

GIT 01 E I,II

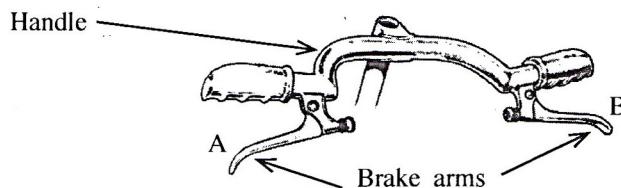
ஸாமாதிக தொற்றுரை தொகீலை விண்ணய,	2014
பொதுத் தகவல் தொழிலுட்பவியல்,	2014
General Information Technology Examination,	2014

சாமானா தொரத்துவம்	I, II
பொதுத் தகவல் தொழில்நுட்பவியல்	I, II
General Information Technology	I, II

General Information Technology II

* Answer **four** questions only.

1. (a) A student designs a circuit for the brake system of a bicycle to switch a bulb on when the brakes are applied. When both or any one of the left and the right brake arms in the handle are/is pressed (i.e., brakes are on) the bulb is switched on. When both brake arms are released (i.e., brakes are off) the bulb is switched off.



The brake arms are labelled as A and B respectively as shown above. Assume that the bulb is named as C.

- (i) Copy the following truth table into your answer script and complete the column ‘State of C’. Consider the states as follows:

brake on = 1, brake off = 0
 bulb on = 1, bulb off = 0

State of A	State of B	State of C
0	0	.
0	1	
1	0	
1	1	

- (ii) What logic gate is represented by your truth table?

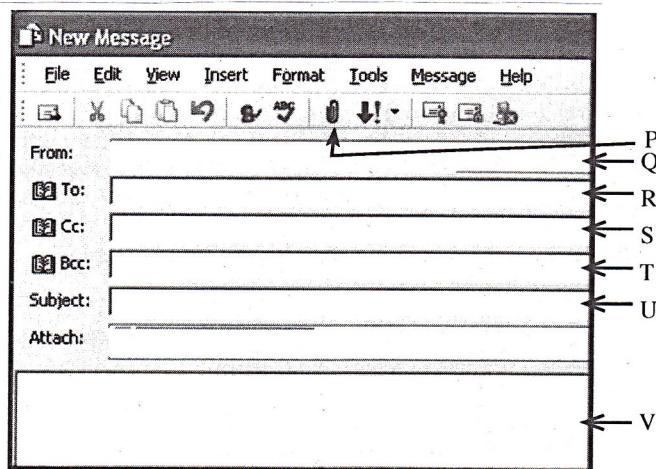
(b) If a desktop computer, tablet PC and a laptop computer are available, suggest with **justifications** the most suitable computer for each of the following situations:

 - (i) the school librarian lending books using a software
 - (ii) travelling salesman taking orders from shops

(c) Operating systems contain utilities for tasks such as formatting disks. Write down **one** other operating system utility and its purpose.

(d) Hardware is one of the components of a computer-based information system. List **two** other components.

2. (a) One of your friends has bought a laptop computer for home use. He intends to obtain an internet connection from an Internet Service Provider (ISP) using a wireless router with four ports.
- List **two** types of media that he can use to connect his laptop to the router.
 - If his family buys another laptop, can it be connected to the internet using the same router? Justify your answer.
 - Identify and write down a Local Area Network (LAN) and a Wide Area Network (WAN) in the above scenario.
- (b) The following is an interface of the email software that Kamala uses:



She has the following needs in an email communication:

- send an email to Mubarak (email: mubarak@testmail.com) with the 'specs.pdf' file as an attachment.
- copy the same email to Vignesh (email: vignesh@testmail.com).

Answer the questions (i) – (vii) using labels P – V where applicable.

- Where on the above interface should Kamala type Mubarak's email address?
- Where on the above interface should Kamala type Vignesh's email address?
- Where should Kamala type the heading of her message?
- What steps should she follow to attach the 'specs.pdf' file using the above interface?
- What is the use of the **Bcc** field labelled as T ?
- In which email folder will the copies of emails sent by Kamala be stored?
- Which email folder contains the new emails that Kamala receives?

(c) Read the following paragraph:

"When a computer is switched on, a program called *boot loader* loads a very important software X for the computer after completing a self-test process. X starts several important processes that are needed for a computer to operate and provides an interface to the user. It manages the processes that are run on the computer so that the resources of the computer are efficiently used."

