ST ANDREW'S JUNIOR COLLEGE
J2 Prelims
Higher 1

GEOGRAPHY   **8813/01**
Paper 1

                                                    13 September 2017

                                                    3 hours

Additional Materials: Answer Paper
                    1 Insert
                    World outline map

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use paper clips, highlighters, glue or correction fluid.
Begin each question on a fresh page.

Answer **four** questions in total.
Section A
Answer Question 1.
Section B
Answer Question 2.
Section C
Answer **two** questions, each from a different theme.

The Insert contains all the Resources referred to in the questions.
You should make reference to appropriate examples studied in the field or the classroom,
even where such examples are not specifically requested by the question.
Diagrams and sketch maps should be drawn whenever they serve to illustrate an answer.
The world map may be annotated and handed in with relevant answers.
You are reminded of the need for good English and clear presentation in your answers.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **4** printed pages and **1** Insert with **5** pages.

[Turn Over]

Section A

Theme 3: Geographical Investigation

1 Having learnt about how infiltration may be influenced by different factors, a group of 12 students in the UK wanted to test whether their knowledge can be confirmed by actual observations. They selected a small drainage basin near their school for their investigation.

The students had access to a basic topographical map of the drainage basin, and a page from a Geography textbook with graphs depicting the relationships between infiltration and selected factors. They were also given a recording sheet by their teacher for the purpose of recording their measurements. The students were instructed to choose four to six different sites to measure infiltration.

Permission had been sought for the students to visit the drainage basin on one Saturday in June and for 2 hours between 9 a.m. and 11 a.m. during the visit.

After some discussion in the classroom before undertaking the fieldwork, the students decided on the following hypothesis:

Within the drainage basin, infiltration rates are highest in areas with dense vegetation cover.

Resource 1 provides the graphs from the textbook, each showing the relationship between infiltration and one factor. Resource 2 shows the map of the small drainage basin. Resource 3 is the recording sheet they intended to use to help record their measurements at each site.

(a) With reference to Resources 1 and 2, explain why infiltration rates would vary within the drainage basin. [5]

(b) With reference to Resource 2, state **three** reasons why the students' suggested hypothesis is capable of research. [3]

(c) With reference to Resources 2 and 3, write an explanatory account of how the students should decide on the different sites in the drainage basin to measure infiltration rates. [5]

(d) Describe clearly the equipment(s) that will be required, and the steps the students should take, to obtain the infiltration rates required in the recording sheet in Resource 3. [6]

(e) With the help of Resources 1, 2 and 3, explain **two** possible limitations the students might face when trying to obtain accurate measurements of infiltration in the drainage basin, and suggest what could be done to overcome them. [6]

Section B

Theme 2: Urban Change

Traffic Congestion in Paris

2 Resource 4 shows the level of car dependence in the Paris region of France, a developed country in Europe, in 2001. Resource 5 shows some statistics related to traffic congestion in Paris in 2016. Paris was ranked the 7th most congested city in Europe in that same year. Resource 6 shows a station of *Vélib'*, a large-scale public bicycle-sharing scheme in Paris, launched in 2007. Bicycle-sharing schemes are increasingly considered as a viable strategy to reduce car dependence in many cities.

(a) Describe, and suggest reasons for, the pattern of car dependence shown in Resource 4. [6]

(b) With reference to Resources 4 and 5, explain when and why traffic congestion occurs in Paris. [5]

(c) With the help of Resource 5, suggest and explain some possible **social** and **economic** impacts of traffic congestion in Paris. [6]

(d) With the help of Resources 5 and 6, and using your own knowledge, evaluate the extent to which public bicycle-sharing schemes should be relied on as a means to reduce car dependence in a city. [8]

Section C
Answer **two** questions from this section.
Either Question 3 **or** Question 4 and **Either** Question 5 **or** Question 6.

