GIT I

General Information Technology Examination, 2010

(General Information Technology - I)   (One hour)

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.*

1. The decimal equivalent of the binary number 1001101 is
   (1) 71   (2) 77   (3) 79   (4) 83

2. The binary equivalent of the decimal number 137 is
   (1) 10001011   (2) 1001001   (3) 10001001   (4) 1101001

3. The Central Processing Unit (CPU) consists of
   (1) Arithmetic and Logic Unit (ALU) and Control Unit (CU).
   (2) Arithmetic and Logic Unit (ALU) and Input Unit.
   (3) Input Unit and Output Unit.
   (4) Control Unit (CU) and Input Unit.

4. Which of the following pairs of binary numbers represents an Odd value and an Even value respectively when converted into decimal form?
   (1) 0101, 0011   (2) 0010, 1000   (3) 0111, 0001   (4) 0111, 0110

5. The most suitable device for a Data Entry Operator who does data entry regularly is a
   (1) Palmtop Computer.   (2) Laptop Computer.
   (3) Desktop Computer.   (4) Touch Screen.

6. One GB (1 GB) is approximately equivalent to
   (1) 10 KB   (2) 10^2 MB   (3) 10^3 KB   (4) 10^3 MB

7. Age of a father is equal to the sum of the ages of his daughter and his son. The ages of his daughter and his son in binary form are 11110 and 11011 years respectively. What is the age of the father in decimal form?
   (1) 55   (2) 57   (3) 59   (4) 62

8. Find the values of A and B respectively to produce 0 as the output.
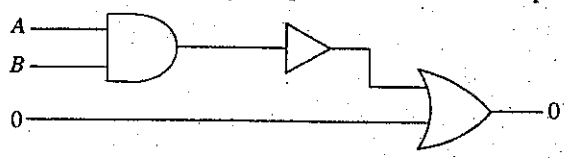
   (1) 0 and 1.   (2) 1 and 1.   (3) 1 and 0.   (4) 0 and 0.

9. Select the logical operation corresponding to the given truth table.
   (1) (X OR Y) AND Y
   (2) (X AND Y)
   (3) NOT (X OR Y)
   (4) (X AND Y) OR X

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

10. Which of the following types of networks can be used to connect a number of branches of a bank scattered around the country.
    a – Local Area Network.
    b – Wide Area Network.
    c – Metropolitan Area Network.
    (1) a only.   (2) b only.   (3) c only.   (4) b and c only.

11. Which of the following components is most useful in connecting a computer to a Local Area Network?
    (1) Router   (2) Monitor
    (3) Network Interface Card   (4) Modem

12. Which of the following devices could be connected to a Local Area Network?
    a – Printer   b – Scanner   c – Server
    (1) a only   (2) c only
    (3) a and c only   (4) All a, b, c

13. Identify the most appropriate statement relating to the Internet and the World Wide Web (WWW).
    (1) The Internet and WWW are the same.
    (2) WWW is a service of the Internet.
    (3) The Internet is a service of WWW.
    (4) There is no relationship between the Internet and WWW.

14. Which of the following symbols should always be contained in an e-mail address?
    (1) ://   (2) @   (3) _   (4) :\\

15. Which of the following statements is/are true relating to media used for data communication?
    a – Fibre optic cables provide faster transfer rates than copper cables.
    b – Copper cables provide faster transfer rates than fibre optic cables.
    c – Copper cables are more expensive than fibre optic cables.
    (1) a only.   (2) a and c only.   (3) b only.   (4) b and c only.

16. Identify the correct Uniform Resource Locator (URL) from the following:
    (1) www.ftp://cnn.com/TECH/   (2) http://www.cnn.com/TECH/
    (3) ftp://TECH/www.com.cnn/   (4) http://TECH/www.cnn.com/

17. Which of the following is a primary feature of an operating system?
    (1) Virus scanning   (2) File management   (3) Creating databases   (4) Web searching

18. Which of the following is not an operating system?
    (1) Windows XP   (2) DOS   (3) Linux   (4) Web browsing software

19. Formatting a hard disk is a function of
    (1) a web browser.   (2) an operating system.   (3) a word processor.   (4) a virus scanner.

20. What is the most likely reason to take a backup of a hard disk?
    (1) Improve life-time of the hard disk.   (2) Recover data if the hard disk is damaged.
    (3) Connect a computer to the Internet.   (4) Convert data into information.

21. The following diagram shows a set of icons used in a certain word processing software.

This set of icons belongs to,
    (1) Title bar.   (2) Menu bar.   (3) Standard tool bar.   (4) Formatting tool bar.

