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INDEX NUMBER

Anglo-Chinese School

(Independent)



MID YEAR EXAMINATION 2017 INTEGRATED PROGRAMME YEAR 2

GEOGRAPHY ANSWER SCHEME

Friday

5 May 2017

1 hour

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Write your index number in the boxes at the top of this page.
Write in dark blue or black pen.

You may use a soft pencil for any diagrams and graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer all the questions.

Section B

Answer all the questions.

Write all answers in the spaces provided.

Candidates should support their answers with the use of relevant examples.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

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

For examiner's use

Question No	Marks obtained
1	/7
2	/2
3	/3
4	/3
5	/3
6	/5
7	/2
8	/5
Total	/30

This Answer Scheme consists of 11 printed pages.

[Turn over

Section A: Topographical Map and Basic Techniques [15 marks]

1. Fig. 1 shows a 1:50,000 topographical map of Pont Novli.

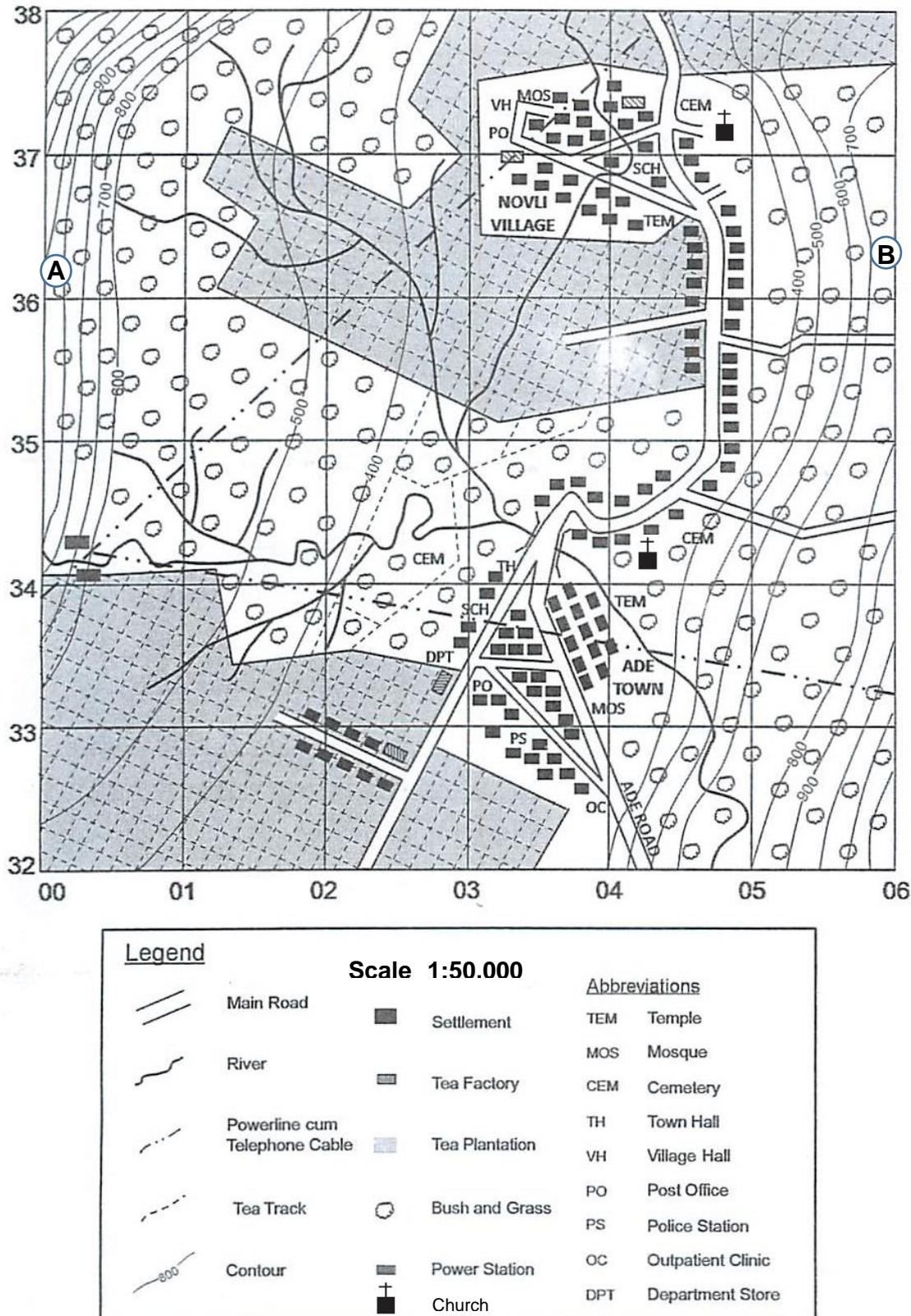


Fig. 1

Source: Exam Aid Book Publishers

- (a) What is the contour interval of the map? [1]

