Raffles Institution
2018 Year 6 Preliminary Examination

Level: Year 6 | **H2 GEOGRAPHY** | Time: 3 hours

9751 Paper 2

READ THESE INSTRUCTIONS FIRST

Write your Index number and name on the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a pencil for any diagrams or graphs.
Do not use staples, paper clips 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.
Diagram and sketch maps should be drawn whenever they serve to illustrate an answer.
World outline maps will be provided if you request for them. They may be annotated and handed in with the relevant answers.
You are reminded of the need for good English and clear presentation in your answers.

The number of marks is given in brackets [ ] at the end of each question or part question.

Answer every question on a <u>fresh sheet of writing paper</u>.

SECTION A

Theme 4: Geographical Investigation

1 You and your classmates were tasked to investigate infiltration rates of two sites.

You decided to split yourselves into two groups of four to measure the infiltration rates of soil at each site. Site A is near the river running through Bishan-Ang Mo Kio Park with residential areas approximately 400 metres north and south of it. Site B is at a construction site near the junction of Tanglin Road and Grange Road with commercial and residential areas within its 200 metres radius.

Together with your classmates, you made your own double ring infiltrometers with used aluminium milk powder tins. You decided to use the stopwatch function of your smart phones. Infiltration rates are calculated by a standardised recording sheet prepared by yourselves.

At each site, both groups chose the flattest ground possible and clipped off any existing grass before you gently twist your double-ring infiltrometer into the soil. Both groups poured water into the infiltrometers, the water level dropped faster initially and measurements were taken only when all three members decided the fall in water level slowed down. Both groups started at the same time and completed the task in an hour.

To ensure accuracy, the groups carried out the same steps the next day. Photographs of the exact placement of the infiltrometers were taken to ensure the same spots were utilised.

Resource 1 shows storm hydrographs of Site A and Site B. Resource 2 shows maps with locations of Site A and Site B. Resource 3 shows the consolidated data collected by you and your classmates to calculate infiltration rates.

(a) With reference to Resource 1, suggest a suitable hypothesis for this geographical investigation. [1]

(b) Describe **three** potential risks at Site A shown in Resource 2 and explain how each risk could be minimized. [6]

(c) Explain how you would minimize the impact of your investigation at Sites A and B differently. [4]

(d) Suggest **two** limitations of Resource 3 in representing the findings and draw bar graphs to represent the infiltration rates of Sites A and B. [5]

(e) Evaluate this investigation to ascertain the flood risks of Sites A and B, and explain how it could be improved and extended. [9]

SECTION B

Theme 1: Tropical Environments

Plantations in Pahang

2 Pahang is a state in Peninsular Malaysia. Two-thirds of Pahang's land is forested and 12.8% of the total land area is used for plantation agriculture. Resource 4 is a climograph of Pahang. Resource 5 shows the vegetation structure, soil profile and mean biomass of a typical forest in Pahang. Resource 6 is the water budget of entire Pahang. Resource 7 is a photograph of a tea plantation in a forest of Pahang.

(a) Identify the climatic zone of Pahang according to Köppen–Geiger climate classification system. Support your answer with data from Resource 4. [4]

(b) Describe the vegetation structure and mean biomass of a typical forest in Pahang as shown in Resource 5. [3]

(c) With the help of Resources 5 and 6, suggest the possible processes that result in the soil profile of a typical forest in Pahang. [6]

(d) With reference to Resource 7, explain how the landscape was changed to develop a plantation. [4]

(e) Using Resources 4, 6 and 7, explain why occurrence of mass movements is a major concern of plantation owners in Pahang. Support your response with information from the resources. [8]

Theme 2: Development, Economy and Environment

Resource Extraction in Democratic Republic of Congo

3 Resource 8 shows the extraction of various resources in the Democratic Republic of Congo (DRC). Resource 9 shows information on the ownership of copper and cobalt mines operating in Katanga Province of the DRC. Resource 10 shows information on the movement of cobalt from mines in the DRC to global markets.

(a) Using Resource 8, describe the spatial pattern of resource extraction in the DRC. [3]

(b) To what extent does Resource 8 show a core-periphery pattern of development within the DRC. [5]

(c) Explain **three** possible impacts of foreign ownership of mines as depicted in Resource 9. [6]

(d) Describe the global production network of cobalt as shown in Resource 10. [4]

(e) Evaluate the usefulness of Resources 8, 9 and 10 as evidence for the resource curse thesis in the DRC. [7]

Theme 3: Sustainable Development

Needs of the Elderly in Singapore and selected countries

4 Resource 11 shows the number of one-person households by age-groups in Singapore from 2000 to 2014. Resource 12 shows the changes in percentage of elderly population (65+ years) from 7 percent to 14 percent for selected countries. Resource 13 depicts a new Silver Zone traffic measure in Bukit Merah View to help the elderly make their way across roads safely. Resource 14 shows the costs for the different aged care options in Singapore.

(a) Explain **two** limitations of Resource 11 in understanding the needs of the elderly in Singapore. [3]

(a) With reference to Resource 12, compare the patterns of Asian countries and non-Asian countries for the change in percentage of elderly population (aged 65+) to rise from 7% to 14%. [4]

(c) Using evidence from Resources 11 & 12, outline why the needs of the elderly population would be considered a pressing issue for Singapore? [5]

(d) Explain how the mobility of elderly residents may be improved with the new traffic measure depicted in Resource 13. [4]

(e) Using Resource 14 and your own knowledge, recommend **one** option for an elderly person who is no longer able to live independently. Justify your decision. [9]