Zonel Education Office-Mathugama

Second Term Test- 2023

Grade 11	Information & Communication Technology	Paper I	Time - 01 Hour

Name ....

Note: Answer all questions.

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.

1. Which of the following statements describe data and information ?
   - (1) Both data and information help in decision making .
   - (2) Data is meaningful and information is not .
   - (3) The national identity card is taken as data, information can be obtained from its analysis.
   - (4) Everything is information except data

2. Which of the following values will be equivalent $6F_{16}$
   - (1) 1110111_2
   - (2) 167_8
   - (3) 113_{10}
   - (4) 157_8

3. On Kumar's birthday he treated his classmates juice with chocolates or biscuits. What is the logic related to this refreshment?
   - (1) OR , AND
   - (2) AND, OR
   - (3) NOT, AND
   - (4) NOT, OR

4. Which of the following has the minimum value ?
   - (1) 1100101_2
   - (2) 76_{10}
   - (3) 113_8
   - (4) $6B_{16}$

5. Which of the following has the largest file size ?
   - (1)850 bytes. txt file
   - (2) 2 megabyte .doc file
   - (3) 700 kilobytes, gif file
   - (4) 1024 kilobytes, pptx file

6. The ASCII value of letter "E" represents 1000101. What is the ASCII value "G" in decimal?
   - (1) 67
   - (2) 70
   - (3) 69
   - (4) 71

7. Uses four binary coded decimal (BCD) bits to represent one digit. Which of the following is not a valid bit pattern in the BCD code system ?
   - (1) 0010
   - (2) 1101
   - (3) 0101
   - (4) 0110

8. Consider the following statements regarding the central processing unit. What is the correct statement?
   - (a) The central processing unit consists of arithmetic and logic unit, control unit and read-only memory .
   - (b) Data is temporarily stored in read-only memory until instructions are executed .
   - (c) Mathematical and logical unit perform all mathematical and logical work .
   - (1) a only
   - (2) b only
   - (3) c only
   - (4) a and c only

9. Choose the answer that matches the following pairs of statements regarding the medium of data transmission .

L) Better quality and secure data transmission medium	Q) Coaxial cable
M) Flexible and suitable for maximum of 100meters data transmission	R) Shielded twisted pair cables
N) The outer cable which is like a braided copper net produce electromagnetic field around the central cable.	S) Unshielded twisted pair of wires

   - (1) (L-P) (M-Q) (N-S)
   - (2) (L-S) (M-R) (N-Q)
   - (3) (L-Q) (M-S) (N-R)
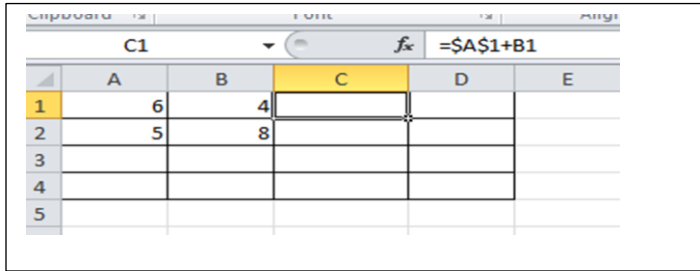   - (4) (L-R) (M-S)(N-Q)

1

10. Which of the following statement is related to G2C service of Sri Lanka?
    (a) Provide the Constitution .
    (b) Business registration
    (c) Renewal of Vehicle Licenses
          (1) Only a   .(2) a and b only   (3) a and c only   (4) a, b, and c only

11. What is not an example of pointing devices?
          (1) Joy stick   (2) Touch screen   (3) Bar code reader   (4) Mouse

12. Consider the following statements .
    (a) Random Access Memory (RAM) is a non-volatile memory .
    (b) BIOS is stored in cache memory.
    (c) ROM is a primary memory.
        Which of the following is correct?
          (1) Only a and b   (2) b and c only   (3) a and c only   (4) all a, b and c

13. Which can be used to connect a printer to a computer ?
          (1) PS/2 port   (2) Parallel port   (3) Serial port   (4) HDMI port

14. The computer network topology that arranges All the computers in the network are connected with each other is called ,
          (1) Mesh topology   (2) Tree topology   (3) Star topology   (4) Bus topology

15.
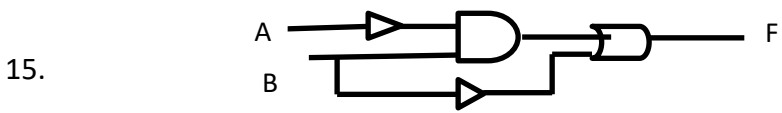
    What is the Boolean expression for the above circuit?

