

பொதுத் தகவல் தொழினுட்பவியல்	I, II
General Information Technology	I, II

**\* Answer four questions only.**

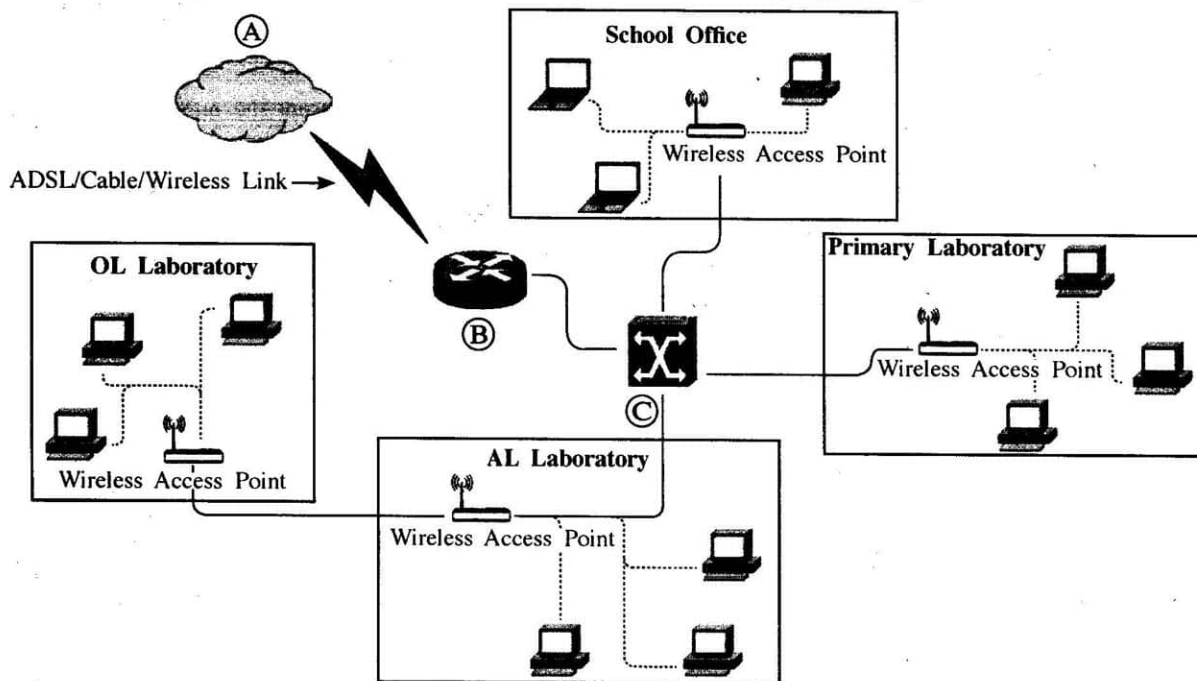
- A button (P, Q) is pressed or not
  - button is pressed - state '1'
  - button is not pressed - state '0'
- A song is played or not (Y)
  - a song is played - state '1'
  - a song is not played - state '0'

P	Q	Y
0	0	
0	1	
1	0	
1	1	

- 
- The diagram shows a logic circuit for a 2-input OR gate. It consists of two NAND gates and two NOT gates. The inputs A and B are connected to the first NAND gate. The output of the first NAND gate is connected to a NOT gate. The output of this NOT gate is connected to the second NAND gate. The output of the second NAND gate is connected to another NOT gate. The output of this second NOT gate is connected to the output of the first OR gate. The output of the first OR gate is connected to the output of the second OR gate, which is the final output C.

- [See page eight

2. (a) The following diagram shows a part of a school computer network which is connected to the outside world. Identify and write down the relevant items labelled as (A), (B) and (C).



- (b) (i) Consider the following URL.

Match the labels (P)-(S) used to denote different parts of the above URL with the correct letters in the list given below.

