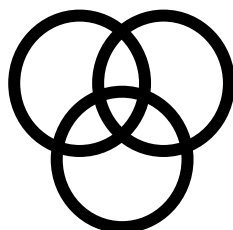


Name:

Register Number:

Class:



For Marker's Use

南僑中學

**NAN CHIAU HIGH SCHOOL**  
**PRELIMINARY EXAMINATION 2019**  
**SECONDARY FOUR EXPRESS**

**HUMANITIES (SOCIAL STUDIES)**

**2272/01**  
**2273/01**

**23 August 2019**  
**Friday**

Additional Material: Writing Paper

**1 hr 45 minutes**

**READ THESE INSTRUCTIONS FIRST**

Write your name, class and index number in the spaces provided on the question paper.  
Write in dark blue or black pen.  
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** question.

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.  
The total marks for this paper is 50.

Setter: Ms. Ng Bi Ru

Vetter: Mr. Edwin Fu & Mr Rahim

This paper consists of **6** printed pages including the cover page.

## SECTION A (Source-based Question)

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 issue to help you interpret and evaluate the sources.

a) Study Source A.

Why was this source published? Explain your answer. [6]

b) Study Source B.

How useful is source B as evidence about cybersecurity management in Singapore? Explain your answer. [6]

c) Study Source C.

Are you surprised by source C? Explain your answer. [6]

d) Study Sources D and E.

Does source D prove source E wrong in showing Singapore's cybersecurity preparedness? Explain your answer. [7]

e) 'The strategies to ensure cybersecurity in Singapore are effective.'

Using sources in this case study, explain how far you would agree with this statement. [10]

## How prepared is Singapore in managing cybersecurity threats?

### BACKGROUND INFORMATION

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

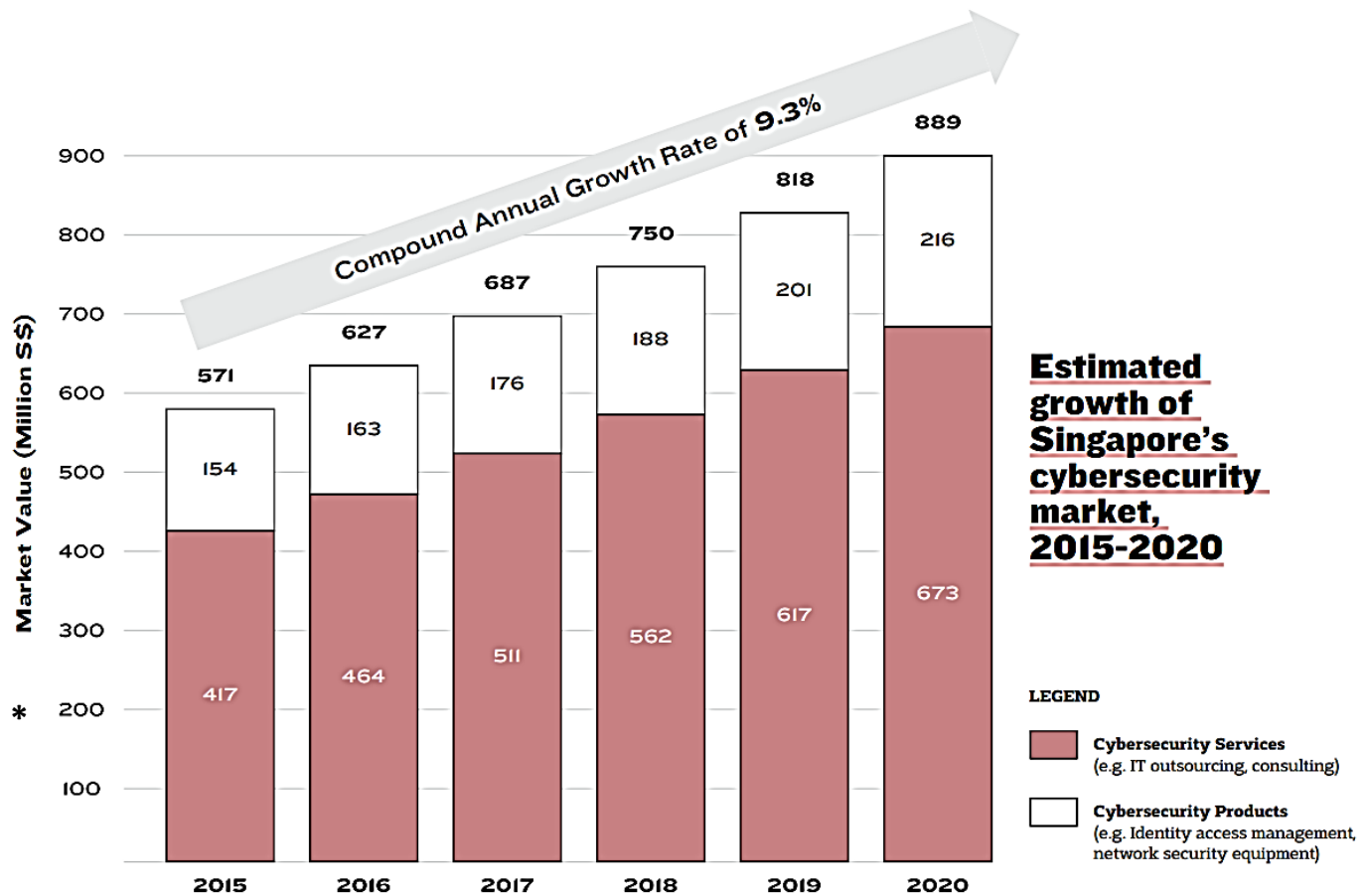
Singapore embraces the use of technology and it aims to transform into a global city through technology and digital innovation. There are, however, some security concerns about the use of online networks. For instance, in July 2018, hackers managed to infiltrate the databases of SingHealth, the largest group of healthcare institutions in Singapore, allowing 1.5 million patients' personal information to be stolen. Again in 2019, the Ministry of Health announced another data breach of the Human Immunodeficiency Virus (HIV) Registry, affecting near to 15,000 individuals.

