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ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2009

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71
Candidate Number

Geography

Assessment Unit AS 1

assessing

Module 1: Themes in Physical Geography

[ASG11]



FRIDAY 5 JUNE, MORNING

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Answer **all three** questions in **Section A** and **any two** questions from **Section B**.
Write your answers to **Section B** on the lined paper at the end of this booklet.

INFORMATION FOR CANDIDATES

The total mark for this paper is 60.
Quality of written communication will be assessed in **all** questions.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
Total Marks	

Section A

Answer **all three** questions in this section

- 1 (a) Study **Resource 1A** showing the amount of sediment carried in suspension by eight rivers in south-east Asia and Oceania.

RESOURCE 1A

Country	River	Mean annual suspended sediment yield (tonnes/km/year)
China	Dali	25,600
Taiwan	Tsengwen	28,000
China	Huangfuchaun	53,500
New Guinea	Aure	11,126
New Zealand	Hikuwai	13,890
Indonesia	Cilutung	12,000
New Zealand	Waiapu	19,970
New Zealand	Waingaromia	17,340

- (i) In the drainage basin system, what is **suspended** sediment?

[2]

- (ii) Calculate the range of mean annual suspended sediment for the rivers shown in **Resource 1A**.

Range _____ tonnes/km/year [1]

- (iii) Outline one possible reason why some rivers have more suspended sediment than others.

[2]

(b) Study the photograph of a waterfall in Swaledale, Yorkshire shown in Resource 1B.

RESOURCE 1B



© Study the Earth Unit 1 water at Work by MA Atherton and RER Robinson published by Hodder & Stoughton Ltd 1980 ISBN 034023945X. Reproduced by kind permission of Hodder Education

With reference to the relevant river processes, describe how a waterfall develops over time.

[4]

(c) Study **Resource 1C** showing the average % of precipitation intercepted by different types of vegetation/land use.

RESOURCE 1C

Vegetation/land use	Interception %
Ploughed land	0
Deciduous woodland (winter)	15
Wheat (ready to harvest)	20
Grassland	25
Deciduous woodland (summer)	30
Coniferous forest	40

With reference to **Resource 1C**, explain the trend of increasing interception percentage.

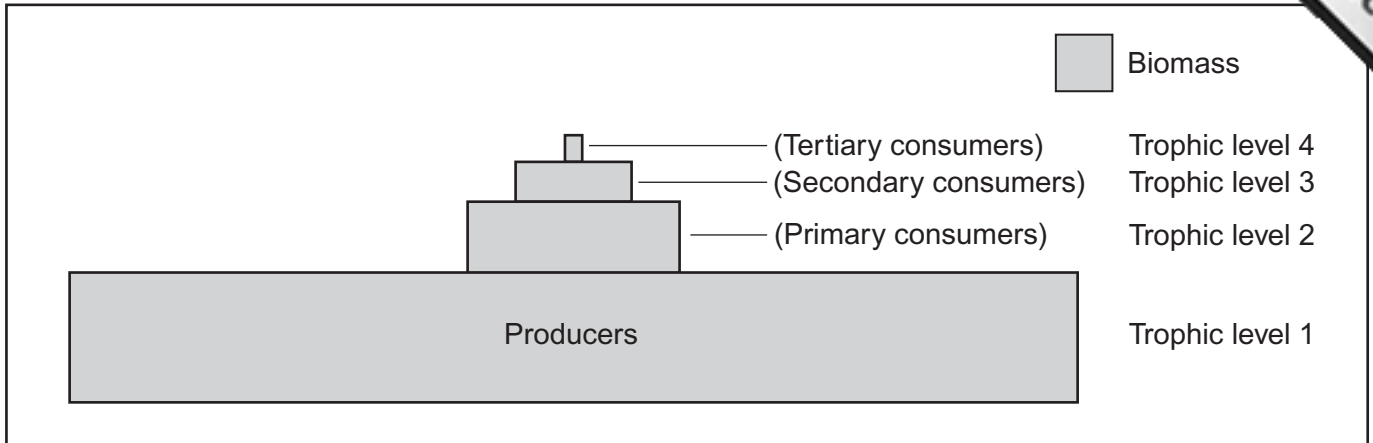
[3]

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(Questions continue overleaf)

2 (a) Study **Resource 2** showing the relationship between biomass and trophic levels in an ecosystem.

