

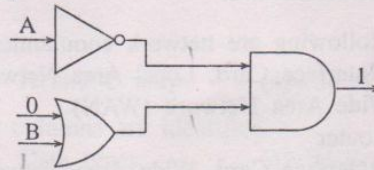
Department of Examinations, Sri Lanka இலங்கைப் பரீட்சைத் திணைக்களம் Department of Examinations, Sri Lanka இலங்கைப் பரීட்சைத் திணைக்களம்		GIT01 E I,II
සාමාන්‍ය තොරතුරු තාක්ෂණ විභාගය, 2011 பொதுத் தகவல் தொழினுட்பவியல் பரீட்சை, 2011 General Information Technology Examination, 2011		
සාමාන්‍ය තොරතුරු තාක්ෂණය I, II பொதுத் தகவல் தொழினுட்பவியல் I, II General Information Technology I, II	I, II I, II 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 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.

- Parakrama receives Rs. 40/- from his father and Rs. 30/- from his mother to purchase a book. The binary equivalent of the total amount he received is
 (1) 1000011 (2) 10000100 (3) 1000101 (4) 1000110
- The main memory of the computer stores the year 2011 in binary form as
 (1) *11110011001 (2) 11110011011 (3) 11111011011 (4) 11111111011
- Which of the following combinations consists of an input device, an output device and a storage device respectively?
 (1) Keyboard, Scanner, Mouse
 (2) Scanner, Mouse, Keyboard
 (3) Compact Disk Drive, Keyboard, Flash Memory
 (4) Keyboard, Speaker, Compact Disk Drive
- A Flash Memory Device has a capacity of 4 GB. Which of the following represents the capacity of the Flash Memory Device in MB?
 (1) $\frac{1}{4} \times 10^3$ MB (2) 10^3 MB (3) 4×10^3 MB (4) 4×10^6 MB
- The third generation of computers are based on the
 (1) Vacuum Tube. (2) Transistor.
 (3) Integrated Circuit. (4) Very Large Scale Integrated (VLSI) Circuit.
- What should be the inputs A and B respectively in the logic circuit to produce 1 as the output?
 (1) 0 and 1
 (2) 0 and 0
 (3) 1 and 0
 (4) 1 and 1
- A salesman who usually travels by motorcycle needs to use (carry) a computer to record the sales orders he takes from the shops he visits. Which of the following is/are suitable for this purpose?
 A - Desktop Computer
 B - Palmtop Computer
 C - Laptop Computer
 (1) A only (2) B only (3) Both A and B (4) Both B and C



- Consider the truth table:
 Output of the truth table is produced by
 (1) X AND Y
 (2) NOT (X AND Y)
 (3) X OR Y
 (4) NOT (X OR Y)

Input X	Input Y	Output
0	0	1
0	1	1
1	0	1
1	1	0

9. The Central Processing Unit (CPU) of a computer consists of
 (1) Control Unit and Arithmetic and Logic Unit (ALU).
 (2) Control Unit and Output Unit.
 (3) Main Memory and Auxiliary Storage.
 (4) Main Memory and Output Unit.
10. Which of the following is/are true about Open Source software?
 A - Mac OS is an example for an Open Source software.
 B - The basic code of Open Source software is free to download.
 C - Ubuntu and Open Suse are some examples for Open Source software.
 (1) A only (2) B only (3) A and C only (4) B and C only
11. Which of the following operating systems uses/use the concept of File Allocation Table (FAT)?
 A - MS Windows
 B - Linux
 C - MS DOS
 (1) A only (2) A and B only (3) A and C only (4) all A, B and C
12. Which of the following is a function/are functions of an operating system?
 A - File and folder (directory) management
 B - Controlling input/output devices
 C - Providing access to the Internet
 (1) A only (2) A and B only (3) A and C only (4) all A, B and C
13. Which pair of words given below is appropriate to fill in the blanks of the following statement?
 "The Internet is a(n), whereas the Web is a"
 (1) collection of services; network connection
 (2) physical resource; collection of information
 (3) network of computer networks; collection of information
 (4) information resource; physical connection
14. URL is an abbreviation for:
 (1) Unified Record Label (2) Unique Resource Label
 (3) Unified Record Locator (4) Uniform Resource Locator
15. Which of the following are examples of Web browsers?
 A - Internet Explorer, Fedora
 B - Google Chrome, Mozilla Firefox
 C - Mozilla Firefox, Open Office
 (1) A only (2) B only (3) B and C only (4) A and C only
16. What is the domain name part of the following URL?
http://www.univ.edu/classroom/welcome.htm
 (1) www.univ.edu (2) classroom
 (3) classroom/welcome.htm (4) welcome.htm
17. Which of the following are network communication devices?
 (1) Network Interface Card, Local Area Network (LAN)
 (2) Router, Wide Area Network (WAN)
 (3) Switch, Router
 (4) Network Interface Card, Wide Area Network (WAN)
18. Consider the following two statements.
 A - Twisted Pair cables are more expensive than Fibre Optic cables.
 B - Fibre Optic cables transmit data at a higher speed than Twisted Pair cables.
 Of the above statements,
 (1) both A and B are true. (2) A is true and B is false.
 (3) A is false and B is true. (4) both A and B are false.
19. Assume that you are planning to network the computer laboratory of your school. What is the most appropriate type of network for this purpose?
 (1) Wide Area Network (WAN) (2) Metropolitan Area Network (MAN)
 (3) Local Area Network (LAN) (4) all of the above

