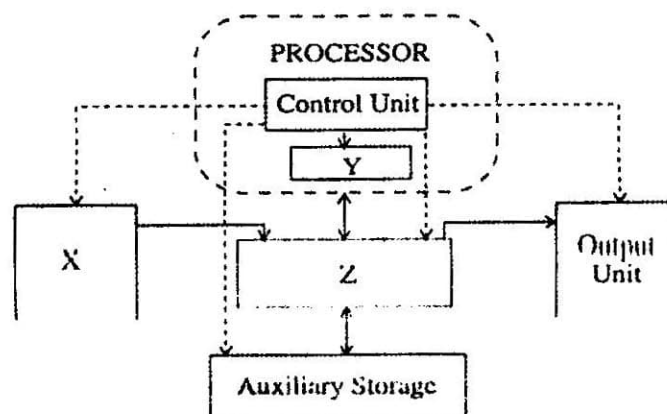


## GENERAL INFORMATION TECHNOLOGY – II

**Important :**

**\* Answer all questions.**

- (a) The given figure shows a Computer Block Diagram.



**Figure : Computer Block Diagram**

- (i) Name the three components which are labelled as X, Y and Z in the Figure.  
(ii) Briefly explain the functions of X, Y, Z and the Control Unit of a computer.
- (b) (i) Copy down the following truth table onto your answerscript and complete the columns X and Y in it.

A	B	C	X = A AND B	Y = NOT(X) OR C
0	0	0		
0	0	1		
0	1	0		
0	1	1		
1	0	0		
1	0	1		
1	1	0		
1	1	1		

- (ii) Construct a Logic Circuit with A, B, C as inputs and Y as the output for the above truth table.

2. (a) World Wide Web (WWW) is one of the services of the Internet. List two other services of the Internet.
- (b) One of your friends has purchased a desktop computer. He wants to connect this computer to the Internet and access the World Wide Web (WWW).
- (i) List four basic requirements for connecting your friend's computer to the Internet and access the World Wide Web.
- (ii) Your friend wants to find out the total number of Internet users around the world. However, he is not aware of the Web sites where this information is available. Briefly explain how your friend could find the required information.
- (c) Samitha has sent an email to Muthu mentioning about his recent trip to Kandy. He also copied this email to another friend called Madura. Samitha attached a photograph he has taken during the trip. Part of the email sent by him is given below:

### **My Visit to Kandy**

From: amillya@hotmail.com  
Sent: 03 July 2011 11:17:32  
To: dimwic@hotmail.com  
Cc: samwic@gmail.com  
1 attachment  
MyTrip.JPG (1166.7 KB)

Dear Muthu,

The trip to Kandy was a very enjoyable one. We visited 'Dalada Maligawa' and Botanical Gardens. Then we went to Matale to see our grandmother. I have taken a lot of photos during the trip. I am sending one of them as an attachment. Will tell you more about the trip when I meet you.

Samitha

- (i) Write Samitha's email address.
- (ii) Write Muthu's and Madura's email addresses separately.
- (iii) What is the name and the size of the file attached to the email?
- (iv) Explain what would happen if samwic@gmail.com is entered in the Bcc field instead of the Cc field.
- (v) Write the most likely folder that Muthu will find the email sent by Samitha.
- (vi) Samitha wants to read an email he has sent to Madura previously. What is the most likely folder that he will find this email?

3. (a) The following document has been created using a word processing software. Study the document and answer the questions given below:

## Cloud Computing



**Cloud computing** refers to the use and access of multiple server-based computational resources via a digital network (WAN, Internet connection using the World Wide Web, etc.)

Cloud users may access the server resources using

- computers
- notebooks
- tablet computers
- smart phones
- other devices

In cloud computing, applications are provided and managed by the cloud server and data is also stored remotely in the cloud configuration. Users do not download and install applications on their own device or computer; all processing and storage is maintained by the cloud server. The on-line services may be offered from a cloud provider or by a private organization.

Source:- <http://en.wikipedia.org>

- (i) Write down the steps required to remove the underline applied to the title of the document shown as **A**.
- (ii) Write down the steps needed to achieve the appearance of the words "Cloud computing" shown as **B** in the document.
- (iii) Write down the steps needed to create the bulleted list in **C**.
- (iv) When the user clicks on the text labelled as **D**, he can access the Website through the URL mentioned in the text. What is the term used to identify this type of text?
- (b) Write three media objects that can be inserted into an electronic presentation.

(a) The following is an extract from a data table of the annual school census of Sri Lanka conducted in 2010.

	A	B	C	D
	District	Students	Teachers	Student/teacher ratio
2	Colombo	361,661	15,636	
3	Gampaha	343,911	14,901	
4	Kalutara	210,300	9,924	
5	Kandy	270,455	15,834	
6	Matale	94,280	6,000	
7	Nuwara Eliya	157,326	8,782	
8	Galle	217,676	11,313	
9	Matara	160,489	10,082	
10	Hambantota	126,006	7,962	
11	Jaffna	130,468		.....
12	Kilinochchi			.....
20	.....		7,324	
21	Anuradhapura	175,710	10,681	
22	Polonnaruwa	72,027	3,747	
23	Badulla	182,211	12,369	
24	Monaragala	94,905	5,874	
25	Ratnapura	208,864	11,525	
26	Kegalle	159,317	10,201	
27	Sri Lanka	3,932,722		
28	Average			
29	Minimum			

Source : Annual School Census, Ministry of Education, Sri Lanka, 2010

(i) Write the formulae that are necessary to carry out the following tasks using a **single function** provided in a spreadsheet software.