    (1) $(\overline{A} + B) . \overline{B}$ (2) $(\overline{A} + \overline{B}).B$ (3) $\overline{(AB)} + \overline{B}$ (4) $(A+B) + B$

16. What is an example of a real time operating system?
          (1) ATM machine   (2) Windows   (3) MS- Dos   (4) Windows server

17. What is the special feature of a word processing software?
        (1) Print Preview .   (2) Find and replace words
        (3) Correcting spelling and Grammar   (4) Mail Merge

18. What is the shortcut key used to replace words in word processing software ?
          (1) Ctrl + A   (2) Ctrl + P   (3) Ctrl + H   (4) Ctrl + S

19.

  What will be the output if the formula in cell C1 = A1 + B1 is copied to cell C2 in the above figure?

    (1) 10   (2) 23   (3) 14   (4) 18

20. =A1*B2 – What is the value of (B1^2/B2) ?
        (1) 40   (2) 46   (3) 44   (4) 36

2

21. Which function can be used to find the maximum value among the range of numbers ?
        (1) =max()   (2) =min()   (3) =count()   (4) =sum()

22. Assume that you are preparing a presentation about the rainforests of Sri Lanka .In your presentation
- (a) A map of Sri Lanka
- (b) A hyperlink
- (c) A video clip related to the rainforests

    Which of the above can be included ?
        (1) a and b only   (2) b and c only   (3) a and c only   (4) a , b ,c all

23. What is not an electronic presentation software?
        (1) Apple keynote   (2) Libreoffice impress
        (3) iWork pages   (4) Coral presentation course ID

24. What are the data types releted to these fields respectively a price of a book /author's name/count of books?
        (1)Numbers, currency, text   (2) Text, currency, numbers
        (3) Currency, numbers, text   (4) Currency, text, numbers

Answer the questions from 25 to 29 on the basis of the database tables given below .

Course Table

CourseID	CourseName	Course Fee (Rs)
C001	Fundamental of ICT	15000.00
C002	Computer hardware	20000.00
C003	Network	30000.00
C004	Internet and E-mail	25000.00

Student Table

SID	SName	CourseID
S001	Nuwani Tharuka	C002
S002	Ameesha induwari	C004
S003	Sithumini Sewwandi	C001
S004	Nimeshi Bagya	C003
S005	Fathima	C001

25) How many Fields and Records are in the **Course Table** , respectively .
        (1) 3 4   (2) 4 3   (3) 5 3   (4) 3 5

26) What is the appropriate data type for CourseFee ?
        (1) Number   (2) text   (3) Boolean   (4) Currency

27) Which of the following fields are examples for a Primary key and a Foreign key in the above data base respectively
        (1) Student Table ------ →SID Course Table - →CourseId
        (2) Student Table ---→SID Student Table -- →CourseId
        (3) Course table -→CourseId object table -- →Sname
        (4) Student Table -→CourseId Course Table ------CourseFee

28) What is the course studying Sithumini Sewwandi ?
        (1) Fundamental of ICT   (2) Computer Hardware   (3) Network   (4) Internet and E-mail

29) How much is the CourseFee of the course that the student Nimeshi Bagya is studying ?
        (1) 15000.00   (2) 20000.00   (3) 30000.00   (4) 25000.00

3

30) What is the output of the flowchart given below
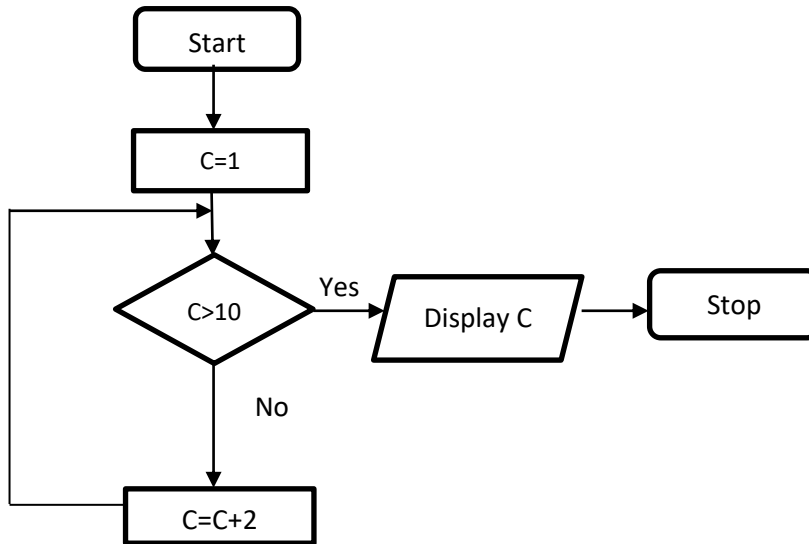
   (1) 10   (2) 11   (3) 9   (4) 3

