

විභාග කොමසාරිස් කොට්ඨාසය, ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව  
 Department of Examinations, Sri Lanka  
 இலங்கைப் பரீட்சைத் திணைக்களம்  
 Department of Examinations, Sri Lanka  
 இலங்கைப் பரීட்சைத் திணைக்களம்

**GIT 01 E I, II**

සාමාන්‍ය තොරතුරු තාක්ෂණ විභාගය, 2013	2013
பொதுத் தகவல் தொழினுட்பவியல் பரீட்சை, 2013	2013
<b>General Information Technology Examination, 2013</b>	
සාමාන්‍ය තොරතුරු තාක්ෂණය	I, II
பொதுத் தகவல் தொழினுட்பவியல்	I, II
General Information Technology	I, II
පැය තුනයි	
மூன்று மணித்தியாலம்	
Three hours	

**General Information Technology I**

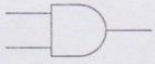
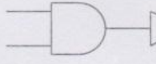
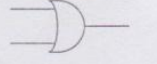
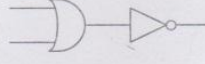
- Important :**
- \* Answer all questions on the Answer Sheet provided.
  - \* Write your Index Number in the space provided on the answer sheet.
  - \* Instructions are given on the back of the answer sheet. Follow them carefully.
  - \* In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which is correct or most appropriate and mark your response on the answer sheet in accordance with the instructions given therein.

- What is the binary equivalent of the decimal number 57?  
 (1) 101001                      (2) 110001                      (3) 111011                      (4) 111001
- The Central Processing Unit (CPU) comprises of .....  
 (1) Arithmetic Unit and Control Unit.  
 (2) Logic Unit and Control Unit.  
 (3) Arithmetic and Logic Unit (ALU) and Control Unit.  
 (4) Arithmetic and Logic Unit.

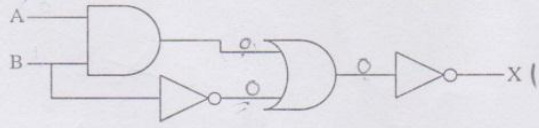
3. Consider the following truth table:

Input	Output
0 0	0
0 1	1
1 0	1
1 1	1

What is/are the logic gate(s) that represent(s) the above truth table?

- (1)       (2)       (3)       (4) 

4. Consider the following logic circuit:



If the value of the output X of the above logic circuit is 1, determine the values for inputs A and B.

- (1) A=0 and B=0      (2) A=1 and B=0      (3) A=0 and B=1      (4) A=1 and B=1

5. A truth table and its corresponding logic circuit are given below.

Input	Output
0 0	(X) 1
0 1	1
1 0	1
1 1	(Y) 0



What are the values of (X) and (Y) in the truth table respectively?

- (1) 0, 0      (2) 0, 1      (3) 1, 0      (4) 1, 1

6. Which of the following is an/are example(s) for Utility software in a computer system?

- A - Compiler                      B - Word processing software  
 C - Web browser                      D - Disk defragmenter  
 (1) A only      (2) B and D only      (3) C and D only      (4) A and D only

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7. Consider the following images A, B and C, showing different types of network cables:



A



B



C

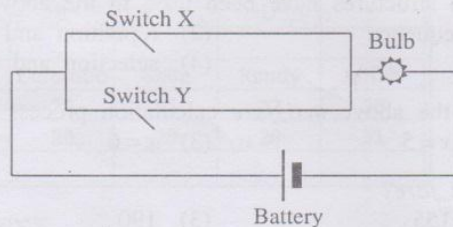
Which of the following correctly represents A, B and C?