- (1) Calculate the total number of teachers in Sri Lanka and display the value in Cell C27.
- (2) Calculate the average number of students in a district in Sri Lanka and display the value in Cell B28.
- (3) Find the lowest number of teachers in a district in Sri Lanka and display the value in Cell C29.

(ii) The student/teacher ratio for a particular district is calculated by dividing the number of students in the district by the number of teachers in that district. Write the formula that is necessary to calculate the student/teacher ratio for the Colombo District and display the value in cell D2.

(iii) Write down the steps necessary to calculate the student/teacher ratio for all other districts based on the formula written in (a) (ii) above.

(b) (i) Assume that you are planning to create a database table to hold the information of the members of the Drama Society in your school. Write down the most appropriate data type for each of the following fields:

- (1) Membership number (e.g. N001)
- (2) Name
- (3) Date joined
- (4) Membership fees paid (in Rupees)
- (5) Status whether the member has previously acted in a drama or not

(ii) Briefly explain the purpose of a primary key and select the most suitable primary key for the above database table.

5. (a) Draw the basic flowchart symbols used to represent each of the following:

- (i) Process
- (ii) Input/Output
- (iii) Decision

(b) A Central College has about 2000 students. The students of this school are allocated into four houses based on the student's admission number. The remainder of the division of admission number by 4 is used to identify a student's house as shown in the table below:

Remainder	House
Admission number mod 4 = 0	Gemunu
Admission number mod 4 = 1	Vijaya
Admission number mod 4 = 2	Perakum
Admission number mod 4 = 3	Agbo

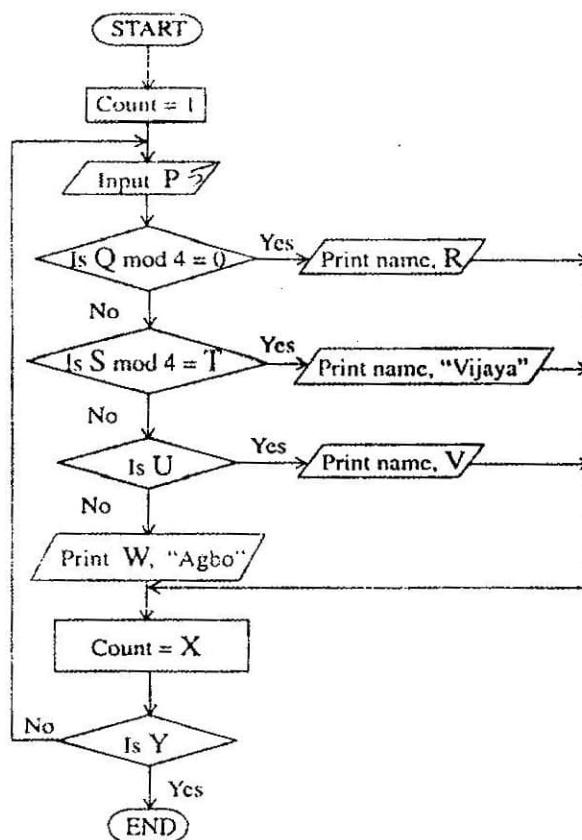
The mod function provides the remainder from an integer division.

The school needs a computer program to print the names of all 2000 students and the houses that they belong to. Assuming that you are the computer programmer of this school, answer the following questions.

- (i) Identify the input field(s) that can be considered for the program.
- (ii) Identify the output fields of the program.
- (iii) Consider that the following flowchart template is given to you for this program. Copy down the following table onto your answer sheet and write the correct variable(s)/value(s)/expression/condition for each of the labels P to Y given in the flowchart in order to get the required output

**Note:** It is not necessary to copy the flowchart onto your answer sheet.

Label	variable(s)/value(s)/expression/condition
P	
Q	
R	
S	
T	
U	
V	
W	
X	
Y	



6. (a) Briefly describe the main job task of any two of the following job categories in the field of Information and Communication Technology.
- (i) Systems Analyst
  - (ii) Software Engineer
  - (iii) Desktop Publisher
- (b) Explain what is meant by Repetitive Stress Injury (RSI) in relation to computer usage. List two health problems related to RSI.
- (c) Imagine that you have been asked by a relative to help him in selecting a computer for home use. List three most important technical specifications to be considered in selecting a suitable computer for him.
- (d) Imagine that one of your relatives has a farm with vegetables, fruits and farm animals. At present he uses the Internet for finding information on weather, pesticides etc. Explain two other applications of Information and Communication Technology (ICT) that can be used to improve the productivity of the farm.