31) What is the output of the following pseudo code?

```
X=60
Y=4
      Repeat
            Y=Y-1
            X=X+Y

      Until (Y<2)

      Print X
```

   (1) 66   (2) 50   (3) 63   (4) 65

32) Consider the following programming languages .
   a) Machine languages b) Assembly languages c) High level languages
   What is the answer for the generations of programming languages according to the ascending order
   (1) a, b, c   (2) b, c, a   (3) c, b, a   (4) c, a, b

33) Not a method of testing a system
      (1) Acceptance testing (2) Pilot testing   (3) Unit testing   (4) system testing

34) Select the steps of system development life cycle inorder .
   a) Deployment the system
   b) Identification of requirements
   c) System maintenance
   d) Coding the solution
   e) Testing and debuging
   f) Planning the solution

   (1) Abcdef   (2) bcdefa   (3) bfdeac   (4) bfdaec

35) Not a systems development model

   (1)Spiral model   (2) Waterfall model   (3) Prototype   (4) Repetition model

4

36) Consider the following .
   a) Specifications of the computer hardware
   b) Reputation of Computer Sales shop
   c) warranty and the quality of service after sales.
   Which of the above matters are important when buying a computer ?

(1) a and b only   (2) a and c only   (3) b and c only   (4) all a, b, c

37) The unique name of webpage on the World Wide Web (WWW),
   (1) hyperlink
   (2) Uniform Resource Locator (URL)
   (3) IP address.
   (4) E-mail address.

38) Consider the following statements about the Internet .
   a) Multi mediacan be obtained in a web page.
   b) Internet and www are the same thing .
   c) DNS server converts URLs into IP addresses.
   Find the correct statements,
   (1) Only a and b
   (2) a and c only
   (3) b and c only
   (4) All of a, b, c

39) What is the folder that the deleted messages are stored for a certain period in an email account ?

(1) Send   (2) Inbox   (3) Junk   (4) Trash

40) Select the correct relation from the following.
   (1) FTP----→ File transfer Protocol
   (2) ICMP --→ Email exchange
   (3) HTTP ---→ Message notification in case of errors
   (4) SMTP -- →IP Address Exchange

5

Zonel Education Office-Mathugama

Second Term Test- 2023

Grade 11	Information & Communication Technology	Paper II	Time 02 hrs

- Answer five (05) questions only, selecting the first question and four other.

1) Write short answers

i. Finger Print Machine is a new device, currently use to manage the human resource. The diagram below shows the process of keeping the finger print in a finger print machine . Write one example for each input, process and output.

Input	Process	Output

ii. 'A revolutionary changes took place after discovering the transistors.' Prove this saying by giving 4 advantages of transistors.

iii. The weights obtained in kilograms for four children are presented in different bases as follows.

Gaya - 45_{10},   Haritha - 45_8,   Manethu - 28_{16},   Dehaine - 110000_2

List the weights of these four children in ascending order of their weight.

iv. (a) Find the most significant bit (MSB) and the least significant bit (LSB) of the following number.
- 0.0101_2

(b) Find the most significant digit (MSD) and the least significant digit (LSD) of the following number.
- 1000

v. $X = (\bar{A}.B) + (A + \overline{B})$

(a) Draw the logic circuit for the Boolean expression given above.

(b) Construct the relevant truth table for the above expression.

vi. Write the devices that you use to do these activities. (Write the relevant letter with the device)
- a. Use to connect several computers together.
- b. Interconnecting multiple computer networks.
- c. To prevent unauthorized access to a computer network.
- d. The main computer that runs a computer network is.

vii. Write answers for the following questions with the knowledge that you gained.

To represent only the decimal numbers we use a)……………… coding system and it has b)……… characters.

c)………… system is used to represent Sinhala, Japanese, Chinese letters etc. and it has d)………… characters.

viii. Write the relevant data type for each variable.

A - Variable	B – Data type
Count	Boolean
Avg	Integer
Pass	String
School	Real

ix. Use the following flow chart to answer these questions.
(a) Write the output of this flowchart
(b) Write the control structures involved in this flowchart.

Start

X = 0

X >=3   N   X = X +1

Y

Print X

Stop

x. Fill in the table below using the paradigm .