100m

- (b) Measure the bearing of the church at Novli Village (0437) from the church at Ade Town (0434). [1]

10° (+/- 2)

- (c) What is the main economic activity of Novli Village and Ade Town? Give map evidence to support your answer. [2]

Main economic activity is commercial farming/cultivation of crops [1] as seen by the huge areas of tea plantations around Novli Village and southwest of Ade Town. [1]

- (d) Describe the changes in the relief and landscape that you would experience as you walk from Point A to Point B. [3]

Walk down a steep slope through bushes and then on to a gently sloping stretch of bushes.

Next I will walk through a tea plantation and a few rivers

Cross a row of settlements along a road.

Finally up a steep slope of bushes.

2. Fig. 2 shows information on the cost incurred due to traffic jams.

COSTS INCURRED DUE TO TRAFFIC JAMS

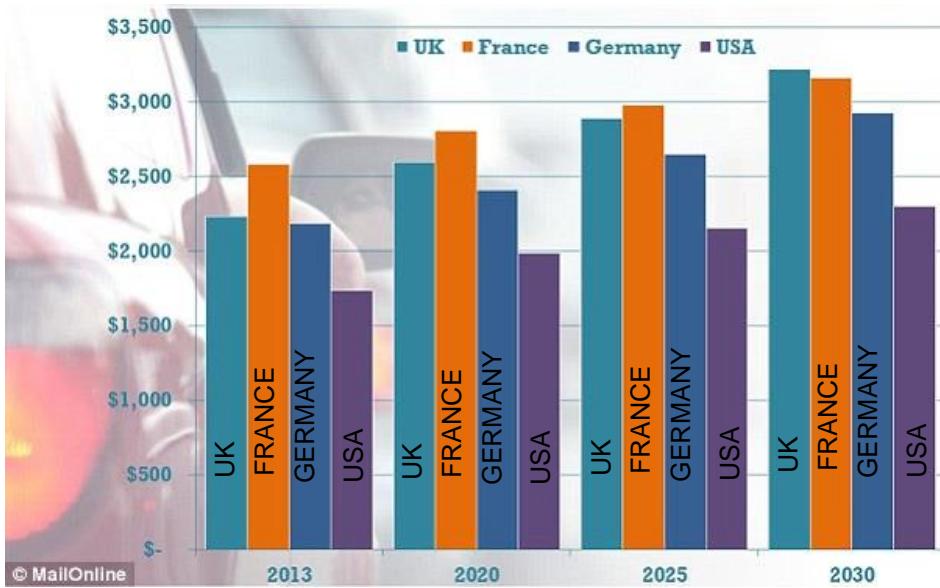


Fig. 2

Source: <http://www.dailymail.co.uk/news/article-2792571/sitting-traffic-jams-cost-families-2-000-waste-18-days-year-2030-growing-population-clogs-roads.html>

With reference to Fig. 2, describe the projected changes in the trend of the data [2] from 2013 to 2030.

All four countries experience an increase in costs due to traffic jams by 2030.

By 2030, UK will overtake France as the highest cost to commuters from \$2200 in 2013 to \$3200 in 2030.

3. Fig. 3 shows a table of information on the delays experienced by the MRT network from 2011 till the 1st quarter of 2015 (from Jan to March 2015).

Number of Service Delays on MRT network from 2011 to 1st Q 2015

	No. of Service Delays (>30 min)	Service Delays per 100,000 train-km (>30 min)
2011	11	0.05
2012	8	0.03
2013	8	0.03
2014	12	0.04
1 st Q 2015	5	0.07

Fig. 3

Source: <http://dollarsandsense.sg/wp-content/uploads/2015/07/Exhibit-4.jpg>

- (a) What is the percentage change in the number of service delays lasting more [1] than 30 minutes from 2012 to 2014?

50% increase / 150%

- (b) What does the trend in the data suggest about the number of service delays [2] experienced on the MRT network after the 1st quarter of 2015? Support your answer with evidence from Fig. 3.

