

General Information Technology Examination, 2007

General Information Technology - I

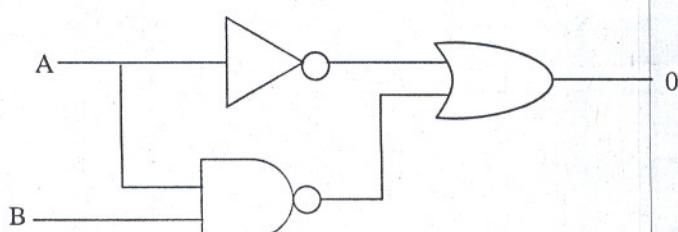
One hour

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 binary equivalent of the decimal number 73 is
(1) 1001010 (2) 1010011 (3) 1001001 (4) 1001110
2. The hexadecimal equivalent of the binary number 11011101010 is
(1) 6752 (2) 6EA (3) DD2 (4) DD4
3. The base of the octal number system is
(1) 2 (2) 8 (3) 10 (4) 16
4. Sum of the two binary numbers 1010 and 1101 is
(1) 11101 (2) 10110 (3) 10111 (4) 01111
5. The logical expression $A+A \cdot B$ is equivalent to
(1) A (2) B (3) A+B (4) A.B
6. Select the logical operation corresponding to the following truth table:

Input 1	Input 2	Output
0	0	1
0	1	0
1	0	0
1	1	1



(1) 0 and 0 (2) 0 and 1 (3) 1 and 0 (4) 1 and 1

8. Which one of the following can be used as a coding scheme to represent characters?
(1) EBCDIC (2) IEEE (3) ANSI (4) TURBO
9. Which one of the following is **not** a component of a closed system?
(1) Feedback (2) Input (3) Output (4) Boundary
10. Which of the following is **not** an essential function of any type of Information System?
(1) Collecting Information (2) Recording Information
(3) Processing Information (4) Mining of Information
11. Which one of the following is **not** a value attribute of information?
(1) Accuracy (2) Size (3) Relevance (4) Timeliness
12. Which one of the following is **not** a level of decision making?
(1) Operational (2) Tactical (3) Strategic (4) Financial
13. Which one of the following is **false** about an Expert System?
(1) Expert systems can only be used by subject experts.
(2) Subject experts are required to build Expert Systems.
(3) Expert systems can provide answers to questions through reasoning.
(4) Expert Systems can be used as a teaching tool to supplement teachers.
14. Which one of the following phases comes first in the System Development Life Cycle (SDLC)?
(1) System Implementation (2) System Design
(3) System Analysis (4) System Maintenance
15. Which one of the following statements is correct?
(1) A test plan may be developed in parallel with system design.
(2) Test cases are identified first and then a test plan is made.
(3) Testing is not an essential phase during system development.
(4) Unit testing refers to the testing that happens after integrating all the individual modules into a complete system.
16. What is the key combination needed to restart your computer in Microsoft Windows environment?
(1) Ctrl+Alt+Del (2) Ctrl+Shift+Del
(3) Ctrl+Alt+Shift (4) Ctrl+Alt+Esc
17. In Microsoft Windows desktop, disk drive icons are usually displayed in a folder named
(1) My Documents. (2) My Computer.
(3) Recycle Bin. (4) Control Panel.
18. In Microsoft Word, what is the tool that can be used to get the number of words in a selected text document?
(1) Spelling & Grammar (2) Speech
(3) Auto Correct Options (4) Word Count
19. Which of the following is a valid example for an e-mail address?
(1) www.schoolnet.lk (2) exams@doenets.lk
(3) http://www.doenets.lk (4) www.education.gov.lk
20. In a Microsoft Excel worksheet, cell A1 and A2 contain the values 10 and 20 respectively. If you type =A1+A2 into cell A3, it will display
(1) =A1+A2 as a label (2) 30 as the sum of A1 and A2
(3) as a date function (4) only first four characters

21. The formula=(A1*B1)/(C1+B1) is stored in the cell B8 in a Microsoft Excel worksheet. What will be the value displayed in B8 if the values in A1, B1 and C1 are as shown in the following table?

Cell	Value
A1	25
B1	10
C1	40

(1) 16.25 (2) 6.25 (3) 5.00 (4) 0.70

22. The object that can be used to extract data according to a condition, from a database created with Microsoft Access is called a

(1) Report. (2) Form. (3) Table. (4) Query.