22. When Ctrl+O short-cut keys are used in a word-processing software,
    (1) a file saving dialogue box can be obtained.
    (2) a dialogue box can be obtained to open a file from the default folder or other folder.
    (3) a dialogue box can be obtained to print a file.
    (4) a new document can be started.

23. The following part of the tool bar shows the tools used in formatting a particular sentence in a word processed document.

| Times New Roman ▾ | 12 ▾ | **B** *I* <u>U</u> | ≣ ≡ ≡ ≣ |

This sentence is
(1) italicized, underlined and left aligned.
(2) boldfaced, italicized and left aligned.
(3) boldfaced, underlined and right aligned.
(4) boldfaced, underlined and left aligned.

24. During an electronic presentation, if you press the key 'B' on your computer keyboard,
(1) presentation moves to the previous slide.
(2) screen becomes white.
(3) presentation moves to the last slide.
(4) screen becomes black.

25. The intersection of a row and a column in an electronic spreadsheet is called a
(1) cell.
(2) range.
(3) database.
(4) worksheet.

26. Which of the following represent valid cell addresses in spreadsheet software?
a – P10$
b – P10
c – P10
d – $P10
(1) a and b.
(2) c and d.
(3) a and c.
(4) b and d.

27. Cells A1 and B1 in a worksheet contain following data:

Cell	Value	Description
A1	25,000	Salary of a principal
B1	20,000	Salary of a teacher
C1		Total Salary of a principal and five teachers

Cell C1 contains the total salary of a principal and five teachers. How should the formula in cell C1 be written?
(1) ?A1+B1*5
(2) =A1+B1*5
(3) ?(A1+B1)*5
(4) =(A1+B1)*5

28. A collection of fields in a database is called a
(1) record.
(2) table.
(3) query.
(4) form.

29. "The report .... provides a step-by-step guide to create a report using records from several tables in a database." The appropriate term to fill in the blank of this statement is
(1) master.
(2) assistant.
(3) guide.
(4) wizard.

30. Which of the following are main objects of a database?
a – Table
b – Query
c – Form
d – Index
(1) a, b and c.
(2) b, c and d.
(3) a, b and d.
(4) a, c and d.

31. Which of the following can be used to enter data into a database?
(1) Chart.
(2) Form.
(3) Report.
(4) Index.

● Consider the given flow chart for questions **32 to 35.**

32. Which of the following represents **process, decision and output** respectively?
(1) $X = X - 3$, Is $X > 15$, Print X.
(2) $X = 21$, $X = X - 3$, Print X.
(3) Is $X > 15$, $X = X - 3$, Print X.
(4) $X = X - 3$, $X = 21$, Print X.

33. Choose the most correct **decision** that terminates the iteration.
(1) $X > 15$.
(2) $X < 15$.
(3) $X >= 15$.
(4) $X <= 15$.

34. What is the output of the flow chart?
(1) 9
(2) 12
(3) 15
(4) 18

35. If the **decision** $X > 15$ is changed to $X >= 15$, the output of the flow chart is
(1) 9
(2) 12
(3) 15
(4) 18

4
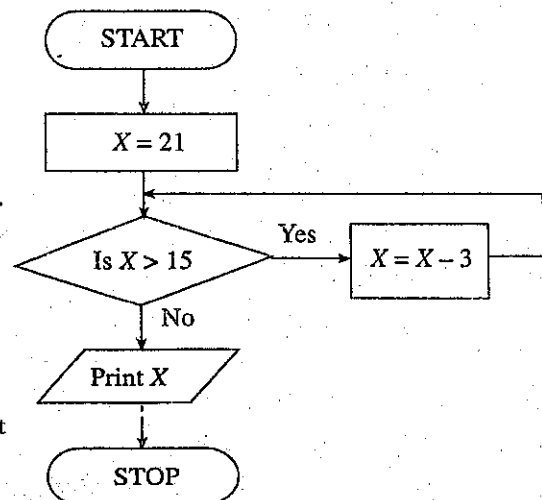
36. Which of the following is an **incorrect** statement?
    (1) On-line shopping is possible using the Internet.
    (2) Doctors can use computers to analyse medical records of patients.
    (3) Computers and Internet can be used to obtain government services from home.
    (4) On-line shopping is possible without the use of a communications link to the Internet.

37. A company needs to develop a computerized system to manage their sales. Who is the most appropriate person to study this requirement?
    (1) Systems analyst.　　(2) Programmer.　　(3) Web designer.　　(4) Hardware Engineer.

38. A manager of a certain company would like to protect his computer from unauthorised access by others through Internet. Which one of the following is the most suitable solution for his requirement?
    (1) Installing an antivirus software.　　(2) Upgrading the version of the operating system.
    (3) Installing a firewall.　　(4) Avoiding the use of pirated software.