- (1) A = coaxial, B = fiber optic, C = twisted pair ×  
 (2) A = fiber optic, B = coaxial, C = twisted pair ×  
 (3) A = coaxial, B = twisted pair, C = fiber optic ×  
 (4) A = fiber optic, B = twisted pair, C = coaxial ×
8. Which of the following can be considered as examples for data communication?  
 A - Communication between two computers over a local area network (LAN)  
 B - Communication over the Internet  
 C - Sending a text message (SMS) using a mobile phone  
 (1) A and B only (2) B and C only (3) A and C only (4) All A, B and C
9. Microwave, infrared wave and radio wave are examples of .....  
 Which of the following terms is suitable to fill the blank in the above statement?  
 (1) guided media (2) bounded media (3) unguided media (4) unprotected media
10. The main parts of a Web address (Uniform Resource Locator) are marked as A, B and C in the following example:

http://www.schoolnet.lk/aboutus.html  
 A B C

What do A, B and C stand for?

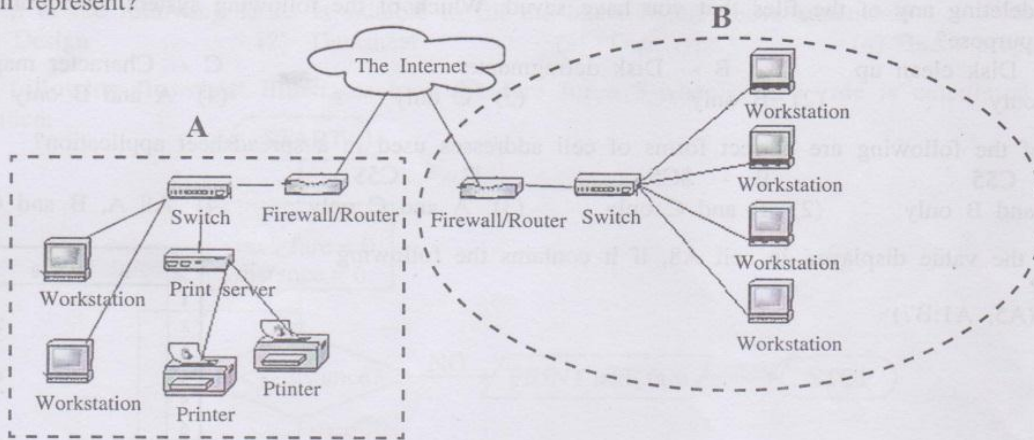
- (1) A = Protocol, B = Domain name, C = Page (2) A = Domain name, B = Page, C = Protocol  
 (3) A = Page, B = Protocol, C = Domain name (4) A = Protocol, B = Page, C = Domain name
11. Consider the following circuit, which is similar to the operation of a certain logic gate:








Which of the following statement(s) is/are correct regarding the above circuit?

- A - The bulb illuminates when switch X is turned ON.  
 B - The bulb illuminates when both switches X and Y are turned ON.  
 C - The bulb illuminates when the switch X is turned OFF and the switch Y is turned ON.  
 (1) A and B only (2) B and C only (3) A and C only (4) All A, B and C
12. Which of the following statement(s) is/are **true** about a digital signal?  
 A - Human voice in face to face communication is an example for a digital signal.  
 B - Digital signals are represented by square waves.  
 C - A sea wave is an example for a digital signal.  
 (1) A only (2) B only (3) C only (4) B and C only
13. Which of the following are the factors to be considered in selecting a data transmission media for a network?  
 A - Data transmission rate  
 B - Distance  
 C - Cost and ease of installation  
 (1) A and B only (2) B and C only (3) A and C only (4) All A, B and C

14. A and B in the following diagram shows networks in two countries. What type of network does the following diagram represent?