Theme 1: Climate Change and Flooding

3 **(a)** With the help of examples, explain why the arid tropics are arid. [9]

(b) To what extent is it possible to identify a tropical climate? [16]

4 **(a)** Explain how the inputs and outputs of a drainage basin system influence the flows within the system. [9]

(b) To what extent can the effects of floods be managed? [16]

Theme 2: Urban Change

5 **(a)** With the help of examples, explain what is meant by *urban metabolism*. [9]

(b) Assess the success of the strategies used to manage non-hazardous solid waste in one or more cities you have studied. [16]

6 With reference to **one** social group you have studied:

(a) Explain the issues that affect the urban liveability for this social group. [9]

(b) Assess the extent to which strategies to help improve urban liveability for this social group can be considered effective. [16]

Geography
Paper 1 Data Response Questions
INSERT

8813/01
13 September 2017
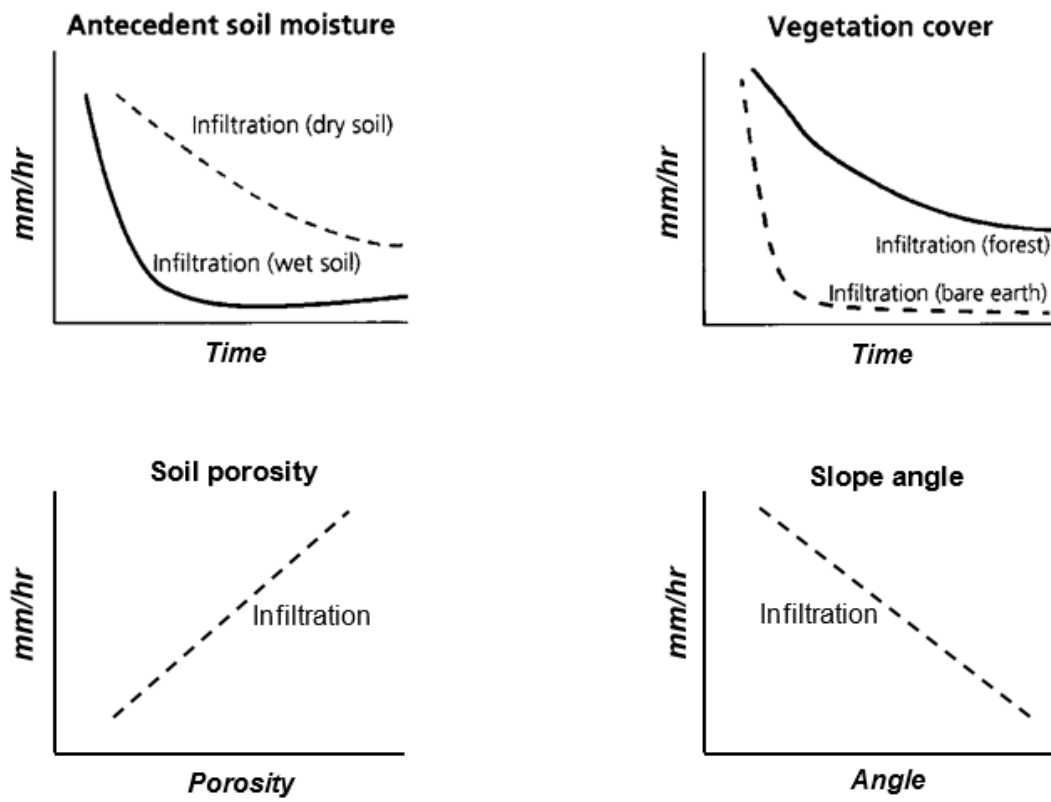
3 hours

READ THESE INSTRUCTIONS FIRST

This Insert contains all the Resources referred to in the questions.