20. Which of the following is an advantage/are advantages of computer networks?
 A - Sharing of data
 B - Sharing of resources such as printers
 C - Improving the security of data storage
 (1) A only (2) B only (3) A and B only (4) all A, B and C
21. The following two Figures (Figure 1 and Figure 2) show similar type of tool bars of two commonly used word processing software:



The above tool bars are known as;

- (1) Drawing tool bars. (2) Formatting tool bars.
 (3) Standard tool bars. (4) Menu bars.
22. The purpose of using keyboard shortcuts **Ctrl+X** followed by **Ctrl+V** for a selected text paragraph in a word processed document is to,
 (1) Copy and Paste. (2) Cut and Paste. (3) Copy and Save. (4) Cut and Save.
23. The three icons shown below, labelled as A, B and C can be seen in the window of a certain word processing software. A, B and C icons respectively represent
 (1) Minimize button, Maximize button, Close button.
 (2) Minimize button, Close button, Maximize button.
 (3) Maximize button, Minimize button, Close button.
 (4) Close button, Maximize button, Minimize button.
-
24. What is the function key used to view a slide show in a presentation software?
 (1) F1 (2) F5 (3) F7 (4) F11
25. What is the function available in spreadsheet software to add all the numbers in a selected range?
 (1) count() (2) add() (3) sum() (4) total()
26. Which of the following are valid cell addresses?
 A - GH5 B - \$G\$H5
 C - GH5\$ D - \$GH5
 (1) A and B only (2) B and C only (3) C and D only (4) A and D only
27. Nimal spends his free time during weekends as follows:
 30% of the time reading books, 50% of the time playing and 20% of the time listening to music.
 What is the most suitable type of chart to represent the above data in a spreadsheet?
 (1) Line chart (2) Bar chart (3) Pie chart (4) Scatter chart
28. Which of the following are examples of database management systems?
 A - OpenOffice Base
 B - Microsoft Access
 C - OpenOffice Impress
 (1) A and B only (2) B and C only (3) A and C only (4) all A, B and C
29. In a database table, rows are identified as records and columns are identified as;
 (1) Labels. (2) Fields. (3) Data types. (4) Cells.
30. Which of the following can be used to locate specific records within tables?
 (1) Forms (2) Queries (3) Lists (4) Charts
31. Which of the following data types is most suitable to hold the National Identity Card number (e.g. 123456780V) in a database table?
 (1) Text (2) Number (3) Currency (4) Date/Time
32. Consider the following statements regarding data access speed:
 A - Cache Memory is faster than Random Access Memory (RAM)
 B - Digital Versatile Disk (DVD) ROM is faster than Cache Memory
 C - Digital Versatile Disk (DVD) ROM is faster than Random Access Memory (RAM)
 D - Random Access Memory (RAM) is faster than Cache Memory
 Which of the above is/are true?
 (1) A only (2) D only (3) A and B only (4) C and D only

● Consider the following flowchart and answer questions 33 to 36.

33. What types of control structures are included in the given flowchart?

- (1) Repetition, Sequence
- (2) Sequence, Selection
- (3) Repetition, Selection
- (4) Repetition, Selection, Sequence

34. Choose the most correct condition that executes the process $Tax=0.01*Pay$ in the flowchart.

- A - $Status < 1$
 - B - $Status > 1$
 - C - $Status = 1$
- (1) A Only
 - (2) B Only
 - (3) Either A or B
 - (4) B and C only

35. What is the output of the flow chart?

- (1) 100
- (2) 500
- (3) 1000
- (4) 5000

36. If the initialisation value $Status = 1$ is changed to $Status = 2$, the output of the flow chart is;

- (1) 5
- (2) 50
- (3) 500
- (4) 5000

37. Consider the following statements:

By using data encryption,

- A - Sensitive information can be protected when transmitted over computer networks.
- B - Computers can be protected from virus attacks.
- C - Data stored in a storage media such as disk or tape can be protected from unauthorized access.

Which of the above is/are true?

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

38. Consider the following statements regarding the use of copyright material.

- A - It is necessary to request copyright permission from the copyright holder when there is a doubt about the use of copyright materials.
- B - Fair use of printed material allows the usage without permission of the copyright holder.
- C - It is not suitable to copy and distribute software without permission from the copyright holder.

Which of the above is/are true?

- (1) A only
- (2) C only
- (3) A and B Only
- (4) all A, B and C

39. Consider the following statements regarding the development of a "library management system" software for a certain school.

