

SECTION B

Questions 5 - 7 relate to the **British Geological Survey map** extract of **Cheddar**.

Answer **all** questions in the spaces provided.

This section should take approximately 1 hour to complete.

5. (a) (i) Describe the outcrop of the Triassic Dolomitic Conglomerate (**DCg**) within the Mercia Mudstone Group - **MMG** on the **Geological Map**. [3]

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- (ii) Calculate the maximum difference in the dip angles of the Triassic and Carboniferous rocks in grid square **4758**. Show your working. [2]

..... degrees

- (iii) **Figure 1** is a partly completed geological section along the line X - Y on the **Geological Map** (grid square **4758**).

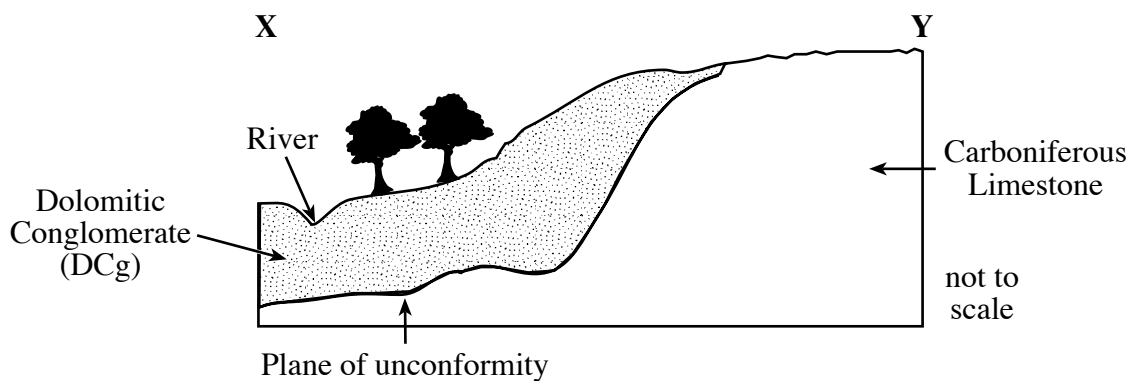


Figure 1

Complete **Figure 1** by sketching a few bedding planes to show the **apparent dip** of the Carboniferous Limestone beds along this section. Explain your answer. [2]

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(b) In grid square **4657** the boundary between the Dolomitic Conglomerate (**DCg**) and Upper Old Red Sandstone (**PoB**) is an unconformity.

- (i) Using the **generalised vertical section** of the **Geological Map**, calculate the **minimum** thickness of beds that must have been locally eroded prior to deposition of the Dolomitic Conglomerate.
Show your working. [2]

..... metres

- (ii) The Dolomitic Conglomerate (**DCg**) represents deposition from high-energy streams flowing in valleys from an upland area formed before the Triassic. Describe the evidence from the **Geological Map** and **Figure 1** for this conclusion. [3]

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Total 12 marks

- 6.** (a) (i) Measure the width of outcrop of the Black Rock Limestone (**BRL**) on either side of Black Down (along the line of section) between grid references **469557** and **477586**. [2]

(Note the map scale = 1:25000)

Outcrop width (north) m Outcrop width (south) m

- (ii) Account for the variation in outcrop widths. [2]

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- (b) Describe the characteristics of the major fold structure on the **Geological Map** and **cross section**. [4]

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- (c) With reference to the **generalised vertical section** and the **Geological Map**, describe and explain **one** piece of **field evidence** you might expect to find at grid reference **446595** to confirm the orientation (way up) of the Clifton Down Limestone (**CDL**). You may use a diagram if you wish. [4]

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Total 12 marks

7. (a) Refer to the two quarries located at grid references **445592** and **445557**.

(i) Compare and contrast the geology at each location.

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(ii) Give **two** reasons why the geology of the northern quarry (**445592**) may have posed the greater problems for quarrying.

[2]

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(b) Refer to the quarry located at Callow Hill (**445557**) and surrounding area. Assess the geological implications of developing this quarry as a landfill site for domestic or toxic waste.

[6]

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Total 12 marks