RESOURCE 2



(i) In an ecosystem, what is transferred through the **trophic structure**?
 _____ [1]

(ii) In an ecosystem, what is the **biomass**?

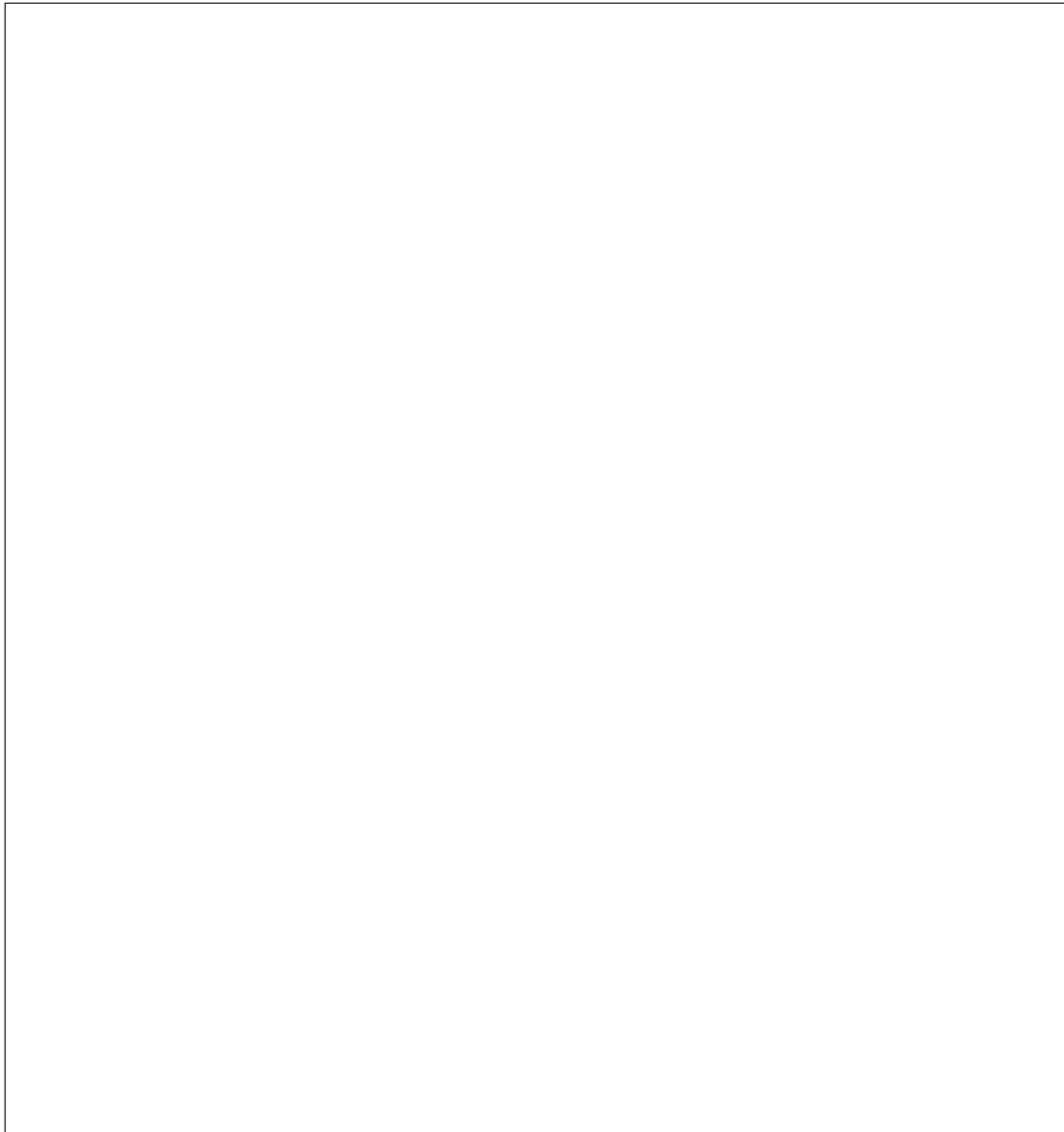
 _____ [2]

(iii) Explain why the amount of biomass decreases between successive trophic levels.