Description	Paradigm
1. In a very well structured series of steps consistency programming	A. Object Oriented Programming
2. Presents the problem and associated solution and does not show how to solve it.	B. Structured programming
3. The system is divided into component subsystems and has a top-down approach.	C. Declarative programming
4. Programs based on the concept of objects	D. Procedural programming

(20 marks)

2) **(a)**

Switch On-1 Off-0

Temperature Hot -1 Cold-0

Light light -1 dark-0
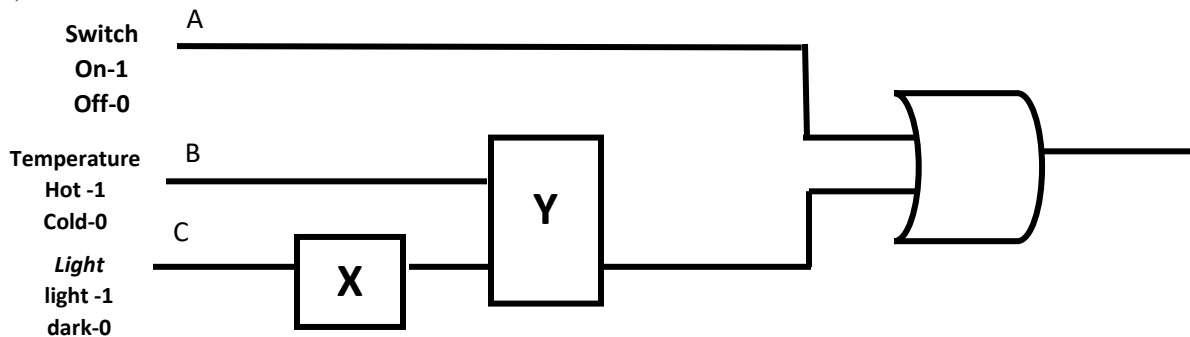
This is a circuit of an air conditioner installed in a room, can be switched on with a switch or it can be switched on automatically during the hot nights.

    I.   What logic gates do you suggest for its X and Y positions ?   (02 Marks)

    II.   Write the Boolean expressions for the above logic circuits .   (02 Marks)

(b) Select the hardware from the list, that can be used to perform these tasks.

    I.   Use to enter a document of several pages into the computer within a short period of time.

    II.   Use to print receipts in commercial businesses and automated teller machines.

    III.   Use to print computer-aided designs.

    IV.   Use to read the numbers of the cheques and enter them into the computer.

    List- Thermal printer, Magnetic Ink Character Reader (MICR), Plotter,
        Optical Character Recognition (OCR)   (2 marks)

(c) In this table, from letters A to D show the different devices and from P to S show the port that connects the device to the computer. Study it and order the ports in proper order.

	Devices/ Process		Port
A.	Connecting an external hard drive to the computer	P	HDMI
B.	Connecting a multimedia projector	Q	RJ45
C.	Connecting an old mouse to a computer	R	USB
D.	Connecting a a computer to a switch	S	PS/2

(2 marks)

**(d)** Write an example for each operating system given below.

    a)Single User   c) Multi -Tasking

    b) Multi User   d)   Teal time   (2 marks)

03) . A description of Mr. Perera's monthly income and expenses is given below . His monthly income comes from US Dollars and he converts it into Sri Lankan Rupees . He knows the value of the American dollar from the bank and records it in the E12 cell . Finally he completes the worksheet and prints it .

Monthly income & expenses

Income	US. ($)	RS.	Expenses	RS.
salary	$ 1,200.00	Rs. 414,000.00	Housing rental	Rs. 15,000.00
estate income	$ 50.00	Rs. 17,250.00	Food & beverage	Rs. 20,000.00
			Medical facility	Rs. 5,000.00
			Transport	Rs. 4,500.00
Total		Rs.431,250.00	Total Expense	Rs. 44,500.00
Total income	$ 1,250.00			
Balance	Rs.386,750.00			
Welfare activities		Rs.11,602.50		
Exchange rate 1$		Rs.345.00		
Balance after weifare activities		Rs.375,147.50		

i. What formula should be used to express his salary in Sri Lanka Rupees ? (1 mark)

ii. What will be the formula displayed in E4, if it copied to E4 to find the income receiving from estates ? (1 mark)

iii. What function can be used to find the sum of his expenses ? (1 mark)

iv. Write down the formula, to find the balance received by him during that month.. (1 mark)

v. He allocates 3% of the rest for social service activities, write the formula related to cell E11 to find that amount .

(2 marks)

vi. After allocating money for social services, what would be written in E13 to find the remaining amount.