Write down the type of software referred in the above paragraph as X **without** using brand names.

3. (a) **Figure 1** shows a document formatted using a word-processing software.

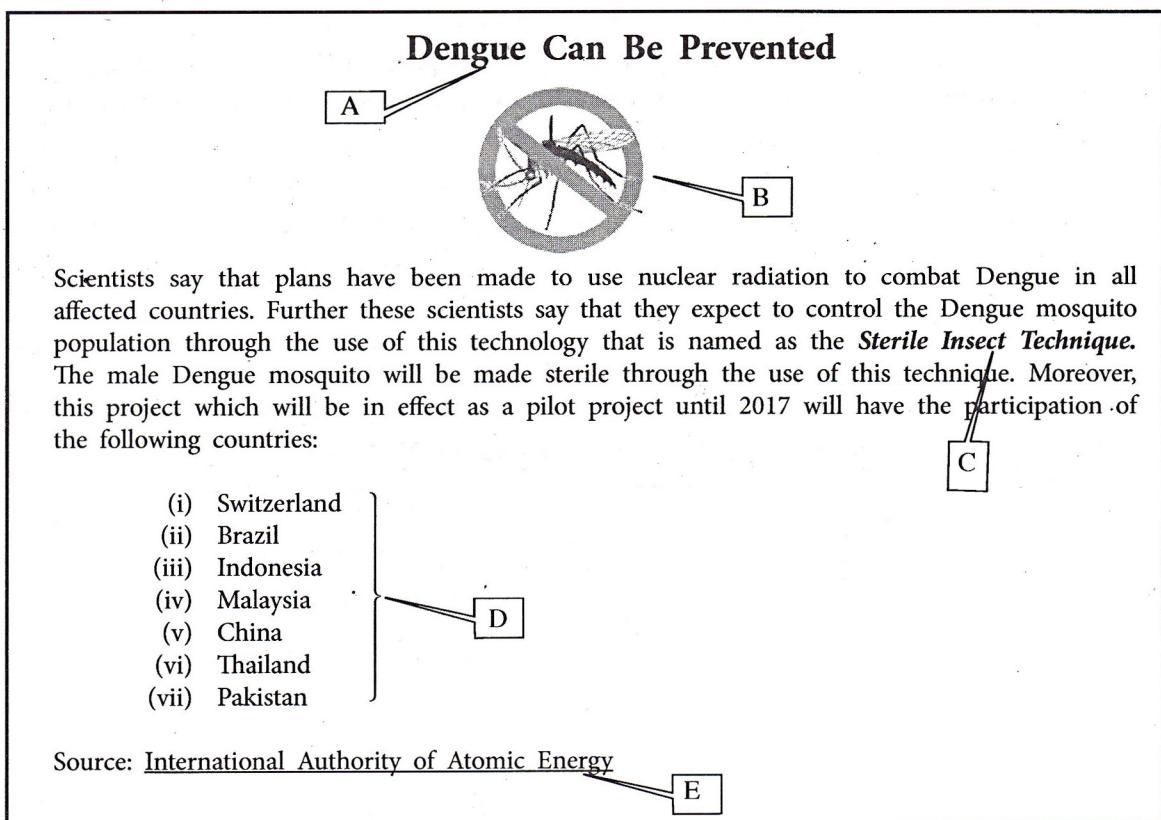


Figure 1

Formatted elements are labelled as A - E in **Figure 1**. Formatting was done by using some common tools labelled 1 to 17 in **Figure 2** available in the word processing software.

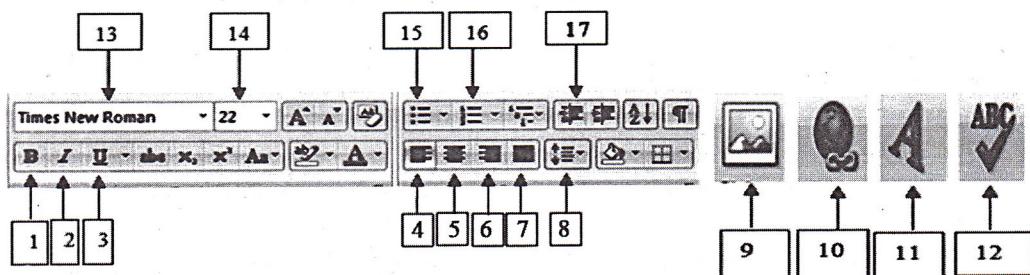


Figure 2

Using the above labels (1 to 17) in **Figure 2**, write down the tool(s) used to complete the following tasks. (Note: No marks will be awarded if more than the required number of labels are written.)

