

Q1.

Total: 15 marks

(a)	
(i) Metamorphic (ii) Igneous (iii) Igneous	3(2)
(b)	
Sediment becomes deposited/ Pressure build upon layers/ Sediment is compressed into rocks	2(2)
(c)	
Heat/Pressure	2(1)
(d)	
pH/ Texture/ Fertility	3

Q2.

Total: 20 marks

(a)	
Mechanical weathering: The physical breakdown of material Chemical weathering: The chemical breakdown of material	2(3)
(b)	
<i>Any one of the following: Name: (Description)</i> Mechanical weathering: <b>Heating and Cooling:</b> (Heating causes expansion of material and cooling causes contraction/, as the minerals in rocks heat and cool/ they expand and contract at different rates/ causing the rocks to shatter. ) <b>Freeze-thaw action:</b> (Water expands as it freezes,/ the water in cracks in rocks expands/ putting pressure the rock./ When the water thaws this pressure is released./ As this repeatedly happens the pressure and release / on the rock causes it to shatter.) <b>Abrasion:</b> (As rocks move around (by gravity, wind or water)/ they hit off each other./ This causes them to wear down.) <b>Roots:</b> (Roots can enter cracks in rocks/ and as the roots grow they put pressure on the rocks/ contributing to the rocks prying apart. <b>Animals:</b> Burrowing animals/ can cause rocks to breakdown when they dig for food or shelter.)	1 + 2(3)
<i>Any one of the following: Name: (Description)</i> Chemical weathering: <b>Oxidation:</b> Minerals react with oxygen/ and water./ The oxidation of iron gives a rust colour to rocks. <b>Solution/Carbonation:</b> As rain falls carbon dioxide from the air dissolves/ forming a weak carbonic acid./ This acidic rain reacts with the rock and wears it away. <b>Hydrolysis:</b> Rocks are broken down/ when substances react with water.	1 + 2(3)

Q3.

Total: 15 marks

(a)	
Any three of the following: High rainfall/ Low evaporation/ leads to anaerobic conditions/ partial breakdown of organic matter/ build up in layers	3(3)
(b)	
Name (Location) Basin (Lake) Raised (Above the level of a lake) Blanket (Flat or sloped landscape)	2(2)
(c)	
Can be drained – Crops or grazing/ Cut & Dried – Burned as fuel	2

Q4.

Total: 20 marks

(a)	
Podzol/ Gley/ Brown Earth (Any from the map are acceptable but these three are most likely to be used for answering the following questions)	1
(b)	
<b>All:</b> Horizons O, A, B, C and R labelled Soil profile shape <i>Any one of the following (must match name from (a)):</i> <b>Podzol:</b> Bleached A horizon/ Iron pan in B horizon <b>Gley:</b> Mottled appearance/ Oxidation and reduction of minerals <b>Brown Earth:</b> non-distinct horizons/ uniform in colour	2 2 3
(c)	
<i>Any one of the following (must match name from (a)):</i> <b>Podzol:</b> Acidic conditions/ Acid leaching/ A horizon bleached of nutrients/ Iron pan forms/ Impermeable to water <b>Gley:</b> Waterlogged conditions/ Oxidation and reduction of minerals/ mottled appearance <b>Brown Earth:</b> Form over limestone/ Alkaline soil/ fertile and free-draining/ blended horizons	3(3)
(d)	
<i>Any one of the following (must match name from (a)):</i> <b>Podzol:</b> Usually devoted to forestry <b>Gley:</b> Extensive grassland for animal production <b>Brown Earth:</b> Crop production/ Grassland for animal production	3