

Name: _____ Index Number: _____ Class: _____

**Clementi Town Secondary School
2019 Preliminary Examination
Secondary 4 Express / 5 Normal Academic**



HUMANITIES

**2272/01
2273/01**

Paper 1 Social Studies

26 August 2019

1 hour 45 minutes

Additional Materials provided: Writing papers

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READ THESE INSTRUCTIONS FIRST

Write in dark blue or black pen.
Do not use staples, paper clips or correction fluid.

Section A

Answer **all parts** of Question 1.

Section B

Answer **both parts** of Question 2.

Begin your answer to Section B on a new and separate sheet of paper.

At the end of the examination, fasten and submit Section A and Section B separately.

This Question Paper consists of **8** printed pages.

[Turn over]

Section A (Source-Based Case Study)

Question 1 is **compulsory** for all candidates.

1 Being Part of a Globalised World

Study the Background Information and the sources carefully, and then answer all the questions.

You may use any of the sources to help you answer the questions, in addition to those sources which you are told to use. In answering the questions, you should use your knowledge of the topic to interpret and evaluate the sources.

(a) Study Source A.

Why was this cartoon published? Explain your answer, using details of the cartoon.

[5]

(b) Study Source B.

Does Source B prove that there is a need to strengthen Singapore's cybersecurity? Explain your answer.

[6]

(c) Study Sources C and D.

How far does Source C agree with Source D about Singapore's level of readiness to address her cybersecurity challenges? Explain your answer.

[7]

(d) Study Sources E and F.

Does Source F make Source E surprising? Explain your answer.

[7]

(e) 'Singapore's cybersecurity measures have been adequate'.

Using the sources in this case study, explain how far you would agree with this statement.

[10]

Who is responsible for Singapore's cybersecurity?