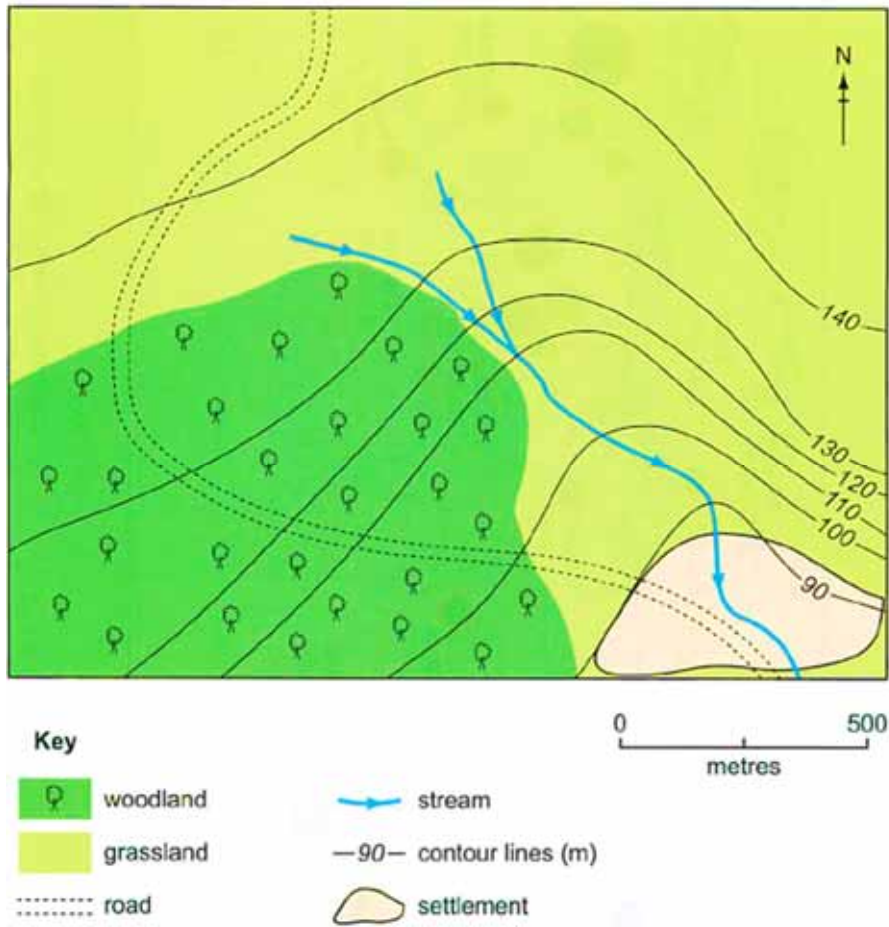This document consists of **5** printed pages.

[Turn Over]

Resource 1 for Question 1

Factors that influence infiltration

Resource 2 for Question 1

A small drainage basin in the UK

Key

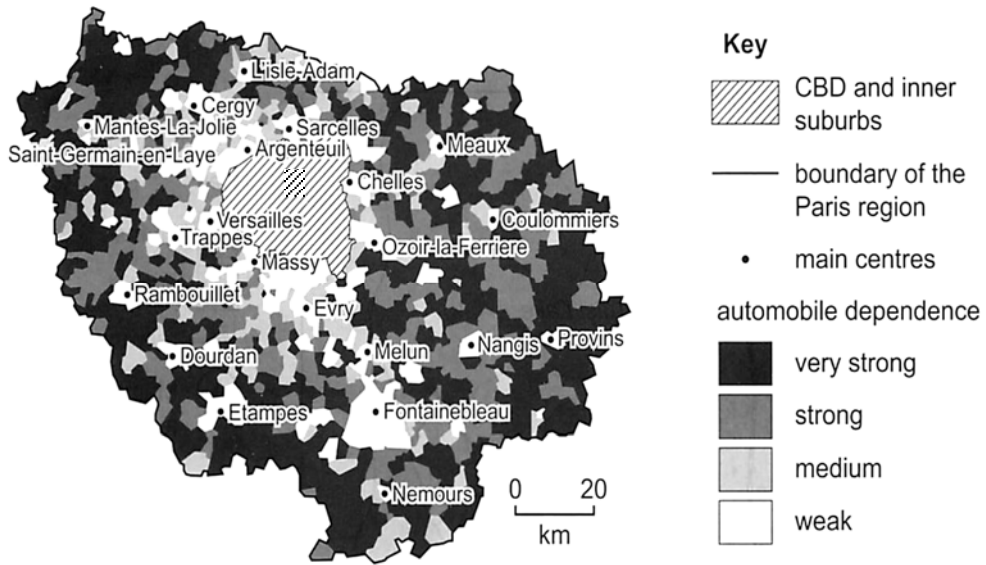|	
woodland	stream
grassland	—90— contour lines (m)
road	settlement