- (1) Local Area Network  
(2) Metropolitan Area Network  
(3) Wide Area Network  
(4) Mobile Network
15. Which of the following only represents the services which are provided by the Internet?  
(1) Electronic Mail, World Wide Web, File Transfer Protocol  
(2) Electronic Mail, Search Engines, World Wide Web  
(3) Search Engines, Electronic Mail, File Transfer Protocol  
(4) World Wide Web, Social Networking, Electronic Mail
16. Which of the following is **not** an essential requirement for sending an e-mail?  
(1) A device such as a computer  
(2) recipient's e-mail address  
(3) A connection to Internet  
(4) Sender's signature
17. The mail server of an e-mail service performs the same functions that a ..... performs in a traditional postal mail service.  
Which of the following terms is suitable to fill the blank in the above statement?  
(1) postbox  
(2) post office  
(3) postman  
(4) stamp
18. Which of the following icons is used to *justify* the text in a word processing software?  
(1)   
(2)   
(3)   
(4) 
19. The shortcut key combination *Ctrl+F* is used in word processing software to .....  
Which of the following phrases is suitable to fill the blank in the above statement?  
(1) replace specific text.  
(2) activate formatting tool bar.  
(3) find specific text.  
(4) save the document.
20. Which of the following tasks could be performed by pressing the icon  in a word processor?  
(1) Increase the indent level of a paragraph.  
(2) Clear all the formatting applied to a document.  
(3) View the paragraph marks and other hidden formatting symbols (non printing characters) in the document.  
(4) View the page setup menu.
21. Assume that you pressed the key N in the middle of a slide show to move the presentation forward by one slide. Which of the following keys can be used to return to the earlier slide?  
(1) P  
(2) B  
(3) W  
(4) N
22. Consider the following statements A, B and C:  
A - Checking for computer viruses  
B - Managing directories and files  
C - Controlling input/output devices  
Which of the above statements represent some functions of an operating system?  
(1) A and B only  
(2) B and C only  
(3) A and C only  
(4) All A, B and C
23. What is the root directory of C:\users\grade12\git?  
(1) users  
(2) grade12  
(3) git  
(4) C:\

24. Assume that the free space in the hard disk of your computer is very low. You want to make some free space without deleting any of the files that you have saved. Which of the following system tools could be used for this purpose?

A - Disk clean up                      B - Disk defragmenter                      C - Character map  
 (1) A only                      (2) B only                      (3) C only                      (4) A and B only

25. Which of the following are correct forms of cell addresses used in a spreadsheet application?

A - C\$5                      B - \$C5                      C - C5\$  
 (1) A and B only                      (2) B and C only                      (3) A and C only                      (4) All A, B and C

26. What is the value displayed in cell A8, if it contains the following formula?

=RANK(A5, A1:B7)

(1) 1  
 (2) 2  
 (3) 3  
 (4) 4

	A	B
1	1	
2		2
3	3	
4		4
5	5	
6		
7	7	6
8		

27. Assume that the cell B3 contains the following formula:

=\$A\$1\*B2

If this formula is copied to cell C3, what value would be displayed in cell C3?

(1) 2                      (2) 3  
 (3) 4                      (4) 5

	A	B	C
1	1	2	3
2	2	3	4
3	2		
4			

28. Minimum and maximum temperatures (in Celsius) in 4 cities on a certain day are given in the following spreadsheet.

	A	B	C	D	E
1					
2		Colombo	Galle	Kandy	Jaffna
3	Min	26	25	22	26
4	Max	29	28	28	31
5					

Consider the following chart types:

A - Bar                      B - Pie                      C - Line

Which of the following chart type(s) is/are most suitable to graphically represent the above data?

(1) A only                      (2) A and B only                      (3) B and C only                      (4) A and C only

29. A database includes a table that contains data about students in a school. A ..... in the table holds the data related to one student.

Which of the following terms is suitable to fill the blank in the above statement?

(1) field                      (2) record                      (3) form                      (4) query

30. Which of the following objects in a database management system is most suitable for presenting information in a predefined format?

(1) form                      (2) query                      (3) report                      (4) table

31. A ..... key is a field or a combination of fields in a relational database table that can be used to identify its records uniquely.

Which of the following terms is suitable to fill the blank in the above statement?