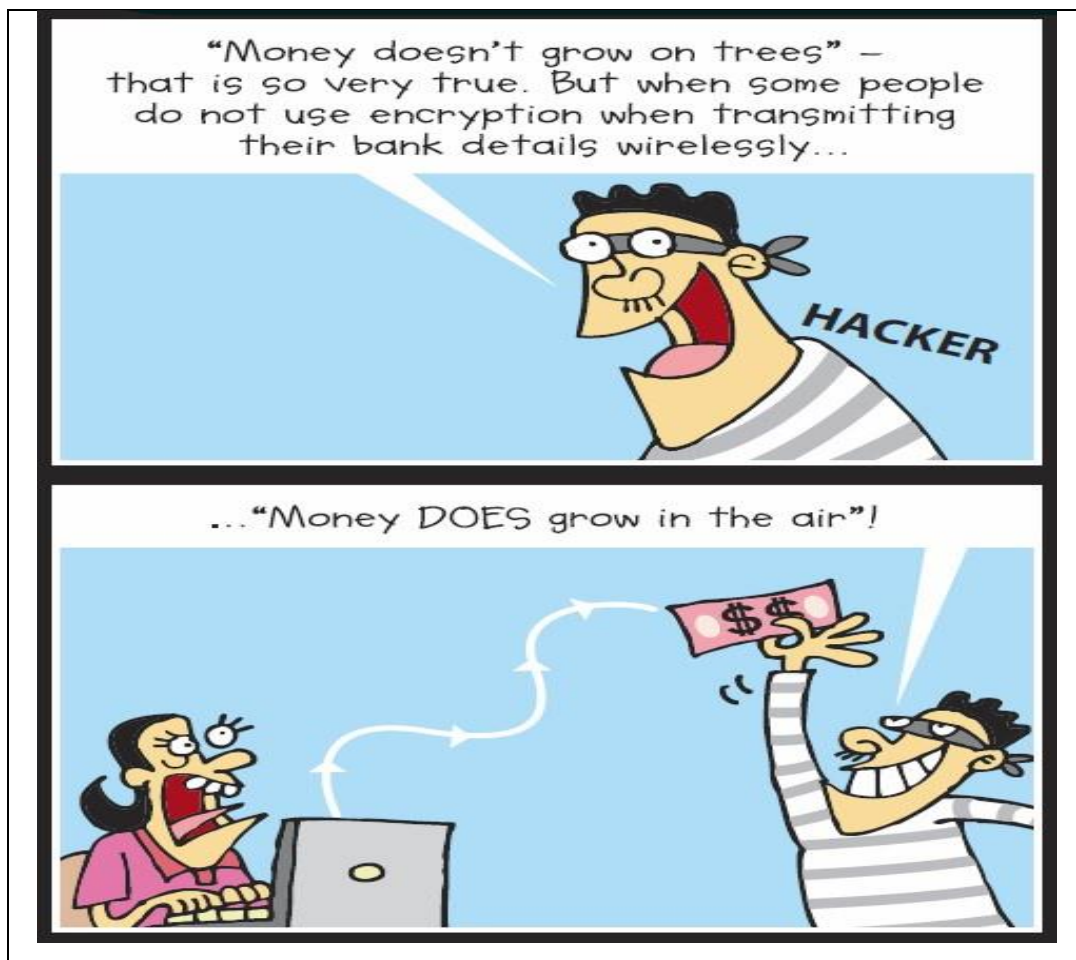
BACKGROUND INFORMATION

Read this carefully. It may help you to answer some of the questions.

Unlike in the past, threats to cybersecurity are becoming an area of focus for all countries due to the increase in cyberattacks since 2014. A breach of security can have dire impacts with the country possibly coming to a standstill. To counter this, numerous laws and initiatives have been introduced and implemented. In 2015, the Singapore government set up the Cyber Security Agency (CSA) to oversee and coordinate activities to strengthen Singapore's cybersecurity. Despite these measures, cyberattacks such as the ones on the Ministry of Defence (MINDEF) in 2017 and the hacking of SingHealth's IT system in 2018 prove that Singaporeans must take cybersecurity seriously and take the initiative to strengthen our cybersecurity defences.

Study the following sources to assess who is responsible for Singapore's cybersecurity?

Source A: A cartoon posted on the official Cyber Security Agency of Singapore (CSA) website in 2016.



encryption: process of encoding information in such a way that only authorised parties can access it.

Source B: *An article written in 2017 by Apvera, a company providing cybersecurity solutions.*

Cybercrime is rising, **stealthily** targeting major government institutions and compromising crucial data costing millions of dollars in damages. Singapore is highly-networked, with widespread use of digital banking, making it the region's major technology hub hence it is vulnerable to hackers.

The cyber-attack on MINDEF further proves that cyber criminals spare no one. If hackers can crack the country's national defence systems, imagine what they could do with crucial, highly sensitive data. Despite not giving away sensitive, high-level state secrets, the worrying part was that the breach remained undetected for several weeks.

All these things confirm that organisations are not safe. Common solutions are outdated and insufficient to beat today's extra-sophisticated hacking attempts. We need advanced multi-layered solutions. Start with selecting a security provider that could provide you with complete cyber security solutions and equipped with backup and restore options in case your data is lost or damaged.

stealthily: sneakily, cautiously or silently

Source C: *An interview with Mr Erman Tan, President of the Singapore **Human Resources** Institute (SHRI), in TODAY, an online news platform, on 14 July 2019.*

"Why do we have fire drills when we never encounter fires? People feel it will never happen to them or their company. It's the same for cybersecurity and all the training and policies that companies try to put in place", said Mr Tan about the challenges faced in cybersecurity.

While Singapore has one of the best infrastructure, technologies and legislation to deal with cyber-threats, it is the human factor — either the weakest link or the first line of defence — that caused the recent data breaches. Many Singaporeans were still complacent and unconcerned regarding cyber-threats as cyber-attacks and online scams would not happen to them.

Although there are many initiatives at the national level to raise public cybersecurity awareness, their effectiveness remains in question. "While awareness of cybersecurity may have improved, such as the need to set a strong password, in reality not everyone is practising it."