 _____ [2]

Examiner Only	
Marks	Remark

(b) (i) In the box below, draw an annotated soil profile diagram to show four characteristics of a mollisol/chernozem.



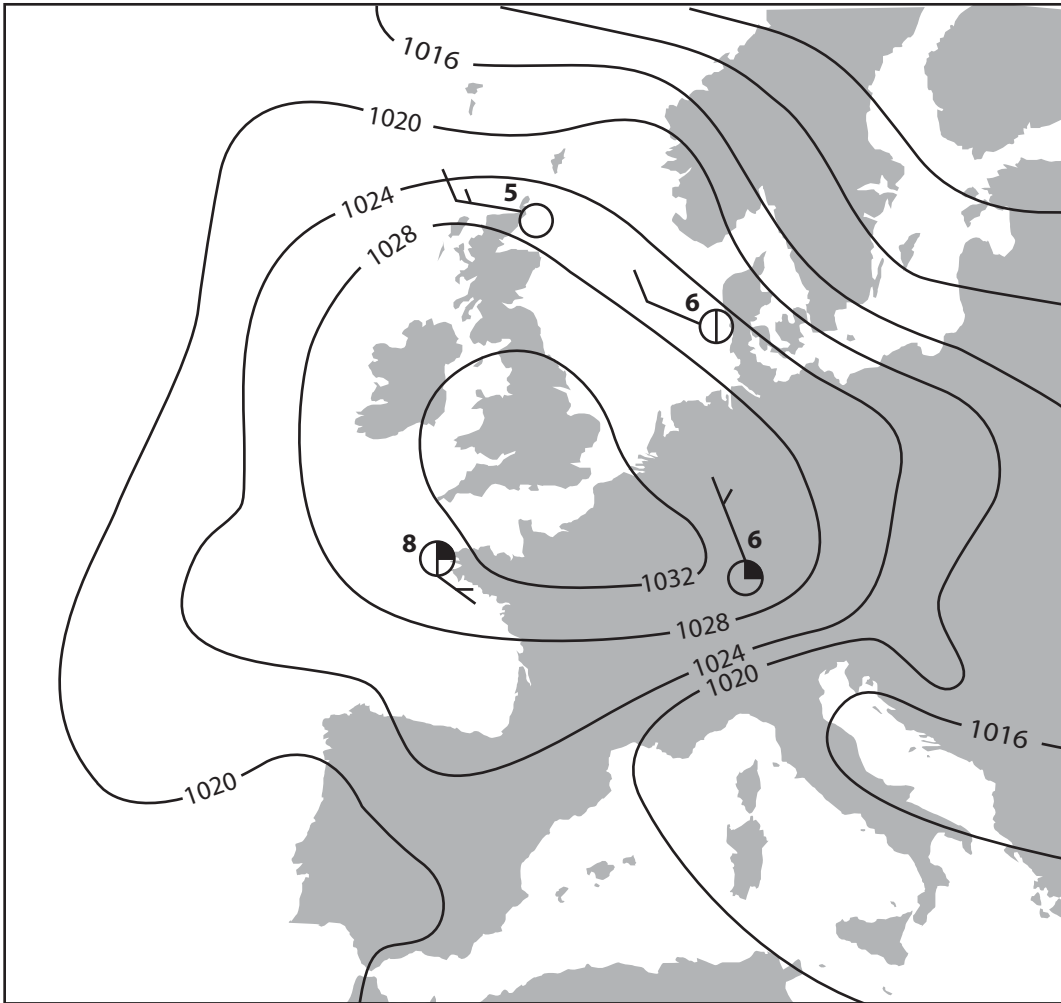
[4]

(ii) Explain why mollisol/chernozem soils are naturally fertile.

[3]

3 (a) Study **Resource 3A** showing a weather system situated over Western Europe.

RESOURCE 3A



(i) What type of weather system is shown in **Resource 3A**?

_____ [1]

(ii) Explain two pieces of evidence from **Resource 3A** to justify your choice of weather system.

1.

2.