23. Collection of fields in a database is called a

(1) File. (2) Clipboard. (3) Layout. (4) Record.

24. Two statements in a Pascal program is separated by a

(1) colon. (2) semi-colon. (3) full-stop. (4) comma.

25. Which of the following is **not** a valid type identifier in Pascal?

(1) integer (2) real (3) char (4) float

26. Choose the correct constant declaration that defines a constant called *LENGTH* with a value 200.

(1) type *LENGTH* = 200; (2) const *LENGTH* = 200;
 (3) const *LENGTH* := 200; (4) var *LENGTH* = 200;

27. Which of the following is an **invalid** operator in Pascal?

(1) := (2) => (3) <> (4) <=

28. Select the correct type definition that defines an array type called *NUMBERS* with 10 integer elements.

(1) type *NUMBERS* = array(1..10) of int;
 (2) type *NUMBERS* := array(1..10) of integer;
 (3) type *NUMBERS* = array[1..10] of integer;
 (4) type *NUMBERS* := array[1..10] of int;

29. If the value of the variable *X* is initially 20, what will be the value of the variable *X* after the execution of the loop

for *index* := 1 to 5 do *X* := *X* - *index* ;

(1) 5 (2) 10 (3) 15 (4) 20

30. Which Pascal statement will correctly display the text string "Go ahead" if the variable *cost* is less than 8000 and the variable *profit* is not less than 40000?

(1) if (*cost* < 8000) AND (*profit* >= 40000) then write("Go ahead");
 (2) if (*cost* < 8000) AND (*profit* >= 40000) then write('Go ahead');
 (3) if (*cost* < 8000) AND (*profit* < 40000) then write("Go ahead");
 (4) if (*cost* < 8000) AND (*profit* <= 40000) then write('Go ahead');

31. Select the correct statement that describes the output of the following (pascal) statement.

writeln(X, Y, Z);

(1) Write the values of the variables *X* and *Y* on the current output line and write the value of the variable *Z* on the next line.
 (2) Write the values of the variables *X*, *Y* and *Z* on the current output line and move the cursor to the next position on the same line.
 (3) Move the cursor to the next new line and write the values of the variables *X*, *Y* and *Z* on the new line.
 (4) Write the values of the variables *X*, *Y* and *Z* on the current output line and move the cursor to the first position of the next line.

32. Select the operator that has the highest priority in the list of operators { $<$, +, AND, OR, NOT}.

(1) $<$ (2) + (3) AND (4) NOT

33. Select the most appropriate statement regarding the Booting process of a Computer.

(1) It is the process of copying application data from main memory to cache memory.
(2) It is the Process of loading the application data from hard disk to the main memory.
(3) It is the process of loading the operating system into the main memory from the cache memory.
(4) It is the process of loading the operating system into the main memory from a secondary storage device such as hard disk, CD ROM or Floppy Disk.

34. Select the **incorrect** statement regarding the Liquid Crystal Display (LCD).

(1) LCD screens have sharper pictures compared to Cathode-Ray Tube (CRT)
(2) LCD screens consume less energy compared to Cathode-Ray Tube (CRT)
(3) LCD screens are made from two glass or plastic plates with liquid in between.
(4) LCD screens have faster response time compared to Cathode-Ray Tube (CRT)

35. Select the correct statement.

(1) A Digital Versatile Disk (DVD) has a smaller capacity than a Compact Disk (CD).
(2) Data can be written to a pen drive/flash stick only once.
(3) Magnetic tapes can store large amounts of data and they are most suitable as a backup storage.
(4) Access speed of a hard disk is always less than that of a magnetic tape.

36. Which of the following is **not** a port in a computer system?

(1) COM1 (2) Joystick (3) MIC in (4) PS/2

37. Computer Viruses may **not** be propagated through

(1) e-mail attachments. (2) flash memory sticks/pen drives
(3) illegal/unauthorized software. (4) keyboards.

38. Select the most correct statement.

(1) Laser printer is an output device. (2) Speaker is an input/output device.
(3) Mouse is an output device. (4) Keyboard is an output device.

39. Select the **incorrect** statement regarding the storage systems.

(1) Cache Memory has a faster access time compared to Main Memory.
(2) Hard Disk has slower access time compared to Magnetic Tapes.
(3) Registers have faster access time compared to Cache Memory.
(4) Registers have faster access time compared to Main Memory.

