2013 Geology

Intermediate 1

Finalised Marking Instructions

Part One: General Marking Principles for Geology Intermediate 1

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: Geology Intermediate 1

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

<table>
<tr><th colspan="3">Question</th><th>Expected Answer/s</th><th>Max Mark</th><th>Additional Guidance</th></tr>
<tr><td>1</td><td>a</td><td></td><td>Jupiter</td><td>1</td><td></td></tr>
<tr><td>1</td><td>b</td><td></td><td>Mercury</td><td>1</td><td></td></tr>
<tr><td>1</td><td>c</td><td></td><td>100 – 99·86
0·14%</td><td>2</td><td></td></tr>
<tr><td>2</td><td>a</td><td></td><td>C B D A
(sheet)</td><td>2</td><td>also refer to appendix.</td></tr>
<tr><td>2</td><td>b</td><td></td><td>4600 – 100
4500 million years
1 mark for working, 1 mark for final answer</td><td>2</td><td>accept answer without mya.</td></tr>
<tr><td>3</td><td>a</td><td></td><td><table><tr><th>Place</th><th>Rock Type</th></tr><tr><td>A</td><td>Igneous</td></tr><tr><td>B</td><td>Sedimentary</td></tr><tr><td>C</td><td>Igneous</td></tr><tr><td>D</td><td>Metamorphic</td></tr><tr><td>E</td><td>Sedimentary</td></tr><tr><td>F</td><td>Metamorphic</td></tr></table>2 or 3 correct = 1 mark,
4 or 5 correct = 2 marks
6 correct = 3 marks</td><td>3</td><td></td></tr>
<tr><td>3</td><td>b</td><td></td><td>A D B C
(See marking sheet)</td><td>2</td><td>also refer to appendix.</td></tr>
<tr><td>4</td><td>a</td><td></td><td>Basalt</td><td>1</td><td></td></tr>
<tr><td>4</td><td>b</td><td></td><td>Igneous rock – fossils destroyed by heat. Fossils not formed in igneous rocks.
Accept any correct answer.</td><td>1</td><td>Do not accept only ‘igneous rock’.</td></tr>
</table>

Question			Expected Answer/s	Max Mark	Additional Guidance
4	**c**		1. Graptolite 2. Belemnite 3. Echinoid/sea urchin 4. Brachiopod	**4**	
4	**d**		Limestone – seas/tropical seas Conglomerate – rivers/flooding Sandstone – desert/dry/beach (Accept any other reasonable description)	**3**	
5	**a**		Conglomerate	**1**	
5	**b**		Anticline	**1**	
5	**c**		Dyke	**1**	
5	**d**		Dolerite/Gabbro	**1**	
5	**e**		They do not cut one another	**1**	answer must include explanation.
6	**a**		Frost Shattering/freeze thaw. Accept biological or chemical weathering.	**1**	
6	**b**		• Water seeps into cracks • Water freezes and expands • Cracks are widened • Process repeats until rock breaks up • Gravity pulls rocks downhill • Relevant labelled diagram(s) (Or explanation appropriate to answer given in part (a).)	**4**	also accept chemical weathering explanation.
6	**c**		Concrete or steel lining Rock bolts Make sure rocks are stable Support beams	**2**	

Question			Expected Answer/s	Max Mark	Additional Guidance
7	**a**		24% (1 mark for working)	**2**	
7	**b**		1 mark for vertical axis correctly labelled 2 marks for accuracy	**3**	
7	**c**		Wind, wave, tidal, solar, geothermal, hydro (Accept any reasonable answer)	**2**	
7	**d**		Use more renewable energy sources Use less energy (Insulation etc) Public transport (Accept any reasonable answer)	**2**	
8	**a**		Sandstone	**1**	
8	**b**		A C B D (See marking sheet)	**2**	also accept A-C-Q-R and refer to appendix
8	**c**		Dykes cut across other rocks Sills come between other rocks Dykes cut across other structures Dykes are more vertical Sills at an angle	**2**	
8	**d**		Tear or sliding fault	**1**	
8	**e**		West (or left)	**1**	
9	**a**		Arrow left to right/west to east	**1**	
9	**b**		Diagram showing: • Sand blown up windward side • Sand falls down sheltered side • Sand blown around edges gives crescent shape	**2**	
9	**c**		Move forward faster, could change shape, blow away entirely, finer material could blow away.	**1**	
9	**d**		Sand and wind Eroding rocks Cleaning buildings	**2**	

Question			Expected Answer/s	Max Mark	Additional Guidance
10	**a**		200 x 4 x 50 = 40 000 tonnes (1 mark for working)	**2**	
10	**b**		150 x 4 x 50 = 30 000 tonnes (2 marks for working) 40 000 – 30 000 = 10 000 tonnes	**3**	no double penalty if incorrect figure used from part a)
10	**c**		10 000 x £97 = £970 000 (1 mark for working)	**2**	no double penalty if incorrect figure used from previous answers a/b.
10	**d**		Accept any reasonable answer. (No mark for increase/decrease, answer must explain)	**1**	
11	**a**		***Ore mineral*** / ***Metal*** Cassiterite / Tin Galena / Lead Sphalerite / Zinc Chalcopyrite / Copper	**4**	
11	**b**		Hydrothermal deposits	**1**	
11	**c**		Transport eg planes/parts of vehicles Buildings eg windows Packaging eg cans (Or any other correct answer)	**2**	
12	**a**		Boulders – roll or slide along the bed Sand – bounce along the bed or carried in suspension	**2**	
12	**b**		It will get smaller It will get more rounded	**2**	
12	**c**		Pothole	**1**	
13	**a**		Subsidence Pollution of ground water Toxic metals Unsightly	**2**	
13	**b**		Pollution of river by fertilisers/pesticides/landfill (Accept any other reasonable answer)	**2**	
				80	

END OF MARKING INSTRUCTIONS