General Certificate of Education (Ord.Level) Examination 2007
Information & Communication Technology I

One hour

Note:	*(i)*	*Answer all questions.*
	(ii)	*In each of the questions 1 to 40 pick one of the alternatives (1), (2), (3), (4)*
		Which you consider as correct or most appropriate
	(iii)	*Mark a cross (X) on the number corresponding to your choice in the answer sheet provided.*
	(iv)	*Future instructions are given on the back of the answer sheet. Follow them carefully.*
	(v)	*After answering **Paper I and Paper II** tie the two sets of answer scripts together and hand over.*

1. **Which of the following is considered as row data?**
   - (1) Marks obtained by a student in a class.
   - (2) Sorted list of marks obtained by student in a class.
   - (3) Maximum marks obtained by students in a class
   - (4) Average marks obtained by student in a class

2. **First generation (IG/I Gen) computers were based on**
   - (1) Vacuum tubes
   - (2) Transistor
   - (3) Integrated circuits.
   - (4) Microprocessors.

3. **The most general term used to describe the physical components of a computer is**
   - (1) Software
   - (2) Hardware
   - (3) Firmware
   - (4) Live ware

4. **The part of a computer that processes instructions, performs calculations, makes logical decisions and manages the flow of data through the computer system is know as**
   - (1) Hard Disk
   - (2) RAM
   - (3) Data Bus
   - (4) CPU

5. **Consider the following statements.**
   A - Keyboard is an input device
   B - Monitor is an output device
   C - Compact disk is a storage device
   Which of the above is/are true?
   - (1) A only
   - (2) B only
   - (3) A and C only
   - (4) All A, B and C

6. **Under which of the following categories is a laptop computer classified?**
   - (1) Microcomputer
   - (2) Minicomputer
   - (3) Mainframe
   - (4) Supercomputer

7. **The main purpose of using an Uninterruptible Power Supply (UPS) in a computer system is to**
   - (1) Provide backup power in the case of a mains power failure
   - (2) Provide the computer system from lighting.
   - (3) Provide (Direct Current) DC power to the computer circuitry.
   - (4) Change the internal battery of the computer.

8. **The clock rate of a CPU of a modern Personal Computer (PC) is usually expressed in**
   - (1) GHz (gigahertz)
   - (2) Mbps (megabits per second)
   - (3) GB (gigabytes).
   - (4) IPS (Instruction Per Second).

9. **Which of the following statements is incorrect regarding the computer memory?**
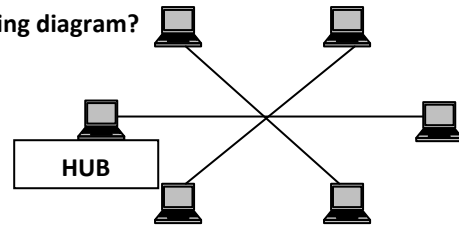   - (1) Memory refers to the primary memory or internal memory of the computer
   - (2) It holds data & program instruction for processing.
   - (3) If the electrical power is cut off then the stored data & instruction will be lost.
   - (4) It is the place where arithmetic and logic operations are done.

10. **A computer network which is limited to a small area is known as a**
    - (1) LAN
    - (2) WAN
    - (3) VAN
    - (4) MAN.

11. What is the topology of the computer network shown in the following diagram?
        (1) Bus
        (2) Star
        (3) Ring
        (4) Tree

12. Microsoft Windows XP is an example of a/an
        (1) Application software   (2) System Software
        (3) System utility.   (4) Graphical User Interface (GUI)

13. How many bytes are there in a kilobyte?
        (1) 8   (2) 1000   (3) 1024   (4) 1048

14. Which of the following statements are true?
        A - A bit is the smallest unit of information that a computer can process.
        B - A bytes is the smallest unit of information that a computer can process.
        C - A bit contains 8 bytes.
        D - A bytes contains 8 bit
        (1) A and C   (2) A and D   (3) B and C   (4) B and D

15. The decimal equivalent of 1010_2 is
        (1) 5   (2) 6   (3) 10   (4) 12
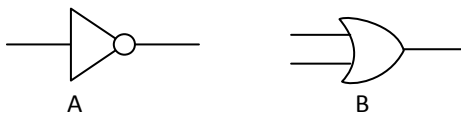
16. The binary equivalent of decimal 15 is
        (1) 1001   (2) 1100   (3) 1111   (4) 10101

17. Which of the following has least value?
        (1) 45_{10} (2) 11000_2 (3) 37_8 (4) $1A_{16}$

18.

        A   B
In digital logic the above symbols A and B respectively represent the gates
        (1) NOR and AND.   (2) NOR and OR.   (3) OR and NOR.   (4) NOT and OR.