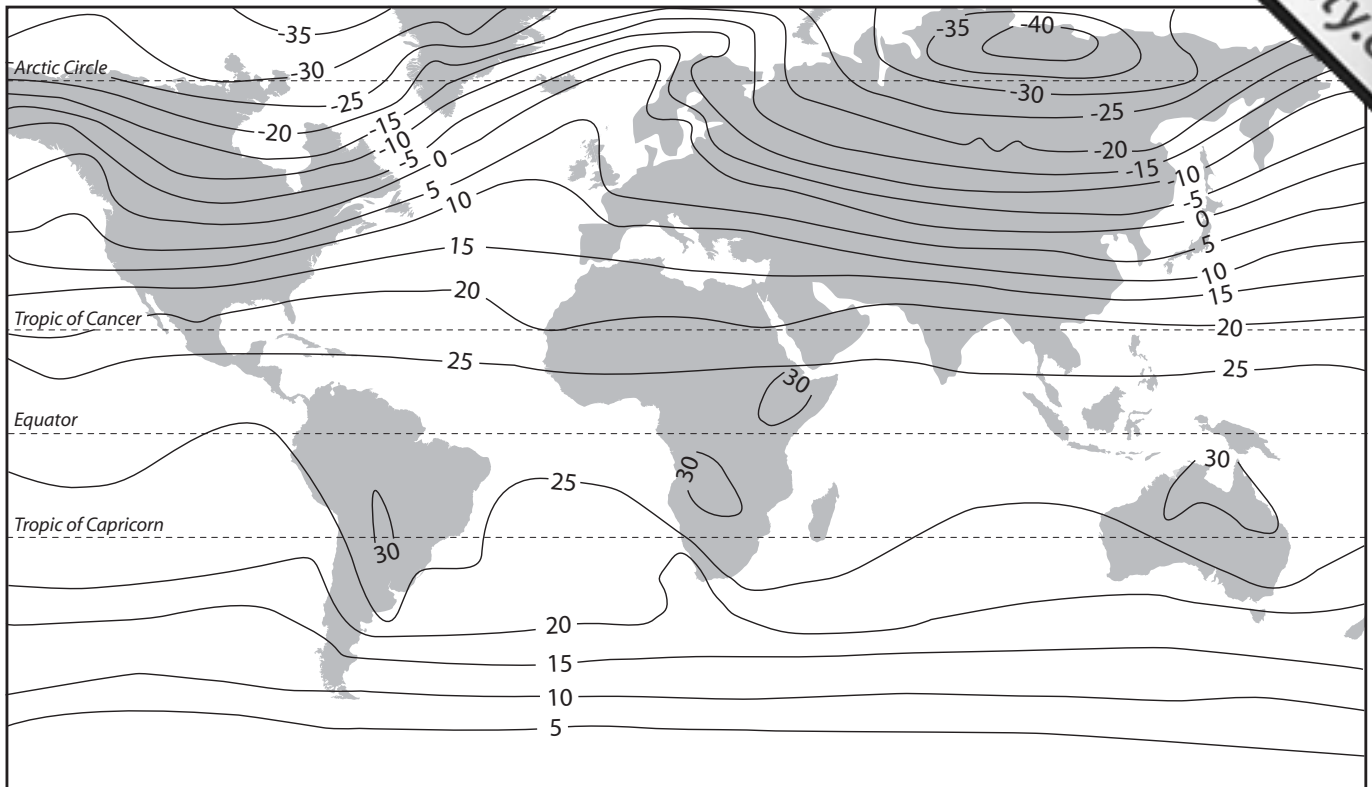
_____ [4]

(b) Explain the main factor controlling wind speed.

_____ [2]

(c) Study **Resource 3B** showing mean January temperatures ($^{\circ}\text{C}$) adjusted to

RESOURCE 3B



Atmosphere, weather and climate by Roger G Barry and Richard J Chorley, Copyright © 1987 published by Methuen. Reproduced by permission of Taylor Francis Books UK

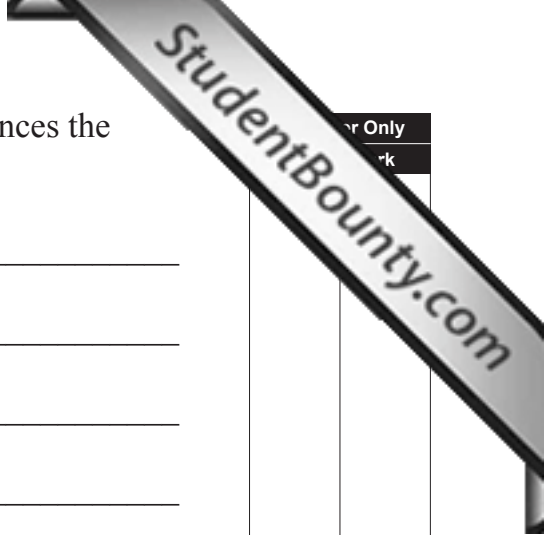
(i) Using **Resource 3B**, describe how the global pattern of mean January temperatures is related to latitude.

