



HWA CHONG INSTITUTION
JC2 Preliminary Examination
Higher 2

**CANDIDATE
NAME**

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CT GROUP

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**CENTRE
NUMBER**

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**INDEX
NUMBER**

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GEOGRAPHY

9751/02

Additional Materials: Answer Paper
1 Insert
World outline map

15 September 2017
3 hours

READ THESE INSTRUCTIONS FIRST

Write your name and CT class clearly on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Candidates answer **all** questions.

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 outline 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.

Submit your answers in two separate sets:

- 1. Questions 1 and 2**
- 2. Questions 3 and 4**

If you have not attempted any of the questions, you are to submit a piece of writing paper with your name, CG and question number written on it.

Section A

Theme 4 - Geographical Investigation

- 1 A group of 18 year old students were tasked with undertaking a fieldwork exercise on the impact of the electronics industry on a local community in Singapore. They selected Panasonic Singapore's operations in Bedok, a residential area in eastern Singapore, for their investigation. Panasonic is a Japanese transnational corporation which has operated in Singapore for 45 years and has seen changes in its operations from assembly line production to R&D centres in Singapore.

The group was divided into four teams of three students each to collect data from:

- (i) the employees and management staff of Panasonic Singapore
- (ii) businesses within 500 metres from the site
- (iii) residents within 500 metres from the site

The data collected from employees included:

- (i) nature of employment (e.g. engineers/administrative/production workers)
- (ii) nature of employees (Singaporeans/Permanent residents/foreign workers)
- (iii) salary
- (iv) residential location of employees
- (v) location of businesses visited
- (vi) expenditure at individual businesses
- (vii) access to private transport

The data collected from businesses in the vicinity included:

- (i) sales to Panasonic Singapore employees
- (ii) timing of sales to Panasonic Singapore employees
- (iii) other impacts such as noise, littering

The teams decided to take turns to visit the site to collect data from employees outside the premises during after work hours at 5.00 to 6.30 pm on five weekdays in May as well from businesses and residents within 500m from the site. They, however, were unable to access information from the management staff.

Resource 1 shows the location of Panasonic Singapore in Bedok. Resource 2 shows selected businesses located within 500m from Panasonic Singapore.

- (a) Suggest a research question for the investigation and explain how it is clearly defined. [2]
- (b) Explain an appropriate method for collecting primary data in the area as represented in Resource 1. [6]
- (c) With reference to the context provided, suggest two appropriate ways in which the students could collect data from the management staff. [4]
- (d) Evaluate the usefulness of the data shown in Resource 2 in ascertaining the impact of industrial activity on Bedok. [6]
- (e) Suggest and assess solutions to the possible challenges and risks that the students may face when conducting the investigation. [7]

[Turn over]

Section B**Theme 1 - Tropical Environments****Influence of climate on geomorphic processes in Bukidnon Province
in Mindanao, Philippines**

- 2** Bukidnon is one of the five provinces of Northern Mindanao in the Philippines, with a total land area of 8,294 km², extending geographically from 7°N to 8°N. Resource 3 shows a map of Mindanao, showing the Province of Bukidnon and its climograph. Resource 4 shows the topography of the Bukidnon and the highest mountains. Resource 5 shows the track of Typhoon Pablo across the island of Mindanao in 2012.
- (a)** With reference to Resource 3, identify and describe the climatic zone in Bukidnon. [3]
 - (b)** Explain the climatic characteristics represented in Resource 3. [4]
 - (c)** Suggest how the climate of Bukidnon may influence soil formation processes and soil type.[5]
 - (d)** With reference to Resource 5 and other information, explain the occurrence of Typhoon Pablo in the Philippines. [6]
 - (e)** With reference to Resources 4 and 5 and any other information, explain the types of mass movement that could possibly occur in Bukidnon. [7]

[Turn over

Theme 2 - Development, Economy and Environment

Copper Production in Zambia

- 3** Resource 6 shows Zambia's major mineral exports. Resource 7 shows the value addition of copper. With respect to copper, the three main stages involved in conversion of raw minerals to final products include:
- Stage 1 – Mining and refinery processes
 - Stage 2 – Metal fabrications such as stranded copper wires, copper plating and copper bars production
 - Stage 3 – Final finished products such as electrical gadgets and appliances, instruments, machinery and equipment

Resource 8 illustrates Zambia's participation in the copper mineral conversion stages. Resource 9 shows Zambia's GDP over the past 10 years. Resource 10 depicts the relative Human Development Index (HDI) values of some African countries in 2005.

- (a)** With reference to Resource 6, describe the structure of Zambia's economy. [3]
- (b)** Describe the changes in value addition along the production chain of copper using Resource 7 and identify the most profitable type of copper products. [3]
- (c)** With reference to Resource 8, make two recommendations to improve Zambia's participation in the value addition of copper. [4]
- (d)** To what extent is the resource curse thesis valid? Justify your position with reference to Resource 9, Resource 10 as well as your own knowledge. [9]
- (e)** Suggest what other data might be required to explain why the relative HDI of Botswana is higher than that of Zambia as shown in Resource 10. [6]

[Turn over

Theme 3 : Sustainable Development

Sustainable Transportation in urban areas

- 4 Resource 11 shows the number of vehicles per 1000 population in major cities of the world. Resource 12 shows the relationship between urban densities and traffic congestion. Resource 14 shows the variations in COE prices in Singapore from 2003 – 2013.

Resource 14 shows the various trajectories for cities that entered a mass car ownership era without significant mass transit and the effect of congestion pricing on traffic congestion in 4 cities.

- (a) With reference to Resource 11, describe the differences in the number of cars per 1000 population across the different cities. [2]
- (b) Identify two possible reasons for the differences in vehicles per 1000 population in various major cities of the world shown in Resource 11. Explain one consequence resulting from such differences. [4]
- (c) With reference to Resources 12 and 13, suggest two possible reasons for traffic congestion in major cities of the world. [4]
- (d) With reference to Resource 14, explain how it might be possible to manage urban traffic congestion. [6]
- (e) With reference to Resource 14 and your own knowledge, assess the challenges faced in managing urban traffic congestion. [9]

Acknowledgements:

Question 1 Resource 1	© http://www.streetdirectory.com/
Question 1 Resource 1	© https://en.climate-data.org/region/1897/
Question 2 Resource 3	© http://www.maphill.com/philippines/
Question 2 Resource 4	© http://www.maphill.com/philippines/
Question 2 Resource 5	© http://bagyo.ph/page/21/
Question 3 Resources 6 – 9	© International Journal of Science and Research (ISSN 2319 – 7064)
Question 3 Resource 10	© UNDP (2005)
Question 4 Resource 11	© Intro to Regional Planning (2015)
Question 4 Resource 12	© Tom Tom Traffic Index Report
Question 4 Resource 13	© Land Transport Authority
Question 4 Resource 14	© The State of Asian and Pacific Cities (2015), http://www.edf.org/page.cfm?tagID-6241