19. The following is a truth table of a certain logic gate that has two inputs A, B and an output F. The
logic gate is
        (1) OR
        (2) AND
        (3) NOR
        (4) NAND

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

20. Which of the following statements is/are true regarding an Information System?
        A - Applications software converts data into information.
        B - Systems software controls hardware.
        (1) A only   (2) B only   (3) A and B   (4) None of the above

21. Which one of the following operations can be used to move Text and Graphics in application programs working under the Windows operating System?
        (1) Cut and Paste   (2) Cut and Copy   (3) Delete and Move   (4) Erase and insert

22. What is true regarding the preparation of a document using the Microsoft Word package?
        (1) When typing a document it is necessary to press Enter Key at the end of each line.
        (2) Text can be inserted only by creating a text box.
        (3) Different pages of a document can be set to different paper sizes.
        (4) Different types of text formatting operations such as changing colour can be used.

23. In Microsoft Word, which of the following keyboard shortcuts are used to cut and Paste respectively
  (1) ctrl + X and ctrl + V
  (2) ctrl + A and ctrl + P
  (3) ctrl + S and ctrl + V
  (4) ctrl + C and ctrl + P

24. Which of the following software facilitates both sorting and analyzing of data?
  (1) Word processing
  (2) Internet browser
  (3) Spreadsheet Processing
  (4) Presentation graphics

25. What function in Microsoft Excel is used to find the lowest value in a range of cells?
  (1) =max()   (2) =min()   (3) =lower()   (4) =floor()

26. The following figure shows a part of a Microsoft Excel Spreadsheet. Which of the following can be used to add the given values 10, 20 and 30?
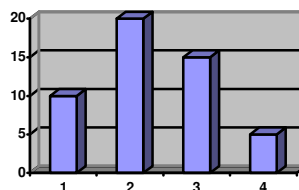
A = SUM(A1:A3)
B = A1 SUM A2 SUM A3
C = A1 + A2 + A3
D = SUM(A1,A2,A3)

	A	B	C
1	10		
2	20		
3	30		
4			
5			

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

27. What is the type of Microsoft Excel chart represented by the given diagram?
  (1) Column chart
  (2) Bar chart
  (3) Pie chart
  (4) Line chart

28. An example of a key field in a Table which contains data of patients in a hospital be
  (1) Date of admission
  (2) Admission number
  (3) Name
  (4) Address

29. Which data type is appropriate to represent a telephone umber (e.g. 012 3456789) in Microsoft Access
  (1) Text   (2) Byte   (3) Memo   (4) Integer

30. Which of the following problems have been solved by Computer Networks in an office environment?
  A - Difficulty in sharing of resources.
  B - Data redundancy
  C - Cost of communication
  (1) A and C only   (2) A and B only   (3) B and C only   (4) All A, B, and C

31. An error in a computer program is referred to as a
  (1) Syntax.   (2) Bug   (3) debug   (4) virus.

32. What one of the following is false about Visual Basic (VB)?
  (1) There is no significant difference between early versions of the BASIC Programming language and Visual Basic.
  (2) It enables you to create Graphical User Interfaces (GUI) to Windows applications.
  (3) It is event - driven.
  (4) It provides facilities to handle databases.

33.
```
Private Sub Form_Load()
Show
        For i = 1 to step 2
            Print i;
        Next i
End Sub
```
The output of the above Visual Basic code is

     (1) 0 0 0 0 0   (2) 1 3 5 7 9   (3) 3 5 7 9   (4) 2 4 6 8 10

34. Which of the following is false about the Internet?
     (1) Nobody owns the Internet
     (2) There is no centralized control.
     (3) It is a network of computer networks.
     (4) All the information available is extremely accurate and highly reliable.

35. Which of the following is a search engine?
     (1) Outlook Express   (2) Internet Explorer
     (3) Google   (4) Macromedia Flash

36. A Company that provides access service to the Internet is called a/an
     (1) Server   (2) Client   (3) ISP   (4) Teleshop

37. http://www.doenets.lk is an example of
     (1) a Server   (2) a URL (Uniform Resource Locator)
     (3) an access cord of a network   (4) an e-mail address of an organization

38. The purpose of a password in a computer network is to
     (1) allow access to the public to enter it.
     (2) provide security and control access.
     (3) speed up the operations of the computer
     (4) provide equal privileges to all users.

39. A poor or awkward posture at the computer for a short duration can cause
     (1) nausea.   (2) mental stress.   (3) back pain.   (4) eye problems.

40. Which of the following is not recommended regarding health and safety of using a computer?
     (1) Use the computer during lightning.
     (2) Your face should be about 45 cm away from the computer screen.
     (3) Whenever you use the computer for a longer duration, you need to have regular breaks
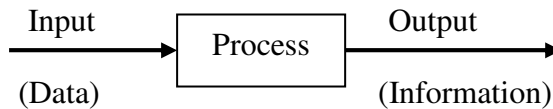   (4) Avoid poor writing and electrical connections in the computer room.

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Two hours

Answer five questions only as instructed. Any extra questions answered, if not struck off by the candidate himself, will be crossed out by the examiner, without being marked.

