, more sales trade in local shop, more B&B, guesthouses, hotels benefit from extra folk staying.	**1**	
8	**(h)**	**(ii)**	**Impact** – Swans and ducks choke on hooks and lines, wash from boats destroys banks, ospreys scared off. **Management** – zoning, speed restrictions, water police/wardens, reinforce banks, cameras on nesting site, osprey watch.	**2**	

[END OF SECTION 1]

SECTION 2

Option A

Question			Expected Answer(s)	Max Mark	Additional Guidance
	a		• Recent move to promote electricity generation from renewables • Renewables include: - wind - wave - tide • Recent H.E.P. stations include Glen Doe • Not many areas in UK suitable for dams which have not been used already • Oil, major source since 1970's • Coal also used • Recently coal is a less important source • Nuclear power stations being built in England • No new nuclear stations planned in Scotland • Biomass also increasingly popular **Any 6**	**6**	
	b		• Geothermal in Iceland • Nuclear in France • Wind in Denmark • H.E.P. in Norway • Biomass in Sweden **Any 4** **One mark for named Western European country and a correct major source.**	**4**	

Option B

Question			Expected Answer(s)	Max Mark	Additional Guidance
	a		• Symbiosis describes a close feeding relationship • Mutualism - Both organisms benefit, eg lichen, algae and fungus - Algae gains minerals and water - Fungus gains carbohydrate • Commensalism – one benefits the other, neither benefits nor is harmed - eg shark and ramora - Ramora gains food • Parasitism – one benefits, the other is harmed - eg human and tapeworm - human is harmed, tapeworm gains food **Any 6**	**6**	
	b		• Legislation - Named Act eg Wildlife and Countryside Act - Protection given to endangered species - Eg LBAP for eg protection of red squirrel - S.P.A/S.A.C./SSSI and explanation **Any 4**	**4**	

Option C

Question			Expected Answer(s)	Max Mark	Additional Guidance
	a		• Local Area - Eg Named - Kinnoul Hill - Duke formation - Volcanic action formed hill - Quarry - Andesite extracted - Used for road building and rail tracking - Other local areas discussed sandstone for building **Any 4**	**4**	
	b		• Multi use integration includes: - Separate paths for horse riding, mountain biking - Fenced off areas for birdwatchers - Conservation area for trees - Separate areas avoids conflict - Zoned areas on river for canoeists and anglers - Named example - Named user groups - Description of integration **Answers should include at least two examples**	**6**	

[END OF MARKING INSTRUCTIONS]