39. A computer has been infected with a virus. What is the least likely reason for the infection?
    (1) Use of pirated software.
    (2) Use of a flash memory device in a lab without virus protection.
    (3) Not updating the virus guard software.
    (4) Not using the newer version of the operating system.

40. Which of the following are open source operating systems?
    a – Ubuntu　　　b – Windows XP　　　c – Open Suse
    (1) a and c only.　　(2) b and c only.
    (3) all a, b and c.　　(4) none of them.

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Department of Examinations, Sri Lanka

GIT **II**

General Information Technology Examination, 2010

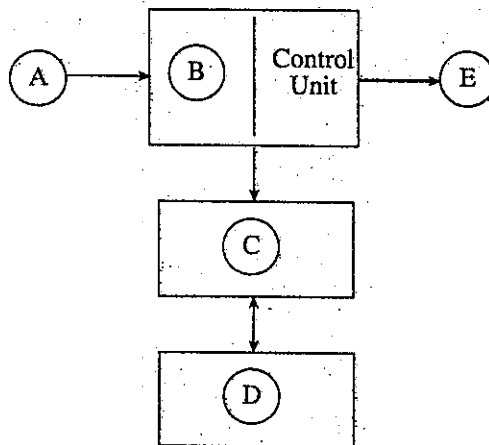(General Information Technology - II)   (Two hours)

* Answer *four* questions only.
* If question number *five* (5) is selected, answer only Part A or Part B.

1. (a) Construct the Logic Circuit for the following truth table.

Input A	Input B	Output C
0	0	1
0	1	1
1	0	0
1	1	0

(b) The block diagram of a computer system is given below.

(i) Name the components marked with letters A, B, C, D and E.

(ii) Give **two** examples each for the components A, D and E.

(iii) The above computer system is used for numerical calculations of several numbers. In which component does this operation take place?

(iv) A student prepares a report using a computer system. First he types a part of the report and saves it. On a later day, he opens the partially completed report and completes it. He then takes a printout of the report.

Identify the components among A, B, C, D and E that correspond to each of the following activities.

1. Typing the report
2. Saving the report
3. Printing the report

(v) What is the role (function) of component C in carrying out the activities in (iv) above?

2. (a) (i) Briefly explain the advantages of e-mail over traditional postal mail.

(ii) Amal is planning to send an e-mail to Kamal about his recent visit to Kandy. He also wants to send a digital photograph he took during this visit along with this e-mail. Amal wants to send a copy of this e-mail to Vimal too.

Use the following figure to answer questions given below by choosing appropriate letters from A to I.
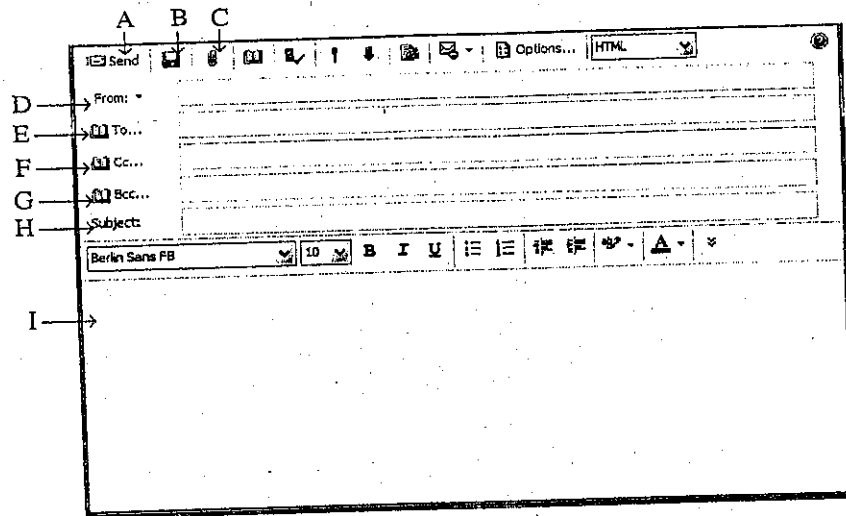
1. In which field should Amal include the e-mail address of Kamal?
2. In which field should Amal include Vimal's e-mail address in order to send a copy of the original e-mail to Vimal?
3. Identify the purposes of areas indicated by D, H and I.
4. Briefly explain the difference between F and G.
5. Which button should Amal select in order to attach the digital photograph?

(b) One of your friends told you that he found a very interesting article "Impact of www on you". However he could not remember the Uniform Resource Locator (URL) of the website where he found this article. Briefly explain how you would find this article and download it.

3. (a) The following document is created by using a word processing software. Study the document and answer the questions given.

(i) What is the tool that can be used to create the title of the document shown as A?