It suggests that the number of service delays would rise further and be greater than 2014. [1] This is due to the fact that in just three months, the number of delays is already 5, suggesting that by the end of the year, it could rise to about 20. [1] Furthermore, the service delays per 100,000 train-km has been increasing from 2013 onwards from 0.03 in 2013 to 0.07 in just the 1st quarter of 2015. [1]

4. Fig. 4 shows the global distribution of passenger cars.

Worldwide Passenger Cars (per 1,000 people)

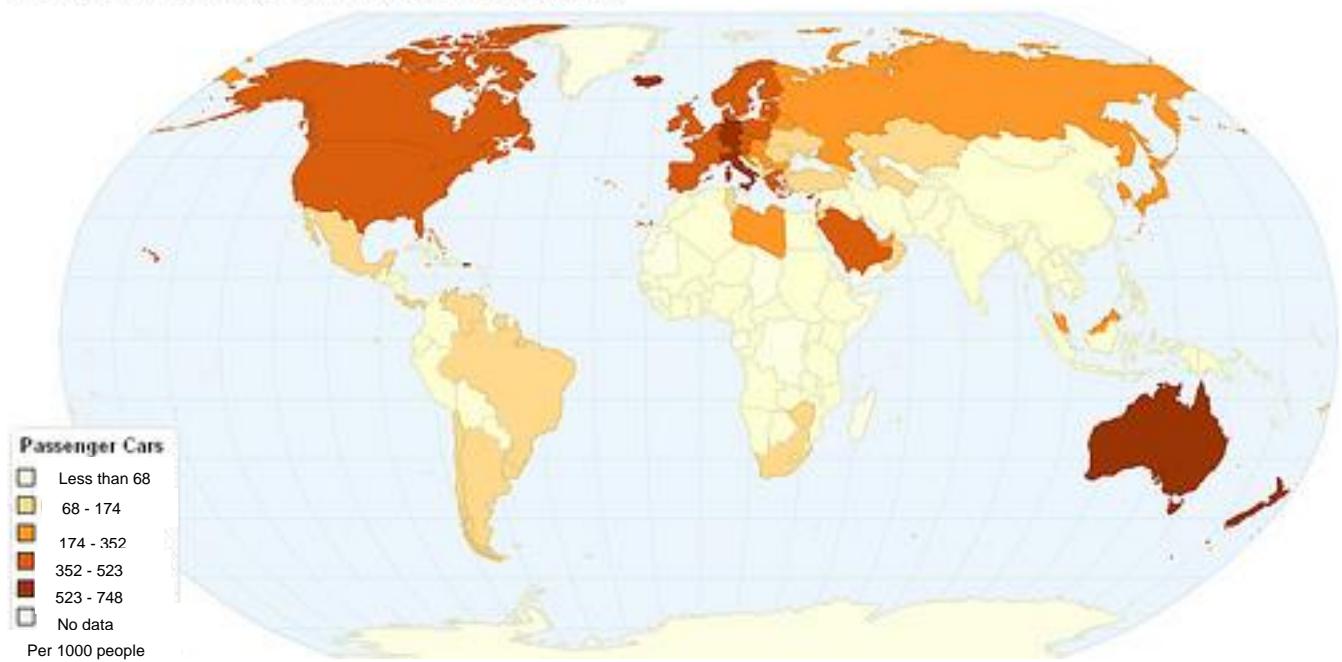


Fig. 4

Source: <https://sites.google.com/site/2015geoville/unit-2-population/maps>

With reference to Fig. 4, describe the global distribution of passenger cars. [3]

Countries with the highest number of passenger cars are found in Australia and New Zealand and parts of central Europe with about 523-748 cars per 1000 people.

Countries such as Brazil, Russia and South Africa are in between the highest and lowest car ownership with about 174 – 352 cars per 1000 people.

Countries with the lowest number of passenger cars include areas such as Antarctica, Africa, China and India with less than 68 cars per 1000 people.