(1 mark)

vii. Write 2 characteristics of a quality e-presentation (1 mark)

viii. Name the following view tabs used in e-presentations. Use the terms given in the brackets.
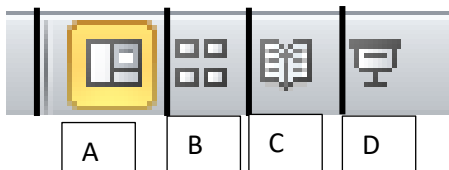
(Slide View, Slide sorter View, Normal View, Reading View) (2 marks)

A   B   C   D

4.) A famous restaurant in your city takes food orders and arranges a home delivery system. That establishment maintains a database as follows. Answer the given questions based on the following tables.

Food Item Table

Item _ID	I_Name	Stock
1001	String hoppers	450
1002	Kottu	300
1003	Pasta	250
1004	Pizza	350

Customer Table

Cus_ID	Cus_Name	Address
2110	Sadun	Kalutara
2120	Ruwan	Dodangoga
2130	Dasun	Yatadola
2140	Rangana	Matugama

Purchase Table -

Item_ID	Cus_ID	Count	Date
1001	2110	5	05/02/2022
1002	2110	6	05/03/2022
1003	2120	4	05/03/2022
1004	2130	2	05/05/2022
1002	2140	10	05/07/2022

   I.   Write the 2 primary keys separately from the tables above. (with table name)   (2 marks)

   II.   Write data types in the Purchases table.   (2 marks)

   III. What are the table/tables you update to do these changes?

         a.   Rangana purchased 8 Kottu instead of 10.

         b.   Dasun lives in Kadawaka not in Yatadola   (2 marks)

   IV.   New records need to be inserted into the tables of this database as mentioned below . Write down the updated

         fields and their respective table names.

         a.   Include 200 stock of Fried rice as a new item   (1 marks)

         b.   Entering Nuwan from Nagoda as a new customer on 08/05/ 2022.and he is buying 3 Kottu.   (3 marks)

5) a) Saduni decided to follow a computer course after G.C.E. (o/L) examination. **When** she went to the institute these information could be **seen**.

➢ She has to face a selection test .
➢ She should score 75 or more than 75marks for Higher Diploma Course
➢ The marks between 39 and 75 for Diploma Course
➢ The marks are between 19 and 39 for Basic Course
➢ The mark is 19 or less, it is not possible to register for the course.

Consider the above facts and draw the relevant flow chart to output the courses that can be selected.   (7 marks)

   b) Write the output of the following Pascal Program

```
Var name: array [1..3] of string
Begin
Name[1] := Amila;
Name[2]:= Saman;
Name[3]:= Suresh;
For i=1 to 3
Writeln(name[i]);
End.
```
                                                                                                (3 marks)

6) Amal is a businessman who maintains a manual system for his business. He decided to introduce a computer based information system for his business via Internet.

   i. Mention two advantages of using a computer based information system instead of the manual system.

          (2 marks)

  ii. (a) **Prototyping** is a method of gathering information for a new system.What is **Prototyping**?   (1 mark)
     (b) Write two methods of gathering information in addition to Prototyping.   (1 mark)

  iii. What is the most appropriate deployment approach you expect the shop owner should follow when build up the computer based information system. Write the reason for your answer.   (2 marks)

  iv. Write two benefits that the shop owner can get by connecting the computer system to the Internet.   (2 marks)

  v. What is the step of SDLC that one of the employee can engage in with the new system for the first time?   (2 marks)

7) Match Column A with Columns B.

(a) It is enough to write the number in Column A and the letter in Column B

	In column A		In column B
1	IP address	A	twitter.com
2	Domain Name Server (DNS)	B	Google.com
3	An online service.	C	Dotted Decimal Notation
4	A domain name	D	Converts domain names to IP addresses
5	Social networks	E	Cloud computing
6	A search engine	F	Donenets.lk

          (3 marks)

(b) Janith sends an email message to Kamal, Ravidu, Vanidu and Sanidu. Its email headers are given below. Based on that, write the answers to the following questions.

TO: Kamal, Vanidu
Cc : Ravidu
Bcc : Close

- State whether the following statements, A and B are true or false.
  - A. Ravidhu sees that Kamal has received an e-mail.
  - B. Vanidu sees that Sanidu has received an e-mail.

  i. Who are the other recipients of this e-mail that Sanidu can see?

  ii. Write 2 advantages of using e-mail   (3 marks)

(c)
  i. Write the output of this HTML code.

      `<b><u><i> HYPERTEXT MARKUP LANGUAGE<i><u><b>`   (2 marks)

  ii. Write down the relevant HTML code for the list below .

    1. Sinhala
    2. Tamil
    3. Muslim
    4. Burgher

          (2 marks)