{A : File name, B : Protocol used in the communication between the web browser and web server,  
C : Sub-domain, D: Top level domain}

- (ii) Consider the following image showing an email that is being prepared to be sent to five recipients Amara, Rakesh, Kamala, Nazeer and Sama by the school IT teacher.

New Message

To: amara@yahoo.com ✕

Cc: rakesh@gmail.com ✕ kamala@hotmail.com ✕

Bcc: nazeer@yahoo.co.uk ✕ sama@freemail.com ✕

From: IT\_Teacher<it.teacher@abc.sch.lk> ▼

Subject: Difference between Cc and Bcc

List the email addresses that will appear in the mail received by each of the following.

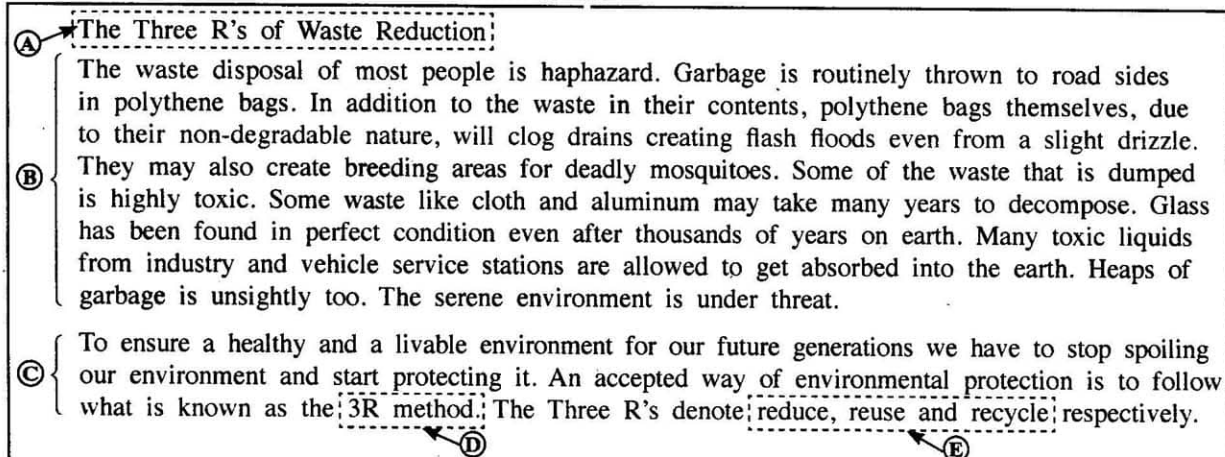
A - Nazeer

B - Kamala

C - Amara

- (c) State whether the following statements related to operating systems are **true** or **false**.
- (i) Files may contain directories and other files.
  - (ii) One of the functions of an operating system is to interact with input/output devices, such as keyboard, display and printer.
  - (iii) A key function of an operating system is to provide a command-based or graphical user interface to operate the computer.
  - (iv) An operating system facilitates user account management by providing separate logins for users.

3. (a) **Figure 1** shows a text document partially formatted using a word processing software. Elements to be formatted in this document are labeled as (A) - (E).



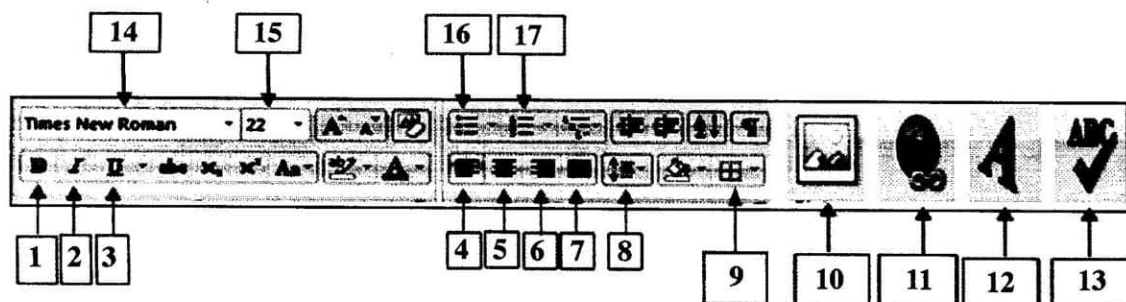
Descriptions of these three techniques are shown in **Table 1**.