(1) foreign                      (2) primary                      (3) redundant                      (4) relationship

32. Following figure shows a section of a database table used in a library information system.

	BookID	AuthorID	ISBNNumber	Publisher
	11111	4367	1118540573	XYZ
	11123	3346	1449343503	PKR
	11134	4432	1449320104	XYZ

How many fields and records are respectively contained in this table?

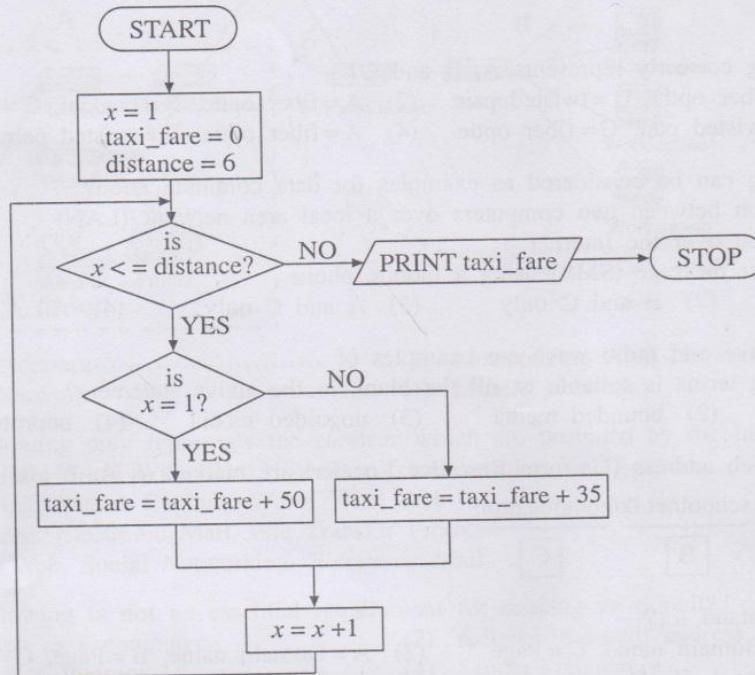
(1) 2 and 3                      (2) 3 and 4  
 (3) 4 and 3                      (4) 4 and 4

33. .... view displays the structure of fields in a database table.

Which of the following terms is suitable to fill the blank in the above statement?

- (1) Design (2) Datasheet (3) Data type (4) Field properties

- The following flowchart illustrates how the fare for a 3-wheeler taxi ride is calculated for a certain distance:



- Use the above flowchart to answer questions 34 to 37.

34. Which of the following control structures have been used in the above flowchart?  
 (1) repetition, selection and sequence (2) repetition and sequence  
 (3) repetition and selection (4) selection and sequence
35. What is the value of  $x$ , when the above *taxi\_fare* calculation process terminates?  
 (1)  $x=4$  (2)  $x=5$  (3)  $x=6$  (4)  $x=7$
36. What is the final value of *taxi\_fare*?  
 (1) 120 (2) 155 (3) 190 (4) 225
37. What is the output of the flow chart, if the condition "is  $x=1$ ?" is changed to "is  $x=2$ ?"  
 (1) 120 (2) 155 (3) 190 (4) 225
38. A Data Entry Operator has been diagnosed with a condition called Repetitive Stress Injury (RSI). Which of the following questions will you ask him to find out whether his work environment could be a reason for his health condition?  
 A - Are your keyboard and mouse correctly positioned to avoid strain on your hands and fingers?  
 B - Do you work with a good posture?  
 C - Do you get breaks in regular intervals to avoid eye-strain?  
 (1) A and C only (2) A and B only (3) B and C only (4) All A, B and C
39. An Uninterrupted Power Supply (UPS) unit can be used to provide hardware level protection to computer systems. Which of the following is/are correct regarding the function of an UPS unit?  
 A - Protects computer systems from the risk of sudden power failures and power changes  
 B - Protects computer systems from computer viruses  
 C - Protects computer systems from unauthorized access by external parties  
 (1) A only (2) A and B only (3) A and C only (4) All A, B and C
40. The librarian in the lending counter of a school library uses a certain type of information system. Which of the following best describes the type of information system used in the lending counter?  
 (1) Strategic Information System (SIS) (2) Transaction Processing System (TPS)  
 (3) Decision Support System (DSS) (4) Executive Information System (EIS)

