General Certificate of Education (Ord.Level) Examination - 2008
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 does not contain information?**
   - (1) A weather report.
   - (2) A time table.
   - (3) A price list displayed in a super market.
   - (4) An unlabelled chart.

2. **………………is a very small computer that can be held in the palm of a person.**
   - (1) PC
   - (2) Laptop
   - (3) PDA
   - (4) Minicomputer

3. **Which one of the following is not a pointing device?**
   - (1) Light pen
   - (2) Joystick
   - (3) Trackball
   - (4) Barcode reader

4. **Consider the following statements regarding storage media.**
   - (A) A typical floppy disk has less storage capacity than a compact disk
   - (B) A modern hard disk has more storage capacity than a compact disk
   - (C) A digital versatile disk has more storage capacity than a modern hard disk

   Which one of the following is true?
   - (1) (A) only
   - (2) (B) only
   - (3) (A) and (B) only
   - (4) (C) only

5. **After reading an article on digital images, which has been published on the school's wall paper, a student wanted to verify the following statements with his teacher.**
   - (A) A digital image consists of a large number of picture elements called pixels.
   - (B) To store a digital image containing more colours or pixels, you need more computer memory.
   - (C) Digital images look better with more colours and pixels.

   The teacher's answer would be:
   - (1) only (A) is correct
   - (2) only (B) is correct
   - (3) only(A) and (C) are correct
   - (4) All (A), (B) and (C) are correct

6. **Television broadcast can be considered as an example of………….. communication.**
   - (1) simplex
   - (2) half duplex
   - (3) full duplex
   - (4) point to point

7. **What is the topology of the computer network shown in *Figure-Question 7*?**
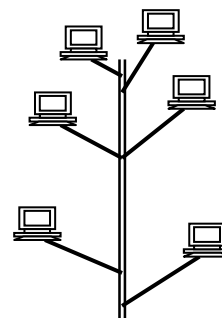   - (1) Bus
   - (2) Star
   - (3) Ring.
   - (4) Tree

Figure-Question 7

8. **In a Personal Computer (PC), an alphabetic, a numeric or a special character is represented by a ………….**
   - (1) bit
   - (2) nibble
   - (3) byte
   - (4) killobyte

9. The binary equivalent of the octal number 36_8 is………..
        (1) 110011_2
        (2) 101110_2
        (3) 11110_2
        (4) 111111111_2

10. A megabyte contains:
        (1) 2^6 kilobytes   (2) 2^{20} bytes   (3) 10^6 bytes   (4) 2^{20} bits

11. The decimal equivalent of 111000_2 ....
        (1) 7
        (2) 38
        (3) 56
        (4) 70

12. The binary equivalent of the decimal number 33 is………..
        (1) 1111_2 (2) 011011_2
        (3) 100010_2 (4) 100001_2

13. The value of $A9_{16}$ is equivalent to……………….
        (1) 169_{10} (2) 10011010_2 (3) 1211_8 (4) both (1) and (3)

14. If $P=101_2$ and $Q=1010_2$ then P+Q is…………………….

        (1) 1111_2 (2) E_{16} (3) F_{16} (4) both (1) and (3)

15. Which Boolean relation below gets verified by the truth table given in *Figure-Question 15*?

        (1) $A+\bar{A}=1$ (2) $A.\bar{A}=0$
        (3) Both (1)and (2)   (4) A+A=A   *Figure-Question 15*

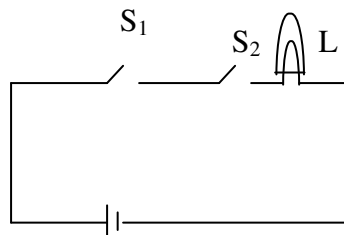| A	$\bar{A}$	output
1	0	1
0	1	1

16.
    Which one of the following circuits indicates the construction of a NAND logic gate by using the above logic gates?
        (1)   (2)   (3)   (4)

17. Which of the following digital logic gates can be used to characterize the operation of the electrical circuit shown in Figure-Question 17?
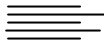   (1)   (2)   (3)   (4)

S_1 S_2 L

L – Lamp
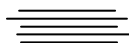S1 – Switch 1
S2 – Switch 2
B - Battery

18. Loading an operating system into the memory of a personal computer is known as……….
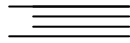   (1) assigning   (2) compiling   (3) interpreting.   (4) booting

19. In the word processing, which one of the following symbols indicates the aligning of text on both left and right margins of a document?
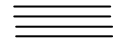
(1)	(2)	(3)	(4)

20. A note of text placed at the bottom of the page of a document that usually cites a reference for part of the main body of text is known as a/an………………………..

