

2013

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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.

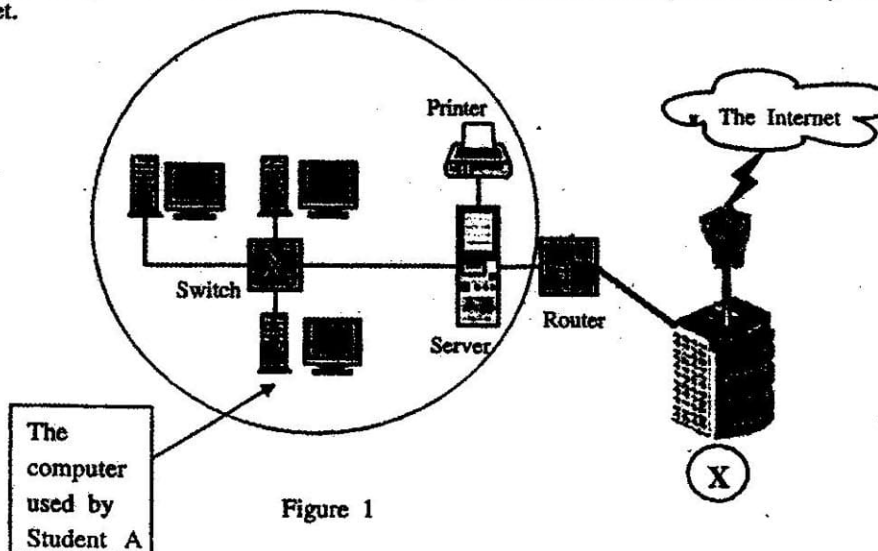
Note: You are required to copy given 1 and 0 values correctly.

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.

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



- (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'.

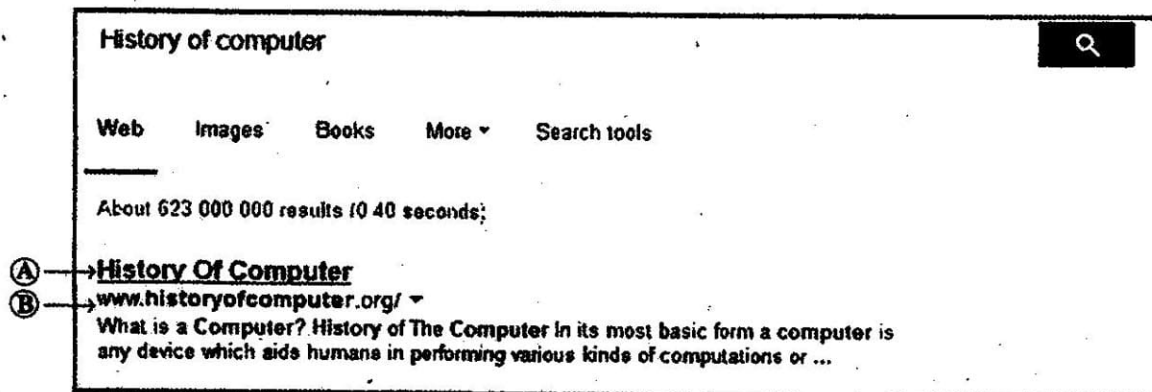


Figure 2

- (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?

- 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.