40. Which one of the following statements may **not** be considered as a factor causing the digital divide?

(1) High cost of communication
(2) Inaccessibility of Internet in rural areas
(3) Reducing prices of Computers
(4) Lack of content in local languages

General Information Technology Examination, 2007

General Information Technology - II

Two hours

* Answer any four questions.

1. (a) Find the octal equivalent of the hexadecimal number E4C.
(b) (i) Using the following truth table find a Boolean expression for the output F in terms of the three inputs A, B and C.

A	B	C	F
0	0	0	0
0	0	1	0
0	1	0	1
1	0	0	1
1	1	0	1
1	0	1	1
0	1	1	1
1	1	1	1

(ii) Simplify the above Boolean expression of F using laws in Boolean algebra.
(iii) Design a logic circuit corresponding to the Boolean expression obtained in part (ii) above.

2. (a) Give **four** examples of application software.
(b) Describe what is meant by an Operating System.
(c) Describe the functions of a modem.
(d) What is meant by URL (Uniform Resource Locator)?
(e) Describe **three** ways to protect your computer from virus attacks.

3. (a) (i) Write a Pascal variable declaration to declare the two variables P and Q as type real, the variable R as type char and the variable S as type integer.
(ii) Write a Pascal statement to assign the 10th element of an array variable A to its 8th element.
(b) Write down the output of each of the following code segments:
(i)

```
s:= 100;
x:= 1;
while x < 6 do
begin
  s := s + x;
  x := x + 1;
end;
write(s);
```


(ii)

```
s:= 0;
for i := 1 to 5 do s := s + i * i;
write(s);
```


(c) Write a Pascal program to read in two distinct real numbers and output the largest of them.

4. The following Microsoft Excel worksheet shows a mark sheet that contains marks some students have obtained for three subjects.

Microsoft Excel - Marksheets.xls

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1	Index No.	Name	Biology	Physics	Chemistry	Total Marks	Average Marks	
2	AL001	Sunil	50	45	70			
3	AL002	Kamala	60	51	62			
4	AL003	Sathis	72	67	55			
5	AL004	Kumar	34	56	45			
6	AL005	Jothi	56	40	48			
7			Highest Total mark					
8			Lowest Total mark					
9								

Formulas in cells F7 and F8:

- F7: =MAX(F2:F6)
- F8: =MIN(F2:F6)

Study the worksheet and answer the questions given below.

- What is the formula that should be written in cell F2 to get the Total Marks of Sunil?
- Write down the steps needed to get Total Marks for the other four students in cell range F3:F6.
- What is the formula that should be written in cell G2, to get the Average Marks of Sunil?
- Write down the steps needed to get the Average Marks of the other four students in cell range G3:G6.
- What is the formula that should be written in cell F7 to find the highest Total mark earned by a student?
- What is the formula that should be written in cell F8 to find the lowest Total mark earned by a student?
- Write down the steps needed to arrange the data in the cell range A2:A6 according to the descending order of Average Marks.

5. Students of the Computer Learning Centre of XYZ College created the following poster using Microsoft Word. Study the poster and answer the questions given below.

Computer Learning Centre XYZ College



B Our computer learning centre provides computer facilities not only for students but also for the school community. During school hours this centre is open only for our students and school community is only allowed to use it after school hours.

Mr. Kamalanath, our computer teacher, manages the centre.

There are many industry oriented computer courses to choose from. Some of the most popular courses are shown in the following table :

Course	Duration
Office Applications	40 hrs.
Web design	40 hrs.
PC Assembly	40 hrs.
Desk Top Publishing	40 hrs.
Graphics Design & Animation	40 hrs.
Computer Networking	40 hrs.

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www.clckXYZcollege.edu.lk **F**

- What is the tool that can be used to create the title of the poster (shown as A)?
- Write down steps needed to make the letter "O" as a large dropped capital letter (shown as B).
- What is the type of alignment used at the text shown as C?
- What is the tool that can be used to set the appearance of the words "popular courses" (shown as D) in the text?
- Write down steps that should be followed to include the table E in the poster.
- The text shown as F appears as a hyperlink. Write down the steps needed to remove this hyperlink.

6. (a) (i) What type of Information System is most useful for the operational management level of an organization?

(ii) Briefly describe **three** major characteristics of an Executive Support System.

(iii) What is System Prototyping?

(b) Identify **five** reasons why the rural society in Sri Lanka has not been able to enjoy the benefits of the Information and Communication Technology.

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