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved]

විභාග කොටසක් ලෙසින් මෙහි ඇති ප්‍රශ්න සියලුම පිළිතුරු දීමට සූදානම් වන්න. විභාග කොටසක් ලෙසින් මෙහි ඇති ප්‍රශ්න සියලුම පිළිතුරු දීමට සූදානම් වන්න. විභාග කොටසක් ලෙසින් මෙහි ඇති ප්‍රශ්න සියලුම පිළිතුරු දීමට සූදානම් වන්න. විභාග කොටසක් ලෙසින් මෙහි ඇති ප්‍රශ්න සියලුම පිළිතුරු දීමට සූදානම් වන්න. විභාග කොටසක් ලෙසින් මෙහි ඇති ප්‍රශ්න සියලුම පිළිතුරු දීමට සූදානම් වන්න.

Department of Examinations, Sri Lanka  
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 විභාග කොටසක් ලෙසින් මෙහි ඇති ප්‍රශ්න සියලුම පිළිතුරු දීමට සූදානම් වන්න.

**GIT 01 E I, II**

සාමාන්‍ය තොරතුරු තාක්ෂණ විභාගය,	2013
பொதுத் தகவல் தொழினுட்பவியல் பரீட்சை,	2013
General Information Technology Examination,	2013
සාමාන්‍ය තොරතුරු තාක්ෂණය	I, II
பொதுத் தகவல் தொழினுட்பவியல்	I, II
General Information Technology	I, II

**General Information Technology II**

\* Answer four questions only.

1. (i) Computers can be classified into generations according to the main electronic component (technology) used in the Central Processing Unit (CPU). Copy the table below into your answer script and fill the second column.

Generation	Main electronic component (technology) used
First	
Second	
Third	

(ii) Consider the following incomplete truth table of the logical expression (A OR B) AND (NOT C) with some missing inputs and outputs marked as '?'. You are required to copy this table into your answer script and fill in the cells marked as '?' with suitable binary values.

Note: You are required to copy given 1 and 0 values correctly.

Inputs			Output
A	B	C	(A OR B) AND (NOT C)
1	1	1	?
1	1	0	?
1	0	1	0
1	0	?	1
0	1	1	?
0	1	0	?
?	0	1	0
0	0	?	0

(iii) Briefly explain the main difference between application software and system software. You are required to provide an example each for application software and system software.

(iv) Briefly explain the main difference between tailor made software and off-the-shelf software.

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2. (a) The diagram in Figure 1 demonstrates how computers in a school computer laboratory are connected to the Internet.