**Table 1. The Three R's**

Technique	Description
Reduce	Reducing the amount of waste that is produced
Reuse	Instead of throwing things away, reusing them again and again
Recycle	Creating new products out of waste

**Figure 1**

**Figure 2** shows the tool bar of the interface of the word processing software that is being used to format the above document. Some tools on it are labelled 1 to 17.



**Figure 2**

Write down how you could complete the following tasks using the necessary tools from those labelled in **Figure 2**. (Note: No marks will be awarded if more than the required number of tool labels are given.)

- Center the title of the document shown by label (A).
- Increase the font size of the document title to 15. (Assume that the current font size is 12.)
- Make the document title bold.
- Justify paragraphs labelled (B) and (C).
- Make the text labelled (D) italic.
- Underline the text labelled (E).
- Check the spellings in the document.
- Add a new table to the document after **Table 1**.

- (b) Consider the following presentation layouts labelled (1) to (12).

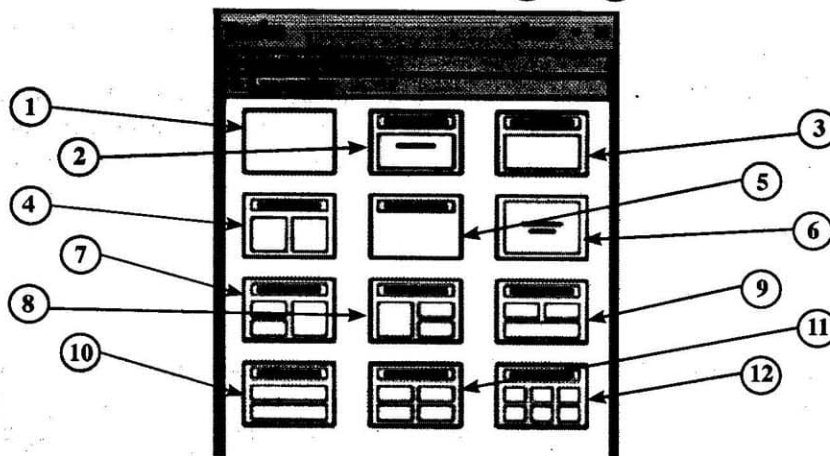
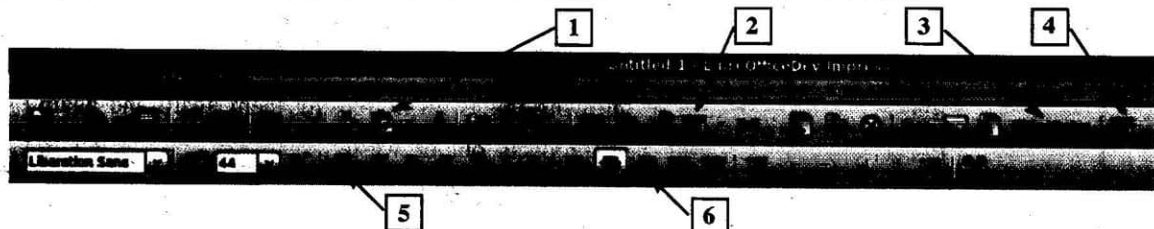


Figure 3

- (i) Which of the labelled slide layouts in Figure 3 is most suitable for a title slide in a presentation?  
 (ii) Consider the following labelled interface of a presentation software tool bar.



Write down the label of the tool that you would use to achieve the following.

- (i) Run the presentation as a slide show.  
 (ii) Change the appearance of all slides in the presentation.

4. (a) Consider the following spreadsheet segment containing the number of government schools classified by the gender of students for three provinces of Sri Lanka in 2013.