- (i) Format the title of the document as shown by label A.
- (ii) Insert the image as shown by label B.
- (iii) Obtain the appearance of the phrase as shown by label C.
- (iv) Format the text shown by label D into a numbered list.
- (v) Convert the text area shown by label E into a hyperlink.

- (b) A list of terms related to presentation software is given below:

{ animation / help window / new slide / slide transition / design template / slide show / slide sorter }

Write down the most suitable terms from the list above to fill the blanks in the following statements. (You are required to write down the question number and correct term from the given list.)

- The shortcut key combination, Ctrl + M is used to insert a/an to a presentation.
 - A/An can be displayed by pressing the function key F1 on a keyboard.
 - refers to the movement from one slide to another during a slide show.
 - The feature applies visual effects to individual items such as graphics, titles or bulleted items on a slide.
4. (a) A past estimate of mid-year population in Sri Lanka for 2013 by district (in 1000s) is given in the following table:

	A	B	C	D
1	District	Male	Female	Total
2	Colombo	1145	1181	
3	Gampaha	1124	1189	
4	Kalutara	596	631	
5	Kandy	656	728	
6	Matale	236	253	
7	Nuwara-eliya	344	375	
8	Galle	513	555	
25	Ratnapura	543	554	
26	Kegalle	404	440	
27	Sri Lanka			
28				

- (i) A formula of the form =function1(cell1:cell2) is to be used to calculate and display the total number of males in Sri Lanka in cell B27.

Write down the correct terms for *function1*, *cell1* and *cell2* in the above formula.

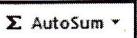
- (ii) It is necessary to find out and display the number of females in the district which has the lowest female population. A formula of the form =function2(cell3:cell4) is written in cell C28 for this purpose.

Write down the correct terms for *function2*, *cell3* and *cell4* in the above formula.

- (iii) You are required to calculate and display the total population of Sri Lanka in cell D27.

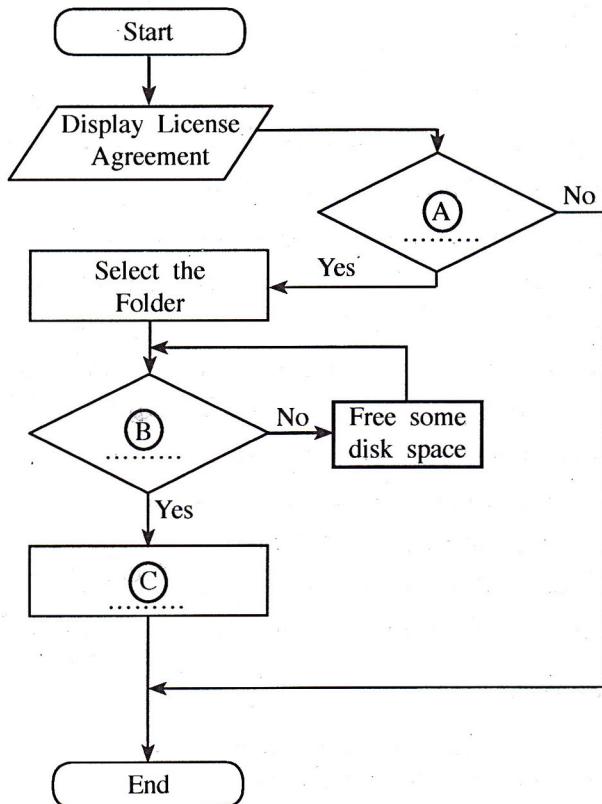
The following steps ① to ⑦ show the required steps to achieve this. However, these steps are **not** in correct order.

Re-arrange and write down the steps ① - ⑦ in correct order.

- ① Click on Cell D2
- ② Click on Cell D27
- ③ Click on the icon 
- ④ Click on the fill handle of Cell D2
- ⑤ Drag up to Cell D26
- ⑥ Press 'Enter'
- ⑦ Type the formula =B2+C2

- (iv) What is the most suitable chart type that could be used to graphically present the male-female ratio in the total population of Sri Lanka?