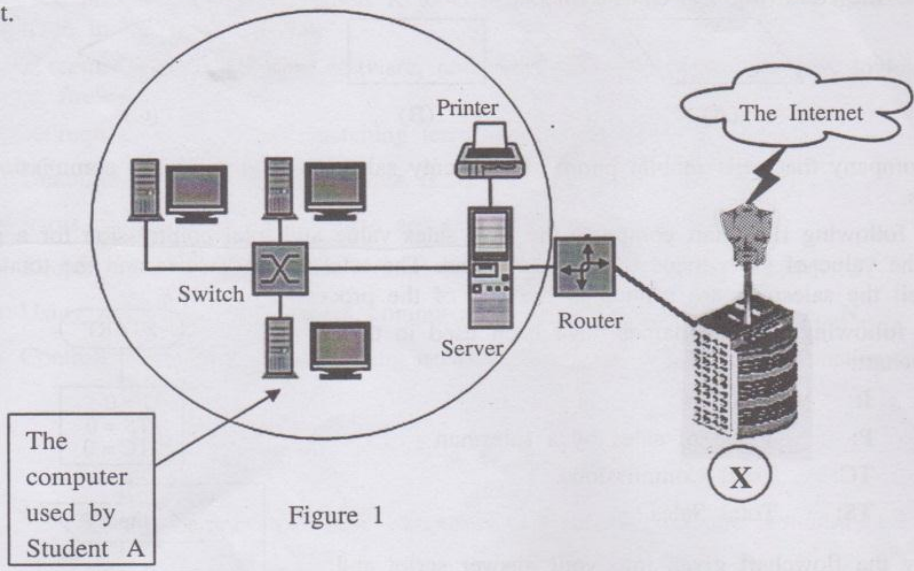


Figure 1

- (i) What is the name used to denote the type of network shown in the circled area?
- (ii) Name a component that is fixed inside the computer used by *Student A*, to connect his computer to the network.
- (iii) List **two** advantages of using a network such as the one in the circled area in the school computer lab.
- (iv) The network of the school computer lab connects to the Internet through the service provided by an organisation denoted by (X). Write down the common term used to identify (X).

(b) Figure 2 shows a section of a screenshot that contains the result of a Web search performed by a student to find information about the 'History of computer'.

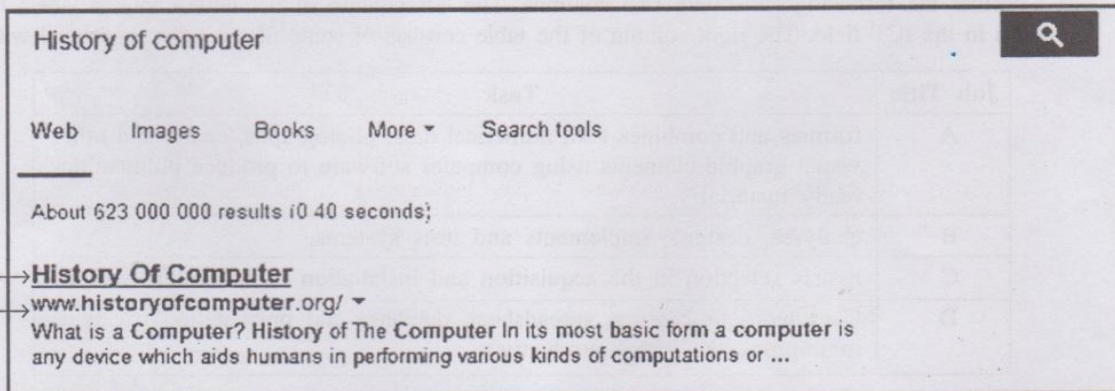
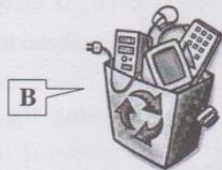


Figure 2

- (i) Name a search engine that could be used to find the above information.
- (ii) The student clicks on the line of text denoted by (A) to access the corresponding webpage. What is the usual name used to denote such text on a web page?
- (iii) What is the top level domain of the Web address denoted by (B)?
- (iv) Assume that the student clicks on the text labeled (A) and visits the corresponding webpage. This student uses a feature provided by the Web browser to save the Web address of this page for the convenience of accessing it again later. What is the name of this feature provided by the Web browser?

3. (a) The document shown in Figure 3 was initially created by using 'Times New Roman' font with the font size of 10 without applying any other formatting. The document was then formatted by using some common tools available in word processing software. Labels 1 to 17 in Figure 4 denote the formatting tools provided by a typical word processing software.