    (1) offset   (2) header   (3) footer   (4) footnote

21. The general term that describes a collection of programs that facilitate storing, manipulating, maintaining and utilizing data is……………………….

    (1) Integrated Office Software   (2) Database Management Software

    (3) Spreadsheet Processing Software   (4) Desktop Publishing Software

22. An owner of a bookshop stores the details of books in a database for easy reference. A table in this database has a field named PRICE, which contains the price of each book. In which order should he sort the table using PRICE, to organize the data from the most expensive to the cheapest?

    (1) Ascending   (2) Descending   (3) Chronological (4) Numeric

23. The following formulae are entered into the cells A1, A2, and A3 of a worksheet respectively.

$=2>=1$

$="A">"B"$

$=AND (2>=1,"A">"B")$

	A	B	C
1			
2			
3			

Which of the above cell/cells, displays/display FALSE?

    (1) A1 only   (2) Both A1 and A2

    (3) Both A1 and A3   (4) Both A2 and A3

24. *Figure-Question 24* shows a part of a worksheet.

A student tries the following ways to explore the alternative methods of getting the average value of the numbers as indicated in the worksheet.

Which one of the following would give an incorrect result?

    (1) =AVERAGE (A1:C3)

    (2) = (A1+B2+C3)/3

    (3) =SUM (A1:C3)/3

    (4) =SUM (A1:C3)/9

	A	B	C	D
1	12			
2		5		
3			10	
4				

25. When answering a paper, a student spends 10 minutes to read it and plan the answers, 40 minutes to write the answers and 10 minutes to check the answers. The best way to represent graphically, the time taken for each activity as a percentage of total time is to use a …………… chart.

    (1) pie   (2) line   (3) column   (4) XY (sactter)

26. If N is an Integer variable, the following code:

```
N=10
Do While N>=5
     N=N-1
Loop
```

    (1) executes 6 times   (2) executes 5 times

    (3) never begins   (4) never ends

27. The particular field of a table that uniquely identifies a record is the………………….

    (1) key field   (2) main field   (3) alternate field   (4) primary field

28. Consider the following three statements A, B and C.

(A) Installing a new version of software in a computer is an example of uploading.

(B) Submitting a video file to a web server is an example of uploading.

(C) A client computer receiving an audio file from a web server is an example of downloading.

Which one of the following is false**?**

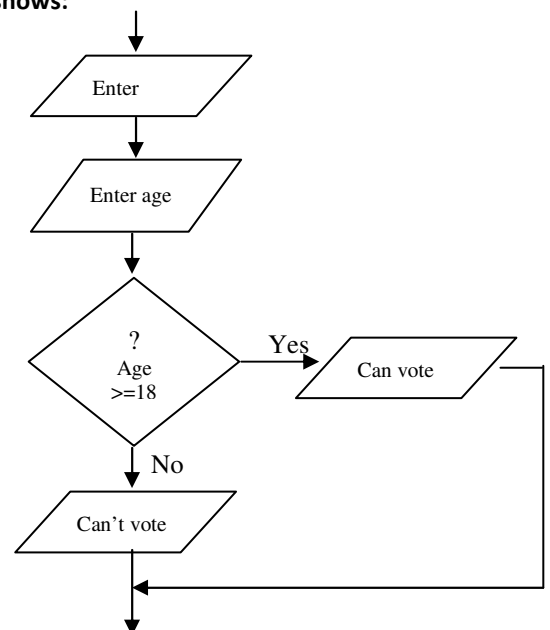   (1) (A) only   (2) (B) only   (3) (C) only   (4) (B) and (C) only

29. **Which one of the following relationships is correct, regarding the contents in column X and Y of the table shown in** *Table-Question 29*?