Section B: Structured Questions [15 marks]

5. Fig. 5 shows information on the causes of traffic congestion.

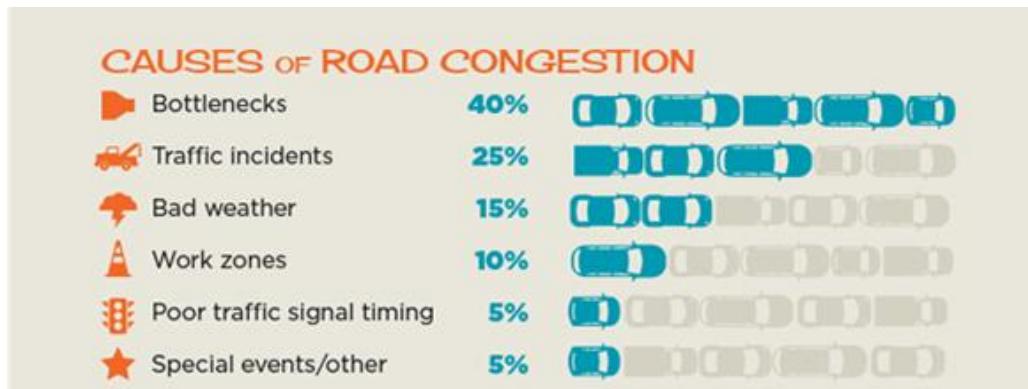


Fig. 5

Source: <http://www.theurbancountry.com/2012/10/cause-of-road-congestion-too-many.html>

With reference to Fig. 5, describe and explain three causes of road congestion. [3]

40% of traffic congestions are caused by bottlenecks which are the most significant cause of congestion as too many cars try to filter into smaller roads beyond their capacity, causing a jam.

25% of congestions are caused by traffic incidents such as car accidents. They can cause congestion when damaged cars block the roads and prevent other cars from passing.

15% of congestion is caused by bad weather as drivers tend to slow down when it rains and visibility is reduced.

[any three]

6. With reference to specific examples, explain the impact that traffic congestion may have on the environment. [2]

There will be air pollution such as smog in Beijing, China where huge numbers of vehicles stuck in traffic congestion pollute the air from emissions.

There is also noise pollution such as in Kolkata in India where a car honk is sounded every 5 seconds.

7. Fig. 6 shows the prices of Certificates of Entitlements (COEs) in Singapore from 2003 to 2016 for Category A cars up to 1600cc. (Anyone who wishes to register a new vehicle in Singapore must first obtain a **Certificate of Entitlement (COE)**, in the appropriate vehicle category. A COE represents a right to vehicle ownership and use of the limited road space for 10 years.)

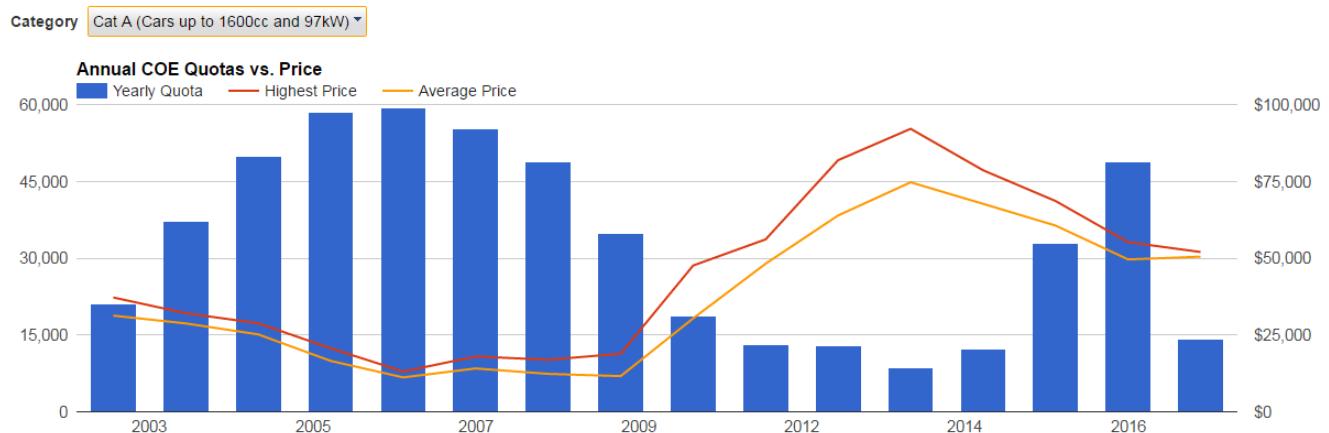


Fig. 6

Source: <http://coe.sgcharts.com/>

- (a) With reference to data from Fig. 6, describe the relationship between the yearly quota and the average price of COEs as reflected in Fig. 6. [4]

The yearly quota and the average price have an inverse relationship [1] whereby a smaller quota leads to a higher COE price and a higher quota leads to a lower COE price. [1]