01. The following figure shows the basic Input-Process-Output model used in Information Technology. Accordingly a system receives data its input and performs a meaningful process to deliver Information as the output.

An information system has been developed to input income and expenses of a person under different categories of needs such as food, house rent, health etc. of a person. The system is to provide information on monthly total for each category of his expenses, the total expenditure of the month and saving of the month.

(i)   In addition to inputs given above, suggest another five inputs that can be entered into the system?
(ii)   What calculations should be performed by the system in order to produce the above information?
(iii)   Briefly explain, why the above system can be considered as an example of a batch processing system.

02. Suppose you are the chief organizer of the annual Educational Trip of the school. If you have the freedom to use the computer available in the computer room, suggest what software package you would use to perform each of the tasks listed below. Give reasons for your selection.

(i)   Prepare letters for the parents of the students to inform about the event.
(ii)   Prepare the budget of the trip.
(iii)   Prepare a presentation on the places to be visited.
(iv)   Keep records of each student in a database who are going on the trip, along with their parents details.
(v)   Find out more information from the Internet about the places to be visited.

03. (i)   Write down the output generated by the following flowchart. (Figure 1)
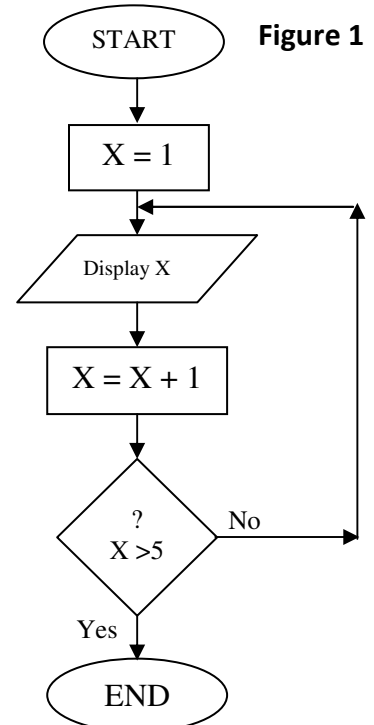
(ii)   The following is a part of a pseudocode which is used to evaluate the final grade achieved by a student in an examination, based on the average marks obtained for two subjects.

Figure 1

```
        Set Average to 0
        Get Name
        Get marks for Subject1
        Get marks for Subject2

Average = (Subject + Subject2)/2
        if (Average) >= 50 display Name, "Pass"
                else display Name, "Fail"
        Ends if
```

The name and the marks for the subject are as follows.

Name	Subject1	Subject2
Arthur	40	80
Berty	60	70
Charlie	40	60
David	30	50

Write the output of the above pseudocode for each of the student.

04. Following is a part of a Microsoft Excel spreadsheet that a school teacher used to work out the cost for expanding the school's Computer Laboratory to facilitate more students.

	A	B	C	D	E	F
1	**Item Description**	**Unit Cost**	**Quantity**	**Total Cost**	**Discount**	**Final Cost**
2	Computer	Rs. 55,000.00	5	Rs. 275,000.00	10%	Rs. 247,500.00
3	Laser Printer	Rs. 35,000.00	2	Rs. 70,000.00	5%	Rs. 66,500.00
4	External MODEM	Rs. 3,500.00	4	Rs. 14,000.00	2%	Rs. 13,720.00
5	Scanner	Rs. 7,600.00	3	Rs. 228,00.00	4%	Rs. 21,888.00
6	Flat bed Plotter	Rs. 9,000.00	2	Rs. 18,000.00	5%	Rs. 17,100.00
7					**Grand Total**	Rs. 366,708.00

(i)   State the formulae which would be contained in the following cells.
    (a)   D2
    (b)   F2
    (c)   F7

(ii)   List three advantages of using a spreadsheet package for such a calculation rather than using a calculator and a paper.

05.
(i)   What is data?
(ii)   List three difficulties of handling large volumes of data.
(iii)   What is a database? Briefly explain how you would overcome the difficulties mentioned in (ii) above by using a database.
(iv)   What is the general name used to describe a set of software which creates, maintains and utilizes database? List two popular examples of such software packages.
(v)   Assume that you are asked to create a simple database containing the data of teachers of your school. List five fields that can be used to construct a table in the database. Give two sample records that you would enter in the table.

06.   The librarian of a certain school has decided to create a Web site for its library.

(i)   Assume that you have been appointed to develop the Web site. List three methods you will use to gather the required information.
(ii)   List five items of information that should be included in the Web site.
(iii)   List three advantages gained by students from such a Web site.
(iv)   Give three ways in which the Web site makes the librarian's tasks easy.

07.   Write short notes on three of the following.

(v)   Advantages of using a personal Computer for studies.
(vi)   Advantages of e-mail over the traditional mail.
(vii)   Disadvantages of the Internet.
(viii)   Improving the efficiency of Sri Lankan workforce using ICT.