Therefore, it is critical for the government to ensure that all are prepared in managing these cybersecurity threats, implementing various preventive and responsive measures. However, with these efforts in place, how prepared is Singapore in managing cybersecurity threats?

**Source A:** *A cartoon published by the Centre for IT Services (CITS) in Nanyang Technological University. The CITS manages campus-wide use of IT resources.*



**Source B:** Taken from a report showing a yearly projection of companies' investment in cybersecurity services and products. This was published on the Cyber Security Agency of Singapore (CSA) website in 2016.



Source: PwC analysis, Gartner, PwC interviews, desk research.

\*Market Value refers to the price at which people are willing to buy it for

**Source C:** Adapted from a Ministerial Statement on the Committee of Inquiry into the cyberattack on SingHealth's IT system, published on 15<sup>th</sup> January 2019.

We, the healthcare family, have a responsibility to our patients to ensure the protection of their personal data. The cyber-attack on SingHealth's IT system has resulted in the data of a large number of patients being illegally accessed.

A summary of the COI's findings and recommendations has been provided. I agree with the COI that we were lacking in several areas:

- Some of our IT personnel did not have sufficient levels of cybersecurity awareness, training and resources to respond to the attack. Certain staff with key roles in IT security incident response failed to take essential actions, resulting in missed opportunities to prevent the attack or minimise its impact.
- There were vulnerabilities in our IT system that were exploited by the attacker.

**Source D:** *Adapted from an online article published by the Singapore Business Review (SBR). It provides information about business trends for top companies in Singapore.*

The study revealed that Singapore is the best prepared country for cyberattacks. This study conducted in 2018, looked at 60 countries and saw a drop in the percentage of mobiles and computers that were infected with malware in Singapore. It found that Singapore was the most prepared country with a score of 0.925. Singapore has been stepping up its efforts to address cybersecurity, especially after it witnessed the largest data breach in July 2018 which saw the personal details of over 1.5 million Singaporeans exposed.