	B	C	D	E	
1	Number of Government Schools By Gender 2013				
2	Province	District	Boys	Girls	Mixed
3		Colombo	37	56	310
4	Western	Gampaha	10	20	501
5		Kalutara	6	12	387
6		Total			
7		Kandy	14	21	610
8	Central	Matale	1	3	311
9		Nuwaraeliya	2	5	538
10		Total	17	29	1459
11		Galle	7	10	409
12	Southern	Matara	4	4	352
13		Hambantota	1	2	313
14		Total	12	16	1074

(Source: <http://www.moe.gov.lk/>)

- (i) It is necessary to write a formula of the form  $=function1(cell1:cell2)$  in cell C6 to calculate and display the total number of boys' schools in the Western province.

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

- (ii) It is necessary to copy the formula entered in cell C6 to both cells D6 and E6. The steps followed for this purpose are labelled as (A), (B) and (C) below. However, the order of steps is incorrect. Write down steps (A) - (C) in the correct order.

- (A) Drag the fill handle to E6.  
 (B) Click on C6.  
 (C) Click on fill handle.

- (iii) What formula would be displayed in cell D6 when the formula in cell C6 is copied to cell D6?
- (iv) It is necessary to write a formula of the form  $\text{=function2}(\text{cell3:cell4})$  in cell C15 to display the highest total of boys' schools in the given three provinces.  
Write down the correct terms for *function2*, *cell3* and *cell4* in the above formula.
- (v) What would be the most appropriate chart type to graphically represent the number of girls' schools, boys' schools and mixed schools in the three districts of the Western province?

(b) XYZ Sports is a shop that sells sports items. It maintains data about sports items, suppliers, customers and business transactions in a database management system.

- (i) List **two** essential items of data that should be recorded when a stock of one sports item is received from a supplier.
- (ii) List **two** most essential items of data that should be recorded when a customer makes a purchase.
- (iii) The owner needs to find out the three most popular sports items for the last three months based on the number of items sold. Identify and write down 'data' and 'information' in this scenario.

5. (a) 'Snakes and Ladders' is a popular children's game played on a board as shown in Figure 1.

In the game, each player starts with a token on the START square and takes turns to roll a single die to move the token by the number of squares indicated by the die. Tokens follow a fixed route marked on the game board which usually follows a track from the bottom to the top of the playing area, passing once through every square. If, on completion of a move, a player's token lands on the lower-numbered end of a "ladder", the player must move the token up to the ladder's higher-numbered square. If the player lands on the higher-numbered square of a "snake", the token must move down to the snake's lower-numbered square.

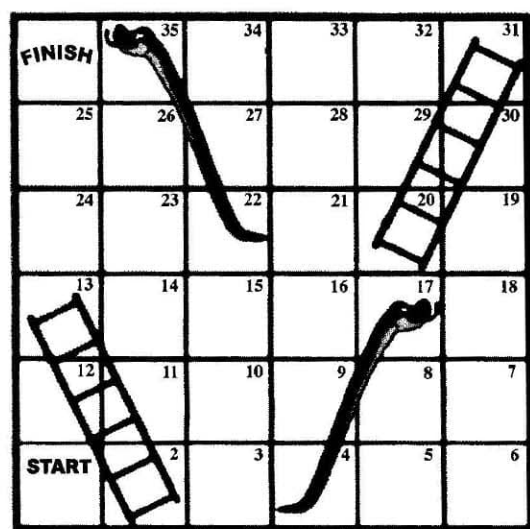


Figure 1

The flowchart shown below demonstrates the steps for making a single move in the game with some steps indicated by labels (A)-(E). Match the labels (A)-(E) in the flowchart with the phrases in the following list:

{Climb up ladder, Landed on snake head, Roll the die, At the bottom of a ladder, Move the token}

