

NAME:

NO:

CLASS:

ADMIRALTY SECONDARY SCHOOL



ENF OF YEAR EXAMINATION 2022

ANSWERS

SUBJECT	: Geography
LEVEL/STREAM	: Secondary 2 Express
DATE	: 4 October 2022
TIME	: 0800 – 0915h
DURATION	: 1 hour 15 mins

Section A: Geographical Investigation Skills [11 marks]

Answer **all** questions in this section.

- 1 Study Fig. 1, which shows the five stages of a Geographical Investigation (GI).

Five Stages of the Geographical Investigation (GI) process

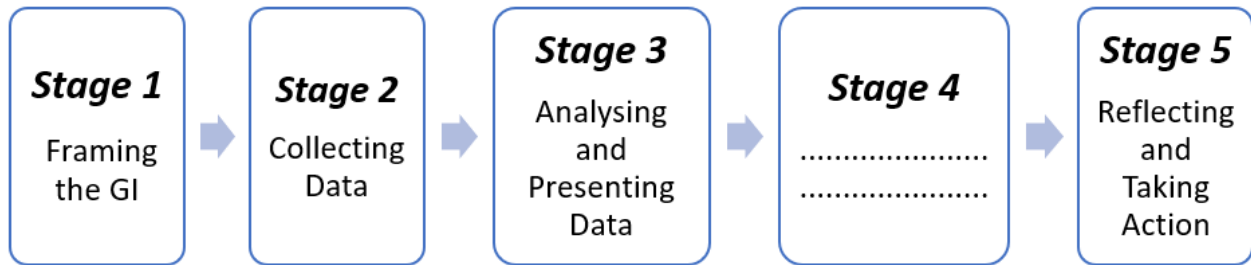


Fig. 1

Using Fig. 1, state Stage 4 of the GI process. Write your answer in the blank provided.

[1]

Drawing Conclusions [1]

Finding conclusions / coming to a conclusion [1]

Join conclusion [0]

- 2 A group of students wanted to investigate if transport activities are affecting the residents in the Admiralty housing estate. They created the following hypothesis for their Geographical Investigation.

Hypothesis: 'The presence of transport node affects the residents' sleeping hours.'

- (a) Study Fig. 2, which shows the primary data collected by students from 30 residents who get less than 7 hours of sleep.