Resource 3 for Question 1

Recording sheet for the measurement of infiltration rates

Description of Selected Site: _____

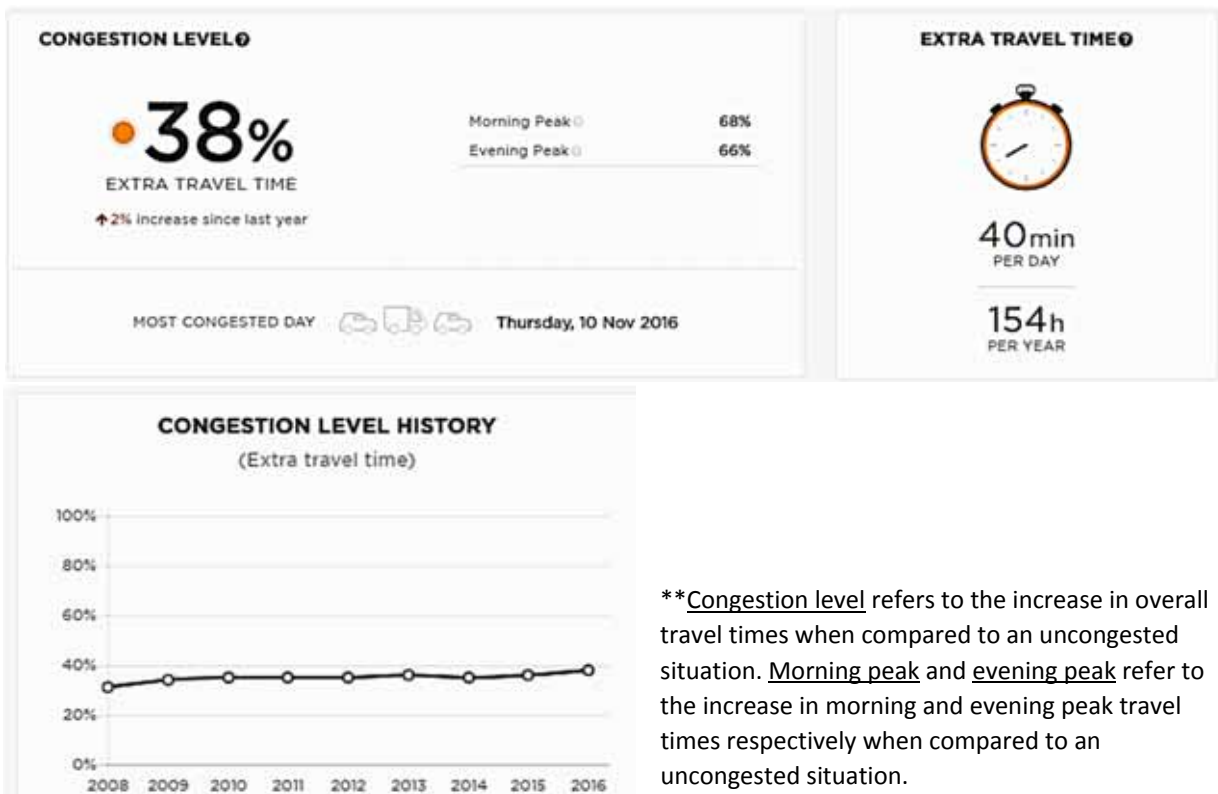|	Attempt 1	Attempt 2	Attempt 3	
Change in water level observed after ____ min (in mm)				Average infiltration rate
Infiltration rate (mm/hr)				

Resource 4 for Question 2

Car dependence* in the Paris region of France, 2001

*Car dependence is defined as the need for the use of a car to travel to work, shop and see friends and family.

Resource 5 for Question 2

Statistics** related to traffic congestion in Paris

**Congestion level refers to the increase in overall travel times when compared to an uncongested situation. Morning peak and evening peak refer to the increase in morning and evening peak travel times respectively when compared to an uncongested situation.

Resource 6 for Question 2

A station of *Vélib'*, the public bicycle-sharing scheme in Paris

The *Vélib'* consists of a network of 1,800 stations, which are available 24 hours a day all year round, and located every 300 meters in Paris. Each station consists of a central terminal (at which payment for rental can be made) and bicycle posts for the docking of bicycles. The first 30 minutes of each trip are always free of charge. Subsequently, the first half-hour costs 1€, second half-hour 2€, and 4€ for every half-hour thereafter.