**e-Waste-A Global Challenge** A



e-waste is a term used to cover almost all types of electrical and electronic equipment (EEE) that has or could enter the waste stream. Although e-waste is a general term, it can be considered to cover

- TVs
- Computers
- Mobile phones
- Home entertainment and stereo systems
- Toys
- Toasters

C

and almost any household or business item with circuitry or electrical components with power or battery supply. D

In summary, one can clearly grasp and understand that the e-waste problem is of global concern because of the nature of production and disposal of waste in a globalized world. Although it is difficult to quantify global e-waste amounts, we do know that large amounts are ending up in places where processing occurs at a very rudimentary level. This raises concerns about resource efficiency and also the immediate concerns of the dangers to humans and the environment.

Source -: [http://www.step-initiative.org/index.php/initiative\\_WhatIsEwaste.html](http://www.step-initiative.org/index.php/initiative_WhatIsEwaste.html) E

Figure 3

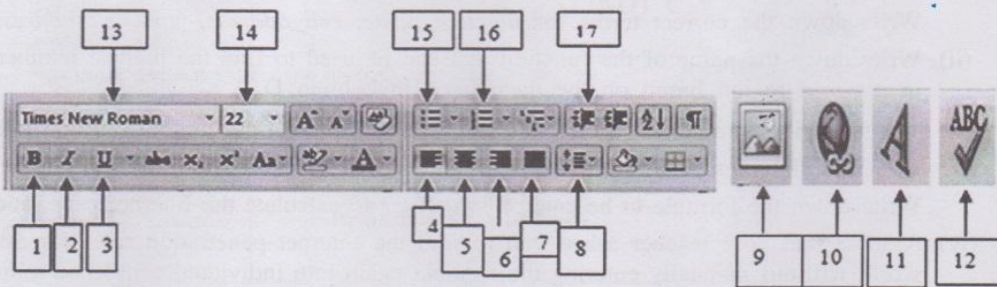


Figure 4

Using labels 1 to 17, write down the tool/tools required to complete the following tasks. (Note: No marks will be awarded if you write more than the required number of labels.)

- (i) Format the title of the document to the appearance denoted by label A.
- (ii) Insert the image shown as B.
- (iii) Make the text shown as C a bulleted list.
- (iv) Check and correct the spellings of the word marked as D.
- (v) Convert the text shown as E into a hyperlink.



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(b) Write down the most suitable terms from the list given in the brackets to fill the blanks of the following statements related to an electronic presentation. You are only required to write down the question number and the correct term from the given list.

[slide animation, slide layout, slide show, slide sorter, new presentation]

- (i) The presentation can be viewed as a ..... by pressing the F5 function key in a computer keyboard.
- (ii) The shortcut key combination, Ctrl+N is used to create a .....
- (iii) The style of a slide can be changed from one style to another by using the ..... feature of a presentation software.
- (iv) The location of a slide can be changed by using the .....

4. (a) The following spreadsheet shows statistics about the population and the number of Internet users in different regions of the world.

	A	B	C	D	E
1					
2		World Regions	Population	Internet Users	Internet penetration rate
3		Africa	1,073,380,925	167,335,676	
4		Asia	3,922,066,987	1,076,681,059	
5		Europe	820,918,446	518,512,109	
6		Middle East	223,608,203	90,000,455	
7		North America	348,280,154	273,785,413	
8		Latin America / Caribbean	593,688,638	254,915,745	
9		Oceania / Australia	35,903,569	24,287,919	
10		Total			
11					
12					
13					

(Source: www.internetworldstats.com)

(i) A function of the following format was entered into cell C10 to calculate the total world population.  
= function\_name (cell\_address1 : cell\_address2)

Write down the correct terms for *function\_name*, *cell\_address1* and *cell\_address2*.

(ii) Write down the name of the function that can be used to find the highest number of Internet users in a world region based on the data given in column D.

(iii) The following formula can be used to calculate the Internet penetration rate for a given world region:

$$\text{Internet penetration rate} = (\text{internet users} / \text{population}) * 100$$

Write down the formula to be entered in cell E3 to calculate the Internet penetration rate for Africa.