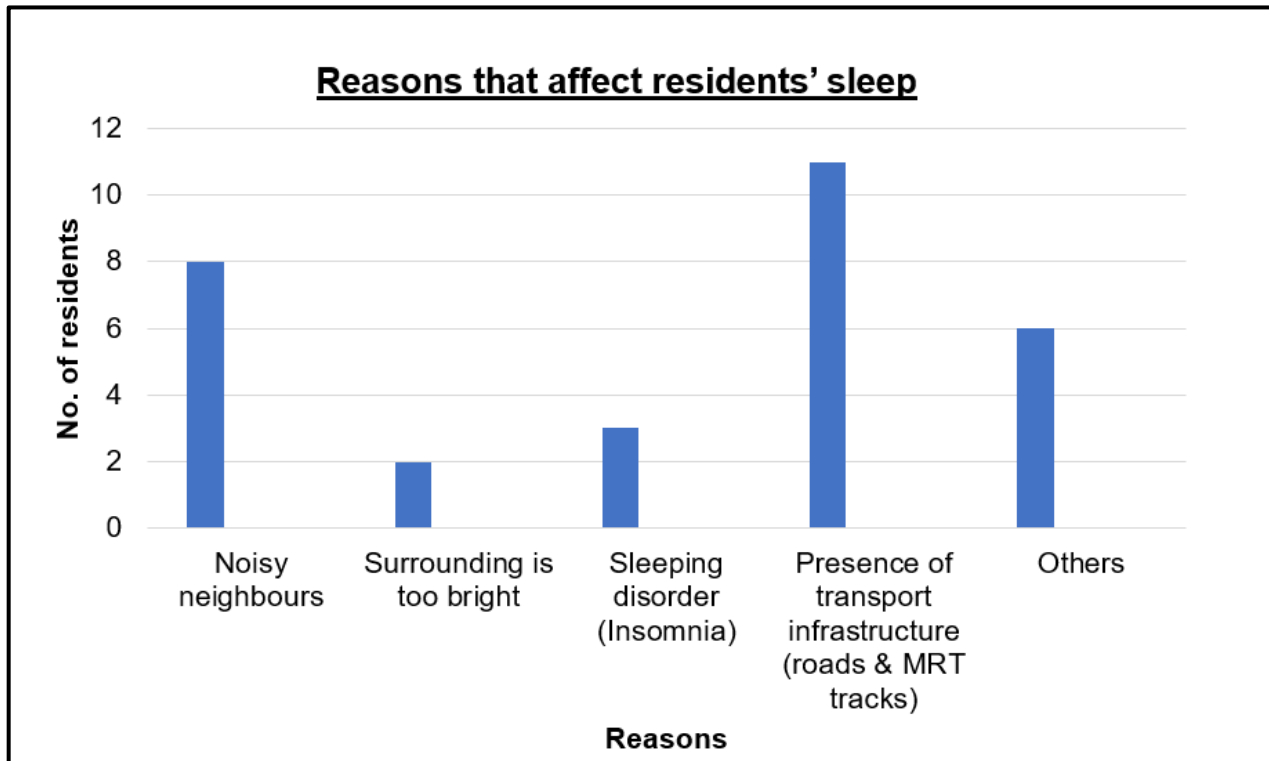
Reasons that affect residents' sleep

Reason	Number of residents
Noisy neighbors	8
Surrounding is too bright	2
Sleeping disorder (Insomnia)	3
Presence of transport infrastructure (roads & MRT tracks)	11
Others	6

Fig. 2

Using Fig. 2, plot a bar graph showing the different reasons that affect residents' sleep at night.

[3]



- (b) With reference to Fig. 2, state if the hypothesis is true or false. Support your answer with evidence.

The hypothesis is true because

[1]

11 out of 30 residents/respondents gave 'presence of transport infrastructure (roads & MRT tracks)' as their reason for their lack of sleep

[1]

which is the highest number of residents/respondents

[1]

False because presence of transport node is classified under 'others' and it is not the highest [maximum 2m]

(c) Describe and explain **two** ways to design an effective questionnaire.

A variety of questions that includes both close and open ended questions [1]

Craft open-ended question [0]

Add more options for the MCQ questions [0]

Open ended questions: Allow respondents to answer in their own words, with no influence from the interviewer / able to gain more (valuable) information about the subject at hand from the respondents [1]

Give a detailed feedback/responses [1]

Give personal opinions [1]

Use of simple and clear language [1]

The clarity of questionnaire helps respondents to understand hence answer the questions accurately / improve the ease with which respondents are able to complete a questionnaire

Respondents could comprehend the questions better [1] [1]

State purpose [1]

So that respondents are more willing to do the survey [1]

Section B: Structured Questions [10 marks]

Answer **all** questions in this section.

- 3** Study Table 1, which shows a city and its population size and land area.

Population Size and Land Area of Osaka

City	Population Size (people)	Land Area (km ²)	Population Density (people/km ²)
Osaka	19,059,856	223	

Table 1

Calculate the population density of Osaka. ***Show your workings clearly.
Round off your answer to one decimal place.***

$$19,059,856 / 223 = 85,470.2 \text{ people/km}^2 \text{ [1]}$$

85, 470.2 [0]

- 4 Study Fig. 3, which shows a slum house in the Philippines.

A slum house in the Philippines



Fig. 3

With reference to Fig. 3, explain **one** hazard of living in slums.

The slum house has unstable walls and roofs that are made of poor-quality materials such as wooden planks and rusty zinc [1] that can collapse easily [1]

Break down [0]

Topple easily [1] / blown away easily by strong winds [1]

The construction materials used in the slum house such as the wooden planks are flammable [1] which increases the risk of fires / catches fire easily [1]

The living condition in the slum house is very unhygienic as they have lack of access to basic services such as waste disposal services and sanitation [1] which can cause diseases such as cholera and tuberculosis to spread easily [1]

- 5 Study Fig. 4, which shows a lift panel in one of the HDB estates in Singapore.