Column X	Column Y
(A) Syntax error	(P)wrong keyword
(B) Logic error	(Q)wrong punctuation
	(R)unexpected result

    (1) (A) with (P) and (R)   (2) (A) with (Q) and (R)   (3) (B) with (P)   (4) (B) with (R)

30. **The logical structure of the flowchart given in the Figure-Question 30 shows:**

    (1) a sequence
    (2) a simple selection
    (3) both sequence and simple selection
    (4) an iteration

31. **The following is a brief description of a system that provides the motorists wit information on conditions on a motorway.**

    The system collects raw data such as the speed and the number of vehicles ina specific area of the motorway and transmits them to a road side computer. After analyzing the data, the computer, provides useful information to the motorists helping them to decide on altnernative routes they can take when there is heavy traffic congestion.

    The above scenario best describes a/an:

      (1) real time system   (2) batch processing system
      (3) off line system   (4) automated system

32. **Systems maintenance does not involve:**

      (1) upgrading software   (2) improving performance
      (3) introducing major changes   (4) correcting minor faults

33. World Wide Web can be best described as:

      (1) another name for the Internet
      (2) a world wide computer network
      (3) a system of interlinked hypertext documents accessed through the Internet
      (4) a large repository of electronic documents

34. **Vineetha borrows a book from her teacher, Miss. Maheshika, to read during the weekend. When she opens the book at home she finds a piece of paper inside the book containing the following note.**

        Type of Internet connection: Dialup
        Date of connection   : 26/07/2008
        User name   : maheshika
        Password   : akihseham

    She understands that it should be the details of her teacher's Internet connection. Which one of the following best describes her behaviour to be ethical?

        (1) Return the book as if she did not take any notice of it
        (2) Inform immediately about the incident and say sorry for it
        (3) Inform immediately about the incident and remind her to change the password
        (4) Use the above details to test the connection and then inform the teacher about the incident

35. **In computer applications, the acronym CAD generally stands for:**

        (1) Computer Aided Drawing   (2) Computer Aided Design
        (3) Computer And Data   (4) Customized Application Design

36. **In relation to e-mail, Re: in the subject box stands for……………………….**

        (1) Receive   (2) Reply   (3) Refer(4) Regarding

37. **A sequential file organization is most suitable for a/an:**

        (1) airline seat reservation system   (2) payroll system
        (3) library system   (4) directory enquiry system

38. **Which one of the following allows you to insert a comment in an HTML document?**

        (1) <@   (2) <*   (3) <&   (4) <!

39. **The main parts of an HTML document are……………………….**

        (1) <html> and </html>   (2) title and body
        (3) head and body   (4) header and footer

40. **A student writes the following three statements regarding high-level languages in a class assignment and submits it to the teacher.**

    (A) A high-level language is a computer language that is easily understood by human

    (B) It needs no translation to machine language

    (C) An example of a high-level language is Java

    The teacher cuts that part"is easily understood by human" in (A) and writes "resembles human languages". He/She deletes (B) completely and leaves (C) unchanged.

    Which one of the following statements describes an invalid **reason for the teacher's action?**

        (1) The teacher deletes the part mentioned above in (A) because it is incorrect
        (2) The teacher writes "resembles human languages" because it is more suitable
        (3) The teacher deletes (B) completely because it is incorrect
        (4) The teacher ignores (C) because it is correct

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Information & Communication Technology II

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.

    (i)   Write in one sentence, the difference between raw data and information.

    (ii)   Write two examples of digital devices.

    (iii)   Write why there is no symbol on the space bar of a computer keyboard.

    (iv)   Write two examples of guided data communication media.

    (v)   Why is a dot matrix printer not suitable to be used in an operation theatre?

    (vi)   Why do you need more computer memory to store a video clip than an audio clip of the same duration?

    (vii)   Out of the two types of Personal Computer memories ROM and RAM, which memory is volatile?

    (viii)   Draw the two symbols you get when you file the letter F horizontally and vertically respectively using a graphics utility software.

    (ix)   Write two examples of full duplex communication.

    (x)   What are the values of 999 MOD 1000 and 1000 MOD 999 respectively?

02. 'Mobile Doctor' is an Ambulance Service, which provides emergency services for those who need immediate medical attention. Currently, they do not use a computer based information system. Those who wish to receive services are required to register with them.

        Customers who need the service should call the 'Customer Services Manager'. After a short conversation he sends an ambulance with a doctor and nurse to the place where the patient is. After providing emergency treatment, the patient is taken to the nearest hospital.