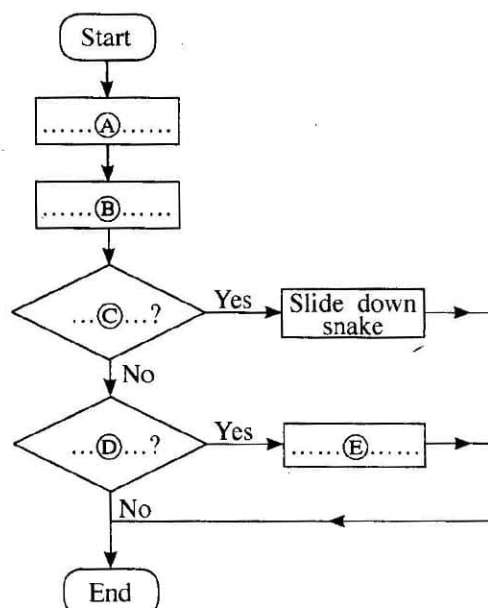


Figure 2



- (b) Consider the following flowchart for calculating the average of ten (10) numbers. The contents of labels ① to ⑤ are missing in the flowchart.

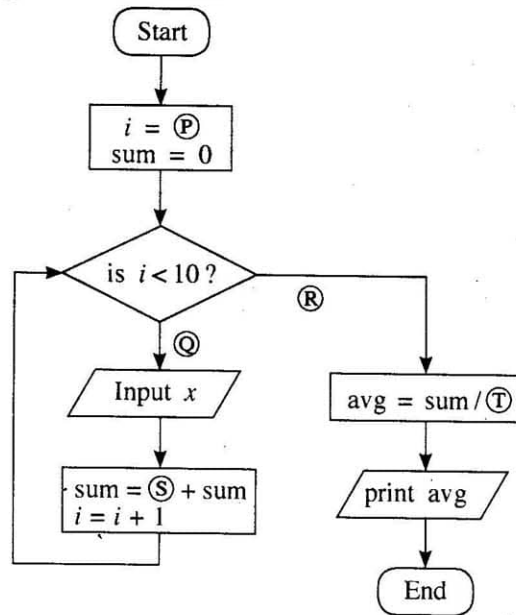


Figure 3

Identify and write down the appropriate contents for the labels ① to ⑤ from the following list.  
 {0, i, x, yes, no}

- 6 (a) Select the correct term from the list of terms given below that appropriately matches the description given in statements ① - ④. Write down the correct terms against statements ① - ④ in your answer.  
 {Virus scanner, Encryption, Firewall, Spam Filter, Device driver, Backup, Disk defragmenter}
- ① The primary purpose of this is to recover data after its loss, due to data deletion or corruption.
  - ② This is a software or hardware barrier designed to prevent unauthorized or unwanted access to computer networks by hackers.
  - ③ This converts plain text or other data into a form that is unreadable by humans.
  - ④ This prevents e-mails that are neither requested nor wanted from getting into an e-mail inbox.
- (b) Consider the following scenario.
- Assume that one of your friends offers you a copy of a commercial software that he bought from a shop that downloads software from the internet and sells on CDs. He states that the cost was significantly cheaper than the actual cost of the same software bought from the authorized agent.*
- State **two** reasons why you should **not** use the software CD that your friend offered.
- (c) Consider the following.
- "The digital divide is a division in the world population between those who are with and without access to ICT, knowledge of ICT and understanding of the opportunities presented by ICT. It consists of an infrastructure gap and a knowledge gap."
- Write down **two** methods that can help to bridge the digital divide.
- (d) State whether each of the following statements is **true (T)** or **false (F)**.
- (i) Since there are no boundaries to the Internet, some content (such as gambling) found on the web may be legal in one country while the same may be illegal in other countries.
  - (ii) Privacy involves illegal copying and distribution of licensed software while piracy is concerned with the protection of personal information of individuals from unauthorized disclosure.
  - (iii) It is necessary to use an uninterrupted power supply (UPS) unit for a web server computer providing important information to general public while it is not essential for a new laptop used for personal work.