- (b) Some books in the library of a certain school have multiple copies. A student can borrow two books at a time and keep them for a period of two weeks.
- Write down **two** data items the library should keep about a book.
 - Write down **three** essential data items that need to be recorded by the library staff when a student borrows a book.
 - The librarian manually prepares a list of books that have been borrowed by five or more students during the last month. Identify and write down 'data' and 'information' in this scenario.
 - Assume that currently the data about borrowing and returning of books are recorded manually. List **three** advantages of automating the current manual system into a computerized system.
5. (a) Consider the flow chart in **Figure 3** which shows the process of installing a software on a computer. Note that the contents marked by labels **(A)** to **(C)** are missing.
- Select and write down the correct labels from the list given below against **(A)**, **(B)** and **(C)**.
- { Accept? / Copy Files / Enough disk space? }
- Note:** You are **not** required to copy the flow chart to the answer script.

**Figure 3**

- (b) Consider the flow chart in **Figure 4** for reading a sequence of numbers to determine the largest and the smallest. The contents marked by labels **(P)** to **(T)** are missing in the flow chart.

Identify and write down the contents for the places **(P)** to **(T)** in the flow chart.

Note: Give the answers against **(P)** to **(T)**. You are **not** required to copy the flow chart in your answer.

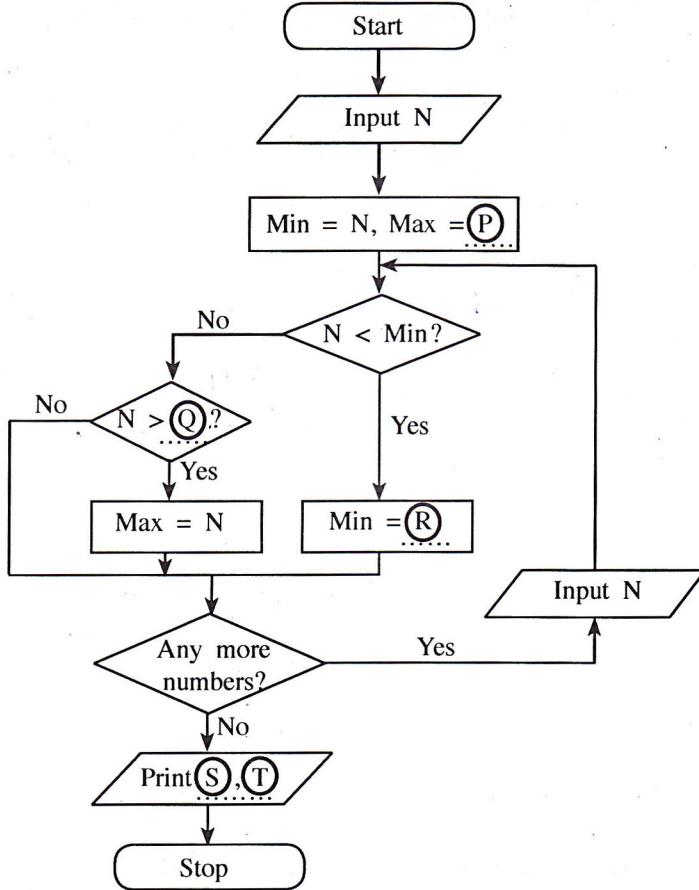


Figure 4

- (c) Draw a flow chart to read a sequence of numbers and to calculate the average.
6. (a) When buying a computer, hardware specifications and a few other factors are considered.
- List down **three** important items that you would consider in the hardware specifications of a computer for home use.
 - In addition to the hardware specifications, list **three** other factors that you would consider as important.
- (b) Suneth and Siva work in a certain company. Both of them hold ICT related job positions. Suneth uses a desktop computer to assist his manager with work related to office applications such as spreadsheet software. Siva has been assigned the task of maintaining and monitoring the activities of the computer network.
- Identify the most suitable job title for Suneth. Justify your answer.
 - Identify the most suitable job title for Siva.
 - Name **two** other types of application software that Suneth may use in addition to spreadsheet software in his office work.
- (c) The following are two of the legal and ethical issues in ICT:
- Privacy
 - Piracy
- Briefly explain each of the above terms.
- (d) The following can be used in protecting computer systems:
- Anti-virus software
 - Firewall
- Briefly explain the function of each of the above.