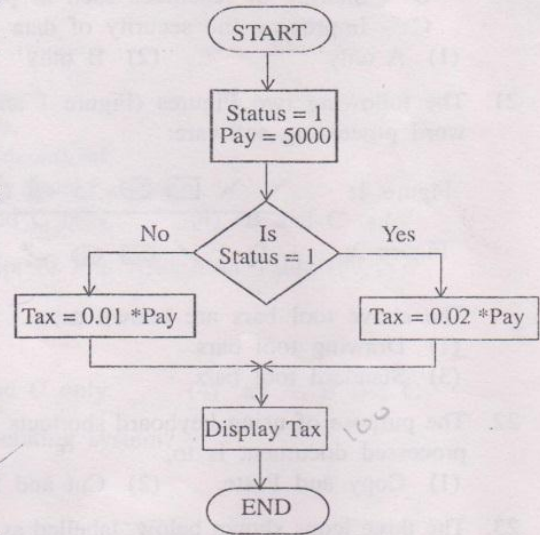
- A - Systems Analyst writes programs required for the system.
- B - Desktop Publisher collects the requirements of the system.
- C - Software Engineer writes the program modules required for the system.
- D - Data Entry Operator enters the data into the new system.

Which of the above statements are true?

- (1) A and D only
- (2) B and C only
- (3) A, C and D only
- (4) B, C and D only

40. A person playing computer games using a new computer complains that the movements in the game are slow. Which of the following should be installed to overcome the problem?

- (1) A sound card with better specifications
- (2) A hard disk with larger capacity
- (3) A dedicated graphics card with better specifications
- (4) A Network Interface Card



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 Department of Examinations, ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව

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සාමාන්‍ය තොරතුරු තාක්ෂණ විභාගය, 2011
 பொதுத் தகவல் தொழினுட்பவியல் பரீட்சை, 2011
General Information Technology Examination, 2011

සාමාන්‍ය තොරතුරු තාක්ෂණය I, II
 பொதுத் தகவல் தொழினுட்பவியல் I, II
General Information Technology I, II

General Information Technology II

* Answer four questions only.

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

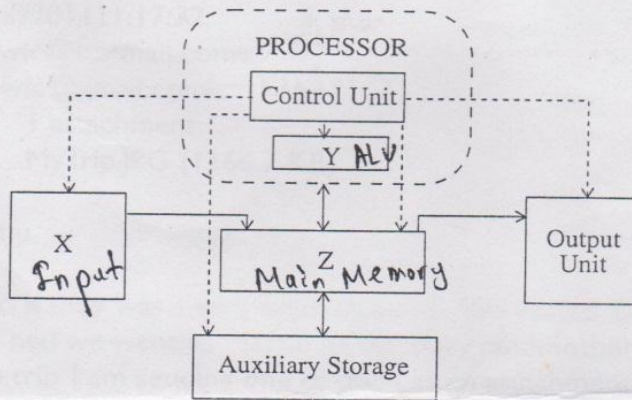


Figure : Computer Block Diagram

- (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: amiliya@hotmail.com
Sent: 03 July 2011 11:17:32
To: dimwic@hotmail.com *Muthu*
Cc: samwic@gmail.com *Madura*
I 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.

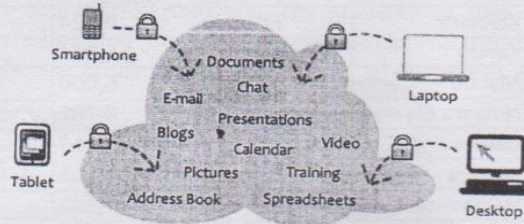
Samitha

- (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

A



B

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

C

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>

D

- (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.

4. (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
1	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		
13
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.

no. st / no. tea

(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

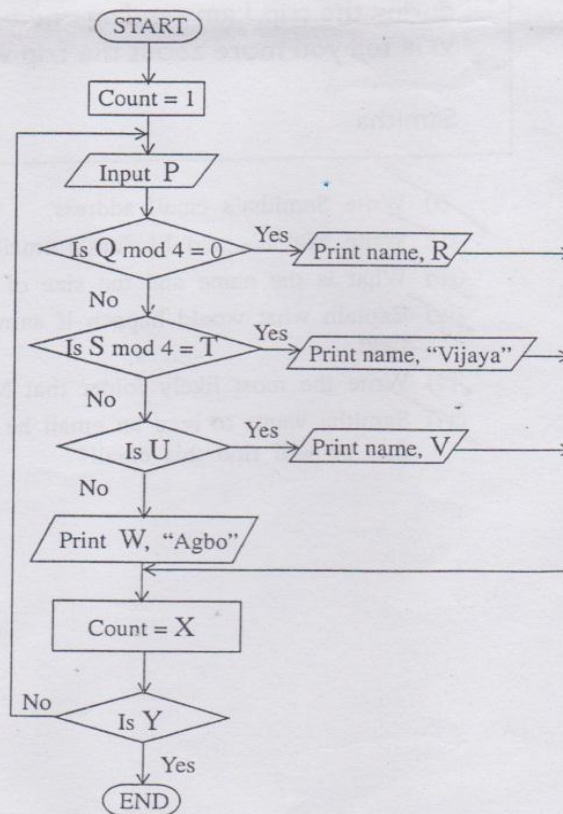
The **mod** function provides the remainder from an integer division.

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	



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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.