Human Resources: Also known as HR, a human resources company / organisation tries to help match the right employees to the right jobs in any industry. They also provide training to workers and represent the welfare needs of employees in companies / organisations among other things.

Source D: *A Straits Times news article about a survey conducted in 2017 to assess Singaporeans' cybersecurity habits.*

Singaporeans are careless regarding their passwords. They either – do not change passwords regularly, or write them down somewhere in a diary or store it somewhere online; or use the same password for work and personal accounts.

But now, with more public campaigns, there is increased awareness of the **2FA** authentication process and more people are using it to secure and enable some or all of their accounts as compared to 2016. More are cautious when making online transactions and app downloads.

2FA: Stands for 2 – Factor Authentication. It is a two-step security process in which the user provides two different factors to identify themselves. This is to better protect both the user's credentials and resources the user can access online.

Source E: *An interview with Mr David Koh, Chief Executive (CEO) of Cyber Security Agency (CSA) of Singapore in 2017.*

While Singapore companies and government agencies suffered network security breaches this year, Singapore escaped the brunt of global malware attacks largely unharmed by sheer chance. Singapore is not particularly skilled or Singaporeans very alert with respect to malware, we were just lucky for two reasons. First, the **ransomware** affected older versions of the Windows operating system, which are not prevalent in Singapore... Secondly, the target was not Singapore because if Singapore was targeted, the results would be quite different.

Despite Singapore's top ranking in the Global Cybersecurity Index, such rankings are irrelevant. We may be the best, but are our cyberdefences really strong? Here, I must say that the attackers are nimble, well-resourced and world-class ... Realistically we can't prevent a cyberattack, so we must strengthen our defences and systems, allowing us to operate (with fewer functions) even if attacked.

ransomware: a type of malicious software designed to block access to a computer system until a sum of money is paid.

Source F: A table showing Singapore's ranking in the Global Cybersecurity Index in 2017.

Global Cybersecurity Index ranking 2017			
Country	GCI score*	2017 ranking	2015 ranking
Singapore	0.92	1	6
United States	0.91	2	1
Malaysia	0.89	3	3
Oman	0.87	4	3
Estonia	0.84	5	5
Mauritius	0.82	6	9
Australia	0.82	7	3
Georgia	0.81	8	12
France	0.81	9	9
Canada	0.81	10	2

*Normalised

Source: U.N. INTERNATIONAL TELECOMMUNICATION UNION
STRAITS TIMES GRAPHICS

Note: GCI Score refers to the Global Cybersecurity Index Score. This is a reputed cybersecurity scoring system conducted by the United Nations. A higher score means a country and its government is doing more to manage cybersecurity threats in the country.

Source Acknowledgements:

Source A: <https://www.csa.gov.sg/gosafeonline/go-safe-for-me/homeinternetusers/>
Source B: <https://www.todayonline.com/big-read/big-read-more-cyber-attacks-loom/>
Source C: <https://www.apvera.com/2017/09/29/>
Source D: <https://www.straitstimes.com/singapore/singaporeans/>
Source E: <https://www.channelnewsasia.com/news/singapore/cybersecurity-in-singapore-9504336>
Source F: <https://www.straitstimes.com/tech/spore-index>