    (i)   List separately, the data and information required by the Customer Services Manager in order to provide the service.

    (ii)   List what additional data is required to prepare the invoice.

    (iii)   State what benefits they can obtain if they use a computer based information system?

03. Mr. Ramesh is a retired teacher who is living in a rented house with his wife. He has two children and both of them work abroad. They send US$ 50 to their parents every month as living expenses. In addition to his pension, he earns some money by conducting English classes for the poor children in his village at a reasonable fee. He also receives an interest from his fixed deposit in the bank.

    He enters his monthly earnings and expenses into the worksheet shown in *Figure-Question 3*. At the end of each month he obtains US$ to Rupee conversion rate from the bank and enters it into cell D12 of the worksheet to store its Rupee equivalent in the B6 cell. Finally he completes the worksheet and obtains a printout.

	A	B	C	D
1		Monthly Income and Expenditure-November 2008		
2	Income Category	Income	Expenditure Category	Expenditure
3	Pension	Rs. 8,000.00	House rent	Rs. 4,000.00
4	Tuition	Rs. 7,500.00	Food	Rs. 5,500.00
5	Interest from bank deposit	Rs. 500.00	Travelling	Rs. 1,100.00
6	Money received from children	Rs. 5,417.50	Helth	Rs. 800.00
7			Personal	Rs. 2,755.00
8			Social work	Rs. 800.00
9			Miscellaneous	Rs. 4,835.00
10				
11	Total Income	Rs. 21,417.50	Date	30/11/2008
12	Total Expenditure	Rs. 19,790.00	Currency coversion rate US$=	Rs. 108.35
13	Savings	Rs. 1,627.50	Money recived from children in US$	50.00
14	Percentage of Savings	7.6		
15				

Write the formulae/functions in respective cells to produce the following information.
- (i)   Money received from children in B6 cell in Rupees.
- (ii)   Total monthly income in B11 cell.
- (iii)   Total monthly expenditure in B12 cell.
- (iv)   Monthly savings in B13 cell.
- (v)   Savings as a percentage of total income rounded to one decimal place in cell B14 .

04.

- (i)   *Figure-Question 4* shows a flowchart that displays Odd numbers in a certain range. Write the first **three** and the last **two** numbers displayed by it.
- (ii)   Write a pseudo-code that corresponds to the logic given in the flowchart.
- (iii)   State how to modify the given flowchart to display all even numbers from 1 to 100 inclusive.

START
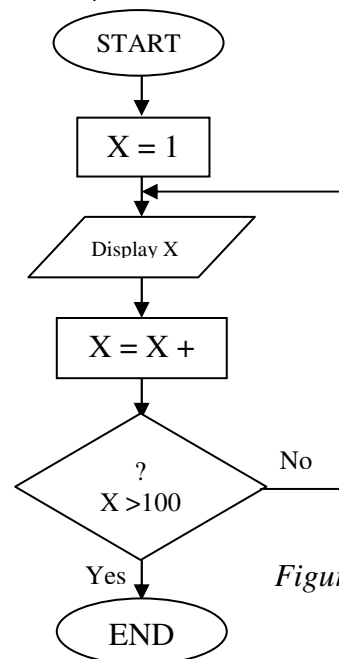
X = 1

Display X

X = X +

? X >100

No

Yes

END

Figure-Question 4

05.   It is a well Known fact that the business world has been continuously nourished by advances in technology. Being one of the newest and foremost technologies, the Internet Technology has made the business community aware of how easily World Wide Web, which is operated through the Internet, can be utilized to perform in the challenging world. Today, even the retail shops maintain websites to provide their services to a wider clientele unlike traditional retailers.

"e-Mart" is a retailer who intends to adopt the new technology described above to expand its services over the web.

- (i)   List **two** advantages, "e-Mart" would get by having a website.
- (ii)   List **four** items of information that can be provided to customers through their website.
- (iii)   List **two** features that can be incorporated into the website to make it attractive.
- (iv)   State **two** methods to increase the awareness of the website among the public.

06. Write short notes on **three** of the following.
  (i)   The impact of ICT on Sri Lankan youth.
  (ii)   Disadvantages of computer games.
  (iii) Health issues that may be caused by mobile phones.
  (iv)   Use of ICT to develop the agricultural sector of Sri Lanka.

Kosala Rajapaksha

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