For example, when the COE quota is at its highest in 2006 (almost 60,000), the price is the lowest (about \$17,000) [1] and when the COE quota is at its lowest in 2013 (about 7,500), the price was the highest at about \$90,000. [1]

- (b) Suggest how the implementation of the COE helps to manage the vehicle population in Singapore. [1]

When COE quotas are reduced, this will drive up the price of COEs. With the higher price of cars, drivers would be less able to afford to buy a car and this would reduce the number of cars on the roads. [1]

8. Fig. 7 shows a traffic management measure in Singapore.



Fig. 7

Source: <http://jbabiesdad.blogspot.sg/2013/01/the-intelligent-transport-systems-centre.html>

Describe one advantage and disadvantage that the traffic management [2] measure shown in Fig. 7 has.

The advantage is that the traffic advisory boards help to provide drivers with traffic information such as parking availability and road delays. This will enable them to make informed decisions instead of queueing up along the roads for parking and causing congestion.

The disadvantage is that these notices only divert traffic to other roads and does not lower the overall vehicle population in the area.

9. Fig. 8 below is an article from the Straits Times.

SPH Websites ▾

SINGAPORE

THE STRAITS TIMES

SINGAPORE POLITICS ASIA WORLD VIDEOS MULTIMEDIA LIFESTYLE FOOD FORUM OPINION BUSINESS SPORT TECH

SINGAPORE > Courts & Crime Education Housing Transport Health Manpower Environment

Bus, rail ridership soars to new high

Taxis, however, record fall in ridership, likely because of popularity of private-hire options

Christopher Tan
Senior Transport Correspondent

Bus and rail ridership rose by 4.3 per cent last year to hit a daily average of 7.2 million - a new record and the 12th consecutive annual rise since 2005.

According to just released statistics from the Land Transport Authority (LTA), the LRT led the growth with an 18.4 per cent increase in ridership to 180,000 a day.

The MRT followed with a 7.8 per cent rise to 3.1 million rides a day - the first time it has breached the three million mark.

Together, the two rail modes posted an 8.3 per cent growth to 3.3 million rides a day - closing in on buses, which remain for now the dominant mode.

Buses posted a 1.2 per cent increase to 3.9 million rides a day.

Meanwhile, taxis, which are sometimes viewed as a cross between private and public transport, posted a 5.5 per cent drop in ridership last year to 954,000 rides per day.

Average daily public transport ridership

	MRT	LRT	Buses	Total
2016	3,095,000	180,000	3,939,000	7,214,000
% change from previous year	▲ 7.8	▲ 18.4	▲ 1.2	▲ 4.3

Source: LAND TRANSPORT AUTHORITY STRAITS TIMES GRAPHIC

Observers attribute this to the growing popularity of private-hire alternatives such as Uber and Grab.

National University of Singapore transport researcher Lee Der-Horng attributed the growth to the "multiplier effect" of new MRT lines.

"With the completion of more and more new lines, public transport will become the 'preferred mode' of travel," he said.

He also said service improvement in buses has encouraged more people to switch to public transport.

"I personally am 100 per cent on public transport during weekdays, even though I still have a car," said Dr Lee, adding that he believes there are "others like me".

"The improved supply of services has made it easier and more comfortable for people to travel in Singapore."

Fig. 8

Source: <http://www.straitstimes.com/singapore/transport/bus-rail-ridership-soars-to-new-high>

With reference to Fig. 8, discuss your opinion on the success of Singapore's efforts to reduce traffic congestion. Support your opinion with reasons and examples.

[5]

Level 1	1-2 marks	Strategy/Opinion is not explained clearly Reasons/Pro/Cons and examples are not evident in support of the discussion Conclusion is not convincing
Level 2	3-4 marks	Strategy/Opinion is explained clearly Reasons/Pros/Cons and examples are evident in support of the discussion. Conclusion is well discussed by evaluating the strategy from the short-term and long-term point of view
Level 3	5 marks	Strategy/Opinion is explained very clearly Reasons/Pros/Cons and examples are well used in support of the discussion. Conclusion is well discussed, besides evaluating the strategy from the short-term and long-term point of view, effective alternative suggestions are provided.

Answers would include an explanation of the traffic management measures with reference to statistical examples from the article to demonstrate success. Answers should also provide a discussion on the limitations of the measures as seen from the prevalent traffic congestions that we still experience.

END OF PAPER