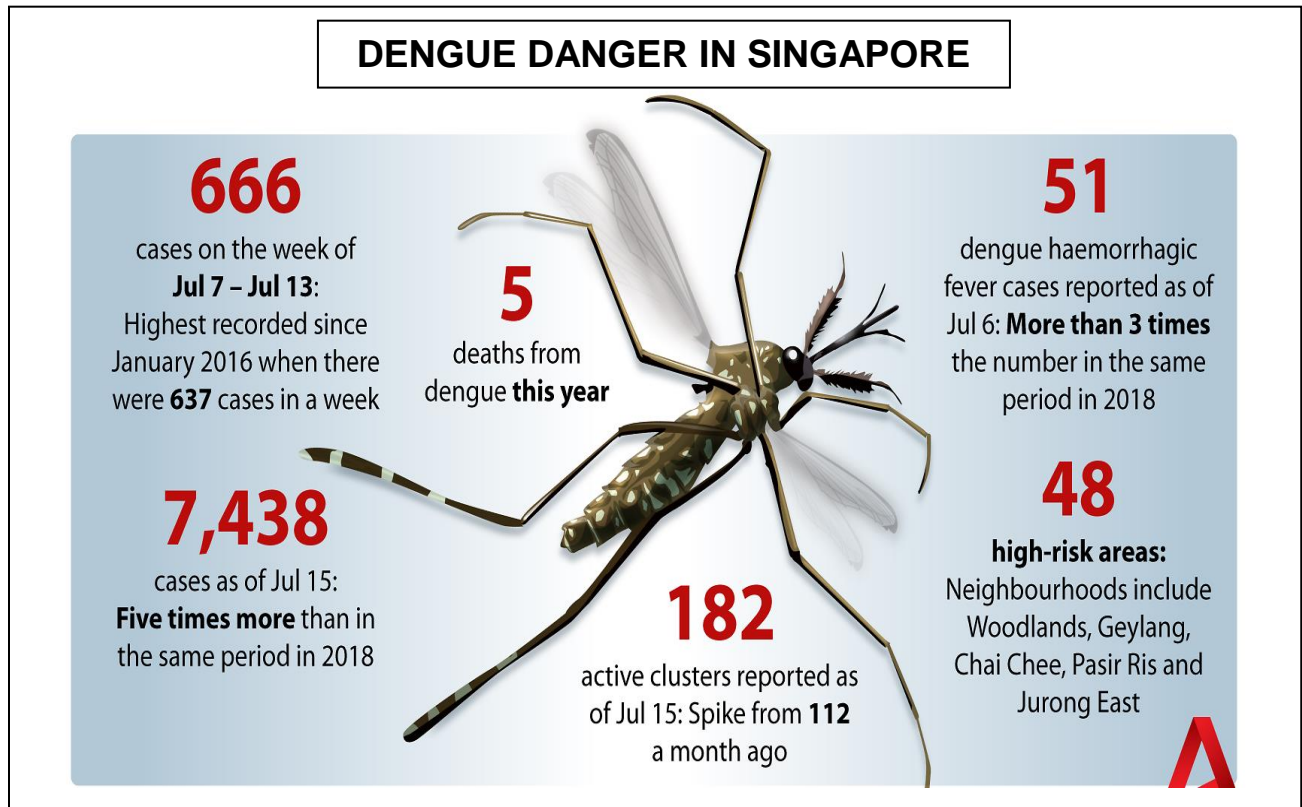
Section B (Structured-Response Question)

Question 2 is **compulsory** for all candidates.

2 CITIZENSHIP AND GOVERNANCE

Study the extracts carefully, and then answer the questions.

Extract 1



haemorrhagic: when blood escapes due to the bursting of blood vessels

Extract 2

Different groups of people have different priorities. This poses a huge challenge to the Singapore government in meeting their demands.

Extract 3

Differing needs and interests of the various groups of people require different resources that are limited. This is a very challenging issue that the Singapore government has to resolve.

- (a) Extract 1 reports on some of the impacts of dengue cases in Singapore from 2016 to 2019.

In your opinion, what are some measures that Singapore can take to control the spread of dengue cases? Explain your answer with reference to **two** measures.

[7]

- (b) Extracts 2 and 3 highlight two challenges faced by the Singapore government in deciding what is good for Singapore.

Do you think that the government needs to focus more on the 'differing needs and interests' of its people or on the 'differing priorities' when deciding what is best for Singapore? Explain your answer.

[8]

END OF PAPER

Extract Acknowledgements:

Extract 1: <https://www.channelnewsasia.com/news/singapore/dengue-spike-11724858>