[2]

Examiner Only	
Marks	Remark

(ii) Explain **one** factor, **other than latitude**, which influences the temperature pattern shown on **Resource 3B**.

[3]



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Section B

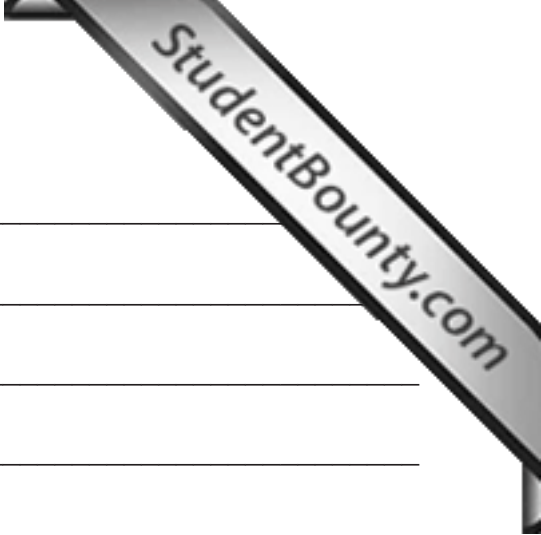
Answer **any two** questions in this section

- 4 Describe and explain **four** factors affecting river discharge and the storm hydrograph. [12]
- 5 With reference to your study of one vegetation succession at a local or regional scale, explain how plant communities develop through a succession of changes. [12]
- 6 With reference to your case study, describe the effects of a hurricane on people and property. What protective measures were, or could have been, used to reduce loss of life or damage to property? [12]

Number your answers clearly

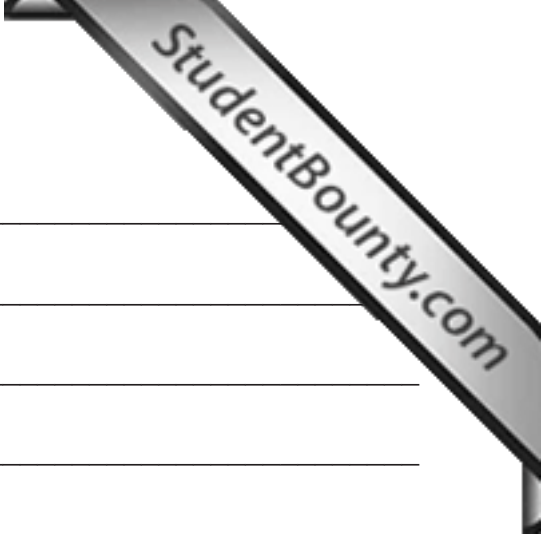
Lined area for writing answers.

Number your answers clearly



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Number your answers clearly

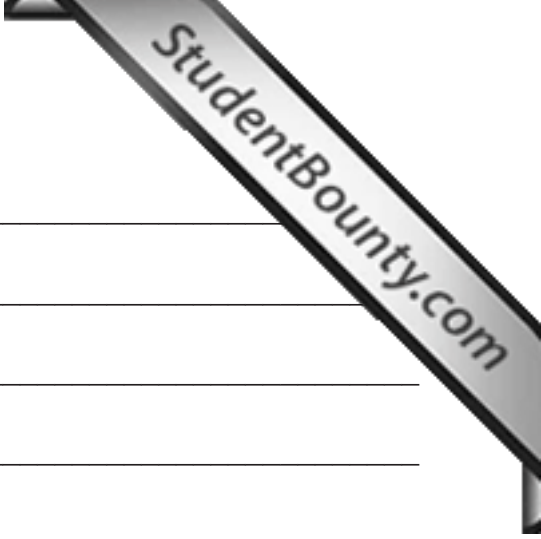


Number your answers clearly

Number your answers clearly

Lined writing area consisting of multiple horizontal lines for student responses.

Number your answers clearly



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THIS IS THE END OF THE QUESTION PAPER

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