A lift panel in a HDB estate



Fig. 4

With reference to Fig. 4, identify and explain how the modification of the lift panel contributes to an inclusive housing in Singapore.

Lift buttons with Braille markings [1]

Dots [0] / patterns [0] / markings [0]

Tactile indicators [1]

Spelling error such as Brail [1] / brille [1]

These marking are designed for the visually impaired [1]

Blind people [1] / people who cannot see [1]

so that they can use the lift independently [1]

Able to feel the braille and read/identify which button represents which level [1] / know which correct button to press [1]

- 6 Evaluate the effectiveness of solar panels in promoting sustainability in housing developments.

Advantage

1. Solar panels are environmentally friendly as it uses renewable source of energy by converting sunlight to electricity [1]

Uses the energy from the sun to generate electricity [1]

Save energy / electricity [0]

2. Reduces carbon emissions and mitigate the effect of global warming / reduce the rate of global warming [1]

Reduces the use of fossil fuel [1] / do not produce any harmful substances into the air [1]

Disadvantage

1. Expensive to install the solar panels [1]

2. Requires maintenance such as cleaning of the solar panels [1]

Not all countries are able to use solar panels especially the less developed countries [1] as it is expensive [1]

Not so effective / less effective during cloudy days [1]

Not effective during cloudy days [0]

Not enough electricity generated by using solar panels [0]

Section C: Structured Questions [14 marks]

Answer **all** questions in this section.

- 7 Study Fig. 5 which shows the number of commercial aircraft movements (thousands) in Airport A and B from 2018 to 2022.

Number of aircraft movements (thousands) in Airport A and B from 2018 to 2022

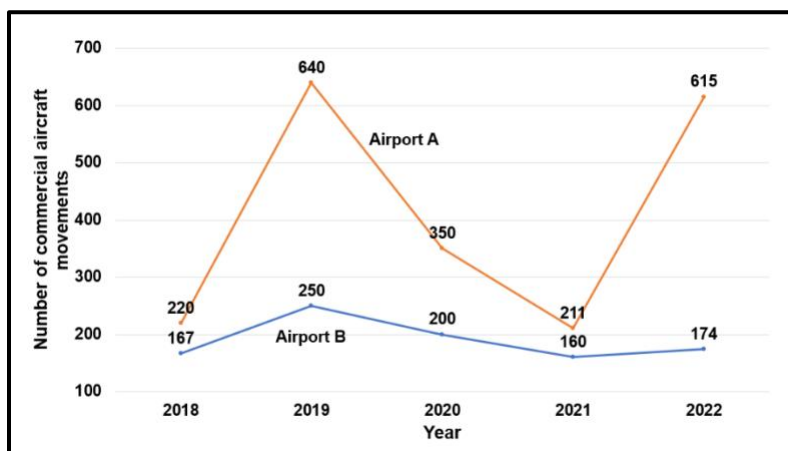


Fig. 5

With reference to Fig. 5, compare the number of commercial aircraft movements (thousands) in Airport A and B from 2018 to 2022.

General Trend:

Generally, the number of commercial aircraft movements arriving in Airport A have increased (V) rapidly (A) from 2018 to 2022 (P) by 395 000 (F) **BUT**

Generally, the number of commercial aircraft movements arriving in Airport B have increased (V) gradually (A) from 2018 to 2022 (P) by 7 000 (F)

Specific Trend 1:

The number of commercial aircraft movements arriving in Airport A have increased (V) rapidly (A) from 2018 to 2019 (P) by 420 000 (F)

WHILE

The number of commercial aircraft movements arriving in Airport B have increased (V) gradually (A) from 2018 to 2019 (P) by 83 000 (F)

Specific Trend 2:

The number of commercial aircraft movements arriving in Airport A have decreased (V) rapidly (A) from 2019 to 2021 (P) by 429 000 (F)