(ii) How do you add the picture shown as B to the document?

(iii) Write down the steps to achieve the appearance of the words "Jobs Net Website" shown as C in the document.

(iv) The text shown as D is a hyperlink. Write down the steps needed to remove this hyperlink.

(b) Briefly describe the steps that you would follow to move the slide at 3rd position to the 5th position in an electronic presentation.

4. (a) Sales values in each shop of a supermarket chain during the first six months of 2010 are given in the following table.

	L2		f						
	A	B	C	D	E	F	G	H	I
1				Sales in Rs.millions					
2	Shop	January	February	March	April	May	June	Total sales	Commission (Rs.)
3	Badulla	4	4	8	12	9	6		
4	Colombo	20	25	22	40	32	28		
5	Galle	12	14	15	26	22	18		
6	Jaffna	6	8	10	18	14	12		
7	Kandy	18	21	23	36	30	25		
8	Trincomalee	8	12	14	31	22	16		

(i) What is the formula that should be written in cell H3 to calculate the total sales value for the shop at Badulla?

(ii) If 5% of total sales for the past six months are allocated as the commission for the staff in each shop, write down the formula necessary for cell I3 to calculate the sales commission for the staff of the shop at Badulla.

(iii) Write down the steps to get the commission amounts allocated for other shops in cell range I4:I8.

(b) (i) Assume that you are creating a database table to hold the information of the students in your class. Write down the data type suitable to hold the following information :

1. Admission number
2. Name
3. Date of birth
4. Amount paid for facilities fees
5. Whether staying in the hostel or not.
6. Average marks for the mid-term test.

(ii) Name a suitable field as the primary key in the above table and explain why you selected this field for the primary key.

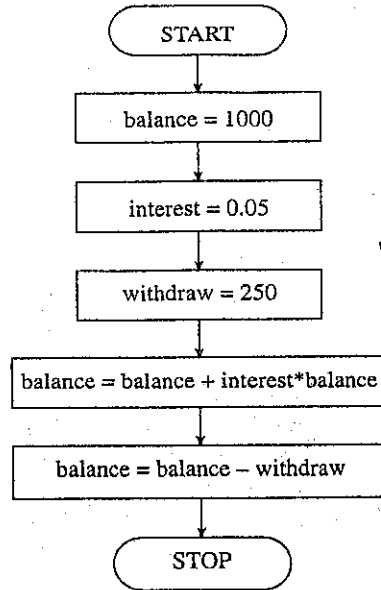5. **Answer either part (A) or part (B) only.**

● **Part A**

(a) Give the meaning for each of the following basic shapes as used in a flow chart.

(i) ⟶   (ii) ▱   (iii) ◇

(b) Consider the following flow chart. Here *balance, interest* and *withdraw* are variables.

```
            START

         balance = 1000

         interest = 0.05

         withdraw = 250

   balance = balance + interest*balance

     balance = balance - withdraw

            STOP
```

    (i) Give the initial values of each variable.

    (ii) Give the value of the variable that changes its initial value at the end of the last process.

(c) Draw a flow chart for the following :

Read the price of an item. Print the price of the item. If the price is greater than Rs. 1000, print the message "very expensive" and assign 'E' to the item type. If the price is between Rs. 500 and Rs. 1000 both inclusive, print the message "moderate" and assign 'M' to the item type. If the price is less than Rs. 500, print the message "very cheap" and assign 'C' to the item type. Print the item type.

● **Part B**

(a)   (i) Write a Pascal variable declaration to declare two variables *total* and *average* as type real, the variable *star* as type char and the variable *number* as type integer.

    (ii) Write a Pascal statement to assign the 10th component of an array variable *letter* to its 5th component.

(b) Write down the output of each of the following code segments.

(i)
```
sum := 0;
x := 1;
while x <= 5 do
begin
    sum := sum + x;
    x := x + 1;
end;
write (sum);
```

(ii)
```
a := 1;
b := 7;
for i := b - a to b + a do
write (i*i);
```

(c) Write a Pascal program to read three integer numbers and output the smallest of them.

6. (a) Identify **three** employment opportunities in information and communication Technology (ICT) field and describe the job tasks of each of them.

    (b) Briefly explain **two** ethical issues in ICT field. Your answer should include an example for each of the ethical issue mentioned.

    (c) Briefly explain **two** health effects that may be caused due to the use of computers with a wrong posture?

    (d) Computer Specifications such as processor speed and memory capacity are important factors in selecting a personal computer. Briefly describe **two** other factors that you should consider in buying a personal computer for home use.

    (e) Explain **one** ICT application in any two of the following fields.

        (i) Education   (ii) Health   (iii) Business

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