(iv) Assume that your teacher asked you to find the Internet penetration rates for other regions of the world **without** manually entering the formula again into individual cells. The following table shows a set of steps to be followed to carry out this task, organised in an **incorrect order**. Arrange these steps in the correct order using labels A to D.

Label	Step
A	Click on the <i>copy</i> icon
B	Click on the <i>paste</i> icon
C	Select cell E3
D	Select cell range E4:E9

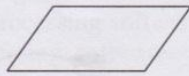
(b) A survey was conducted among primary school children to determine the status of their health. A part of the database used to store this data is given in the following table: Assume that in this table, the Child\_ID of a record is unique.

Child_ID	Name	DoB	Height	Weight	Polio_vaccination	Measles_vaccination
1	Pium Wijesiri	25/02/2004	102	35	YES	YES
2	Meera Jayaratnam	15/04/2004	110	34	YES	NO

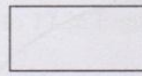
(i) Write down the appropriate data types against the fields: Child\_ID, Name, DoB, Weight and Measles\_vaccination.

(ii) Identify the most suitable field for the primary key of the above table.

5. (a) Name the following flowchart symbols.



(A)



(B)



(C)

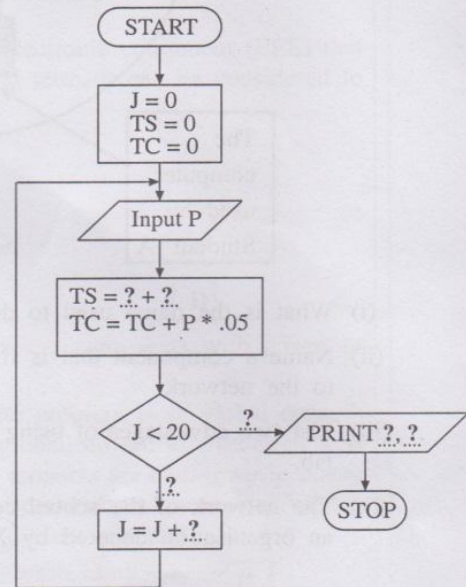
(b) A company that sells mobile phones has twenty salesmen who receive a commission of 5% from their sales.

The following flowchart computes the total sales value and total commission for a particular day based on the value of sales made by each salesman. The total value of sales and the total commission earned by all the salesmen are printed at the end of the process.

The following variable names have been used in the flowchart:

- J: Counter
- P: Value of sales by a salesman
- TC: Total Commission
- TS: Total Sales

Copy the flowchart given into your answer script and fill in the seven (7) spaces denoted by '?'.



6. (a) Consider the following table with two columns. The left column of the table contains labels for some job titles in the ICT field. The right column of the table consists of some of the tasks associated with these jobs.

Job Title	Task
A	formats and combines text, numerical data, photographs, charts and other visual graphic elements using computer software to produce publication-ready material.
B	analyses, designs, implements and tests systems.
C	assists selection in the acquisition and installation of computer systems.
D	Uses word processing, spreadsheet, database and presentation packages to improve the office productivity.

Write down the most suitable job titles for jobs indicated by labels A, B, C, D using the list of job titles given below.

**List of Job Titles:** Software Engineer, Web Developer, Network Administrator, Desktop Publisher, Systems Engineer, Computer Application Assistant

(b) Fill in the blanks indicated by labels K to O in the statements given below using the most appropriate term given in the following list:

**List of terms:** security threats, malware, anti-virus software, piracy, privacy, logical security, physical security, firewall

You are required to write the matching term against the labels K to O.

- Unauthorized copying of software is an example for .....K..... .
- Virus, Worm and Trojan Horse are examples for .....L..... .
- Keeping the door of a server room locked is an example for .....M..... .
- Using passwords to protect a computer system is an example for .....N..... .
- Controlling incoming and outgoing network data is an example for a functionality of a.....O..... .

\* \* \*