HOWEVER

The number of commercial aircraft movements arriving in Airport B have decreased (V) gradually (A) from 2019 to 2021 (P) by 90 000 (F)

Specific Trend 3:

The number of commercial aircraft movements arriving in Airport A have increased (V) rapidly (A) from 2021 to 2022 (P) by 404 000 (F) BUT The number of commercial aircraft movements arriving in Airport B have increased (V) gradually (A) from 2021 to 2022 (P) by 14 000 (F)

Award [1] for one general trend and [2] for any two specific trends

2 complete set of FVAP with no 'but' or 'while' or 'however' – [1m]

Wrong data – eg. 404 commercial air crafts [0] → should be 404 thousands commercial air crafts

FVAP: A is inaccurate [0]

- 8 Study Fig. 6, which shows the connection between cities.

Connection between cities

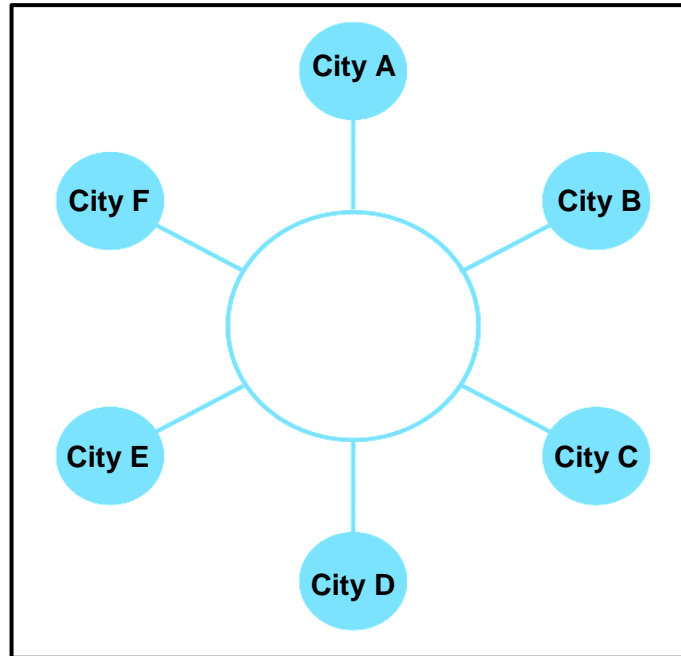


Fig. 6

With reference to Fig. 6, identify the type of connections and explain how people travel between the different cities on this network.

Hub and spoke connection [1]

Unimodal [0] / Intermodal [0]

Every city is connected to all the other cities [1]

All the cities are connected to the hub [1]

through one **intermediary location** called a **hub** [1]

Hub and spoke connection allow people to travel between cities by making a transfer at a hub [1]

People can travel from City A to City D by going through the hub first before eventually reaching City D [1]

- 9 Using an example in Singapore, explain how the construction of transport infrastructure affects the physical environment.

The construction of the Bukit Timah Expressway (BKE) [1]

As part of the forest are cleared (deforestation) [1]

to make space for the building of the expressway [1]

OR

The construction of the Bukit Timah Expressway (BKE) [1]

Leads to roadkill [1]

Animals which attempt to reach the other side by crossing the BKE may end up getting injured or killed [1]

Bukit Timah Nature Reserve severed from Central Catchment Nature Reserve resulting in two smaller segments of forested areas [1]

Reduce in the size of the natural habitat for wildlife [1]

- 10 With reference to example, explain how research and development enhances the experience of using public transport.

An electronic bus schedule display board [1]

Bus arrival time board [1] / Bus schedule display board [1]

Provides commuters with information such as bus arrival times [1]

Helps them better plan their journeys [1]

Making public transport an attractive mode of transport [1]

Electric buses [1]

Quieter ambient (noise level is lower than diesel bus) [1]

More user friendly – pole removed at both doors to allow parents with stroller to board the bus easily [1]

END OF PAPER

Acknowledgement

Fig. 3 <https://www.reuters.com/article/us-health-coronavirus-philippines-slums-idUSKBN231150>