In December 2018, the Monetary Authority of Singapore (MAS) launched a \$30m cybersecurity capabilities grant to support cybersecurity advancement per firm in the financial sector. Likewise, the Info-communications Media Development Authority (IMDA) announced that it would develop a new cybersecurity roadmap to secure Singapore's telco connectivity infrastructure.

**Source E:** *Adapted from an article written by the head of Centre of Excellence for National Security and Executive Coordinator, published in January 2018.*

Singapore companies especially need to take the threat of cyberattacks more seriously. A survey conducted in June last year covered 150 senior IT professionals from medium to large companies based in Singapore, Hong Kong and Malaysia.

The results showed that 40 per cent of the companies do not have incident response plans for when they are being attacked and 67 per cent do not practise their incident response plans. Cyber security requires a comprehensive approach that goes beyond the chief information security officer or head of information technology. Senior management and the board must understand data protection strategies. Beyond the board and management, every employee matter.

**Source F:** *Adapted from a local newspaper article, published in April 2018.*

A public awareness survey by the CSA showed between 50 per cent and 70 per cent of respondents either do not change their password or only do so when prompted by their different online accounts. As for having their devices infected by viruses or malware, seven in 10 Singaporeans indicated they were concerned. But fewer than half think it will happen to them.

The good news is that more people appear to have utilised the extra step to secure their accounts. More respondents are also exercising caution when it comes to online transactions and app downloads.

## SECTION B (Structured-Response Question)

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

### 2 Living in a Diverse Society

Study the extracts carefully, and then answer the questions.

#### Extract 1

Singapore has always adopted an open-door policy towards foreign workforce in order to address its labour constraints and sustain economic growth. Earlier this year, the government announced that it will tighten the foreign workforce quota for the services sector by reducing the dependency ratio ceiling (DRC). The DRC refers to the maximum permitted ratio of foreign workers to the total workforce that a company is allowed to hire. Then Finance Minister Heng Swee Keat added: "What we need is to have a sustainable inflow of foreign workers to complement our workforce, while we upgrade our Singaporean workers and build deep enterprise capabilities in these sectors."

#### Extract 2

One of the integration initiatives that Singapore adopts for new citizens is a three-part naturalisation programme to understand more about Singapore. This is known as the Singapore Citizenship Journey.

#### Extract 3

Another integration initiative is to forge common experiences to build stronger ties between the new immigrants and the larger Singapore society.

- a) **Extract 1** states that government will tighten the quota for foreign workforce in the services sector.

In your opinion, why do you think the government decided to impose this quota? Explain your answer with **two** reasons. [7]

- b) **Extract 2 and 3** highlight different ways how the government integrates new immigrants into the Singapore society.

Do you think the Singapore Citizenship Journey is more effective than forging common experiences in integrating new immigrants in Singapore? Explain your answer. [8]

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Copyright Acknowledgements:

Source A <http://enewsletter.ntu.edu.sg/itconnect/2015-07/Pages/ITSecurityTips-CompromisedComputer.aspx?AspxAutoDetectCookieSupport=1>

Source B <https://www.csa.gov.sg/-/media/csa/documents/publications/singaporecybersecuritystrategy.pdf>

Source C <https://www.moh.gov.sg/news-highlights/details/ministerial-statement-on-the-committee-of-inquiry-into-the-cyber-attack-on-singhealth-s-it-system> Source D <https://sbr.com.sg/information-technology/news/singapore-ranks-10th-in-global-cybersecurity-study>

Source E <https://www.straitstimes.com/opinion/cyber-threats-2018-and-beyond>

Source F <https://www.straitstimes.com/singapore/singaporeans-still-too-casual-with-online-password-security-survey-shows>

Extract 1 <https://www.businesstimes.com.sg/government-economy/singapore-budget-2019/singapore-budget-2019-foreign-workers-quota-cut-for>

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**- End of Paper**