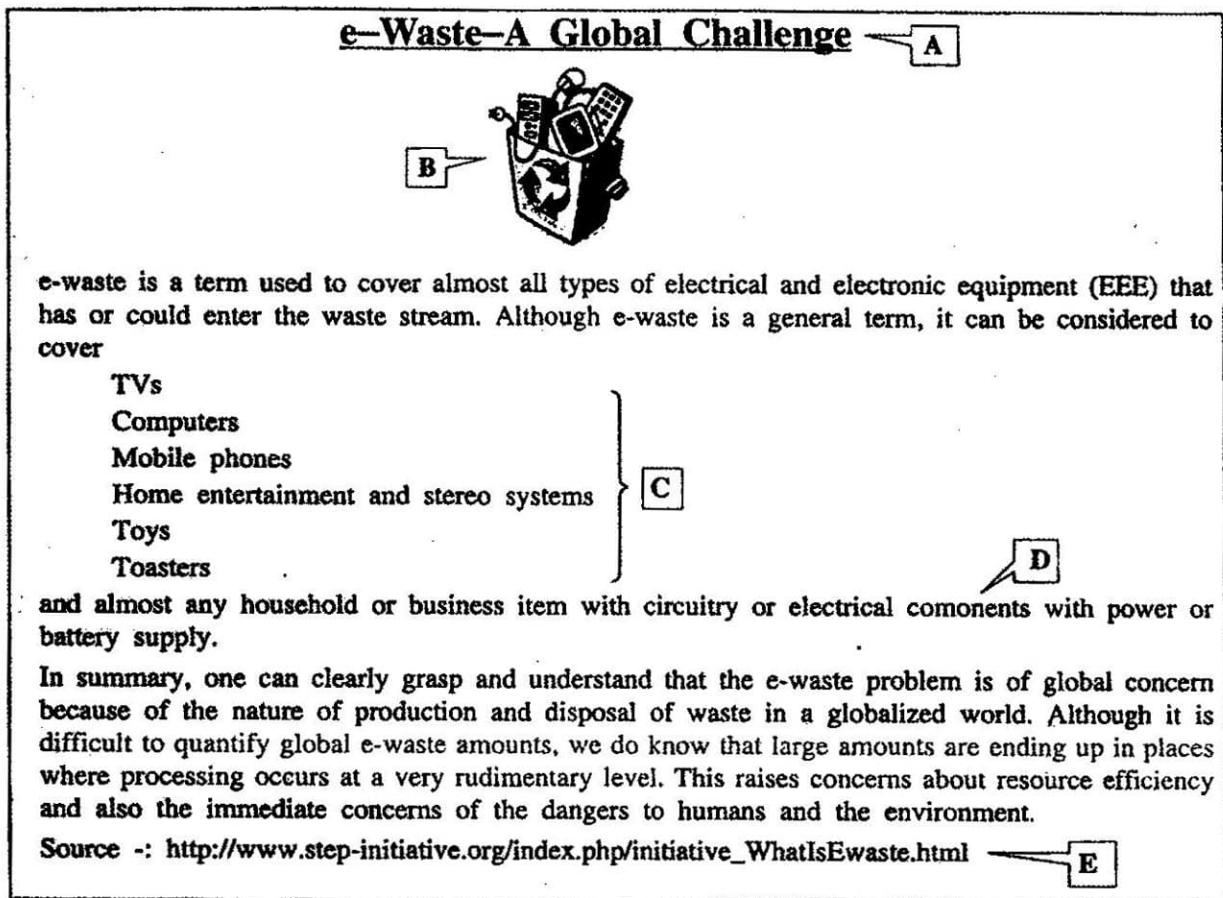


Figure 3

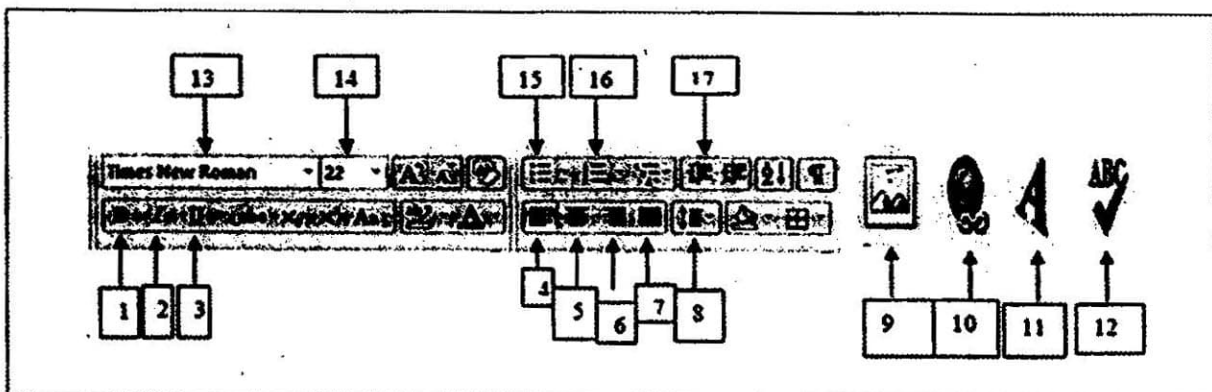


Figure 4

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.)

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

- (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]

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

- 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*.

- 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.
- The following formula can be used to calculate the Internet penetration rate for a given world region:
Internet penetration rate = (internet users / population) * 100

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

- 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.

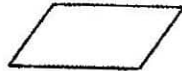
Label	Step
A	Click on the <i>copy</i> icon
B	Click on the <i>paste</i> icon
C	Select cell E3
D	Select cell range E4:E9

- (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.

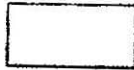
Child_ID	Name	DoB	Height	Weight	Polio_vaccination	Measles_vaccination
1	Plum Wijesiri	25/02/2004	102	35	YES	YES
2	Meera Jayaratnam	15/04/2004	110	34	YES	NO

- Write down the appropriate data types against the fields: Child_ID, Name, DoB, Weight and Measles_vaccination.
- Identify the most suitable field for the primary key of the above table.

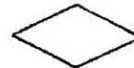
5. (a) Name the following flowchart symbols.



(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 '?'.

```

graph TD
    Start([START]) --> Init[J = 0  
TS = 0  
TC = 0]
    Init --> Input[/Input P/]
    Input --> Calc[TS = ? + ?  
TC = TC + P * .05]
    Calc --> Dec{J < 20}
    Dec --> Print[/PRINT ?, ?/]
    Dec --> Inc[J = J + ?]
    Inc --> Dec
    Print --> Stop([STOP])
    
```

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 forK.....
- Virus, Worm and Trojan Horse are examples forL.....
- Keeping the door of a server room locked is an example forM.....
- Using passwords to protect a computer system is an example forN.....
- Controlling incoming and outgoing network data is an example for a functionality of aO.....

* * *