

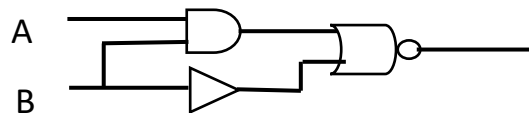
Minuwangoda Education Zone
Second term examination – 2023
Information & Communication Technology I, II
Grade 11

Part 1 - 1 hour

Answer all the questions. Underline the correct answer.

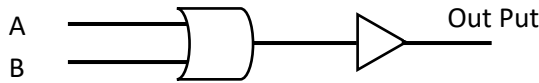
1. It is part of the central processing unit
 - I. Memory registers
 - II. Main memory
 - III. Secondary memory
 - IV. RAM
2. Which of the following statements regarding computer generations is **false** ?
 - I. The third generation computers used keyboard and mouse for data input .
 - II. The microprocessor was used in the fourth generation .
 - III. The ENIAC computer belongs to the second generation.
 - IV. Operating systems with graphical interfaces are used in fourth generation computers.
3. Below are some of the features of a learning management system. The correct ones are:
 - A. Monitoring activities and reporting results
 - B. Parents can know their children's educational progress from home.
 - C. Sending and Receiving Information Using Email
 - D. Engaging in co-curricular activities through videos
 - I. A and D
 - II. A, B and D
 - III. A and C
 - IV. A, B, C, D all
4. Which of the following devices is not an indication device,
 - I. light pen
 - II. touch screen
 - III. Joysticks _
 - IV. display (monitor)
5. A computer network topology built around a hub or switch is ,
 - I. Ring topology
 - II. star topology
 - III. bus topology
 - IV. tree topology
6. Which of the following is true about the medium of transmission?
 - A. Twisted pair cables are suitable for data transmission over distances of up to 50 meters.
 - B. Wi-Fi and Bluetooth work on radio waves.
 - C. Modern telephone networks use shielded cables.
 - I. A only
 - II. A and B only
 - III. B and C only
 - IV. All of A , B and C
7. $= 3*(2 + 4) / 9 + 1$, What is the answer of that, by using Excell?
 - I. 3
 - II. 180
 - III. 1.8
 - IV. 5

8. Which of the following is true about system development life cycles (SDLC) ?
- The waterfall model is not a cyclical method .
 - The waterfall model completes one phase at a time .
 - The Spiral model is linear .
 - The waterfall model takes less time.
9. The outputs of two input logic gate are 1 , 0 , 0 , 0, it was can
- XNOR
 - XOR
 - NOR
 - XNOR
10. Which answer includes only functions of an operating system?
- Memory management, network management, database management
 - Process Management, Database Management, Security Management
 - Memory management, network management, file management
 - Memory management, file management, spreadsheet management
11. Which of the following procedures is used when installing more than one operating system on a computer?
- Partitioning
 - formatting
 - Defragmentation
 - Backup copies
12. Allocating space required for processes in a computer program belongs to which part of the system?
- Memory management
 - Process management
 - File management
 - Network management
13. What is the non-equivalent value for 4GB ?
- 2^{12} MB
 - 2^{22} KB
 - 2^{32} Byte
 - 2^{42} Bit
14. The decimal equivalent of $2D_{16}$ is
- 45
 - 40
 - 58
 - 44
15. BCD (Binary Coded Decimal) value is equivalent to the decimal value 345?
- 001101000101
 - 11 0010 0101
 - 001100100 0 01
 - 001100100101
16. N is 1001110_2 of ASCII code , then L and P are ASCII codes respectively ,
- 1001101 and 1110000
 - 1001100 and 1010000
 - 1000100 and 1010000
 - 1001100 and 1010001
17. What would be the output of the circuit below?







- 0,1,0,0
- 1,0,1,1
- 0,1,0,0
- 1,0,1,1

18. What are the values of p, q, r, s according to following circuit,



A	B	Out Put
0	0	p
0	1	q
1	0	r
1	1	s

- I. $p = 0, q = 0, r = 1, s = 1$
 - II. $p = 0, q = 1, r = 1, s = 1$
 - III. $p = 1, q = 0, r = 0, s = 1$
 - IV. $p = 1, q = 0, r = 0, s = 0$
19. What is used to identify each computer connected to the Internet?
- I. hyperlink
 - II. IP address
 - III. Uniform Resource Locator (URL)
 - IV. Email address
20. Select the Protocol used for file transfer from among the Protocol below.
- I. HTTP
 - II. SMTP
 - III. FTP
 - IV. ICMP
21. When developing a system for a freight company, at which point in the system development life cycle is the return on investment taken into consideration ?
- I. When deploying the system
 - II. Design solutions
 - III. Identification of requirements
 - IV. Coding solutions
22. According to the Pascal language, a **identifier** is called?
- I. \$75
 - II. Num_
 - III. _Num1
 - IV. 1num
23. Which of the following is **NOT** a characteristic of a quality electronic presentation?
- I. Font size 32 points or larger.
 - II. The number of rows contained in each column is between 6-9 rows.
 - III. Include only targeted comments.
 - IV. Tend to create presentations without graphics, tables or charts.
24. The key work of foreign key is,
- I. Establishing relationships between two fields in a table
 - II. Establishing the relationship between two records in a table.
 - III. records in a table two while The relationship raising
 - IV. Create a relationship between two records in a table
25. What is the icon to access the Slide Show view in e-presentation software?
- I. 
 - II. 
 - III. 
 - IV. 

- ❖ Write the answers to 26,27 using the worksheet below . (The price of a pencil here is Rs. 12)

	A	B	C
1	පැන්සලක මිල	12	
2	දිනය	මිලදී ගත් ප්‍රමාණය	මුද්‍රාණය
3	10-Aug	60	
4	11-Aug	50	
5	12-Aug	70	
6	මුළු මුදල		

26. The formula to copy the amount due for the number of pencils purchased on 8/10 into cell C 3 is written correctly using only cell references.
- I. =12*60
 - II. =12*B3
 - III. = B3*A1
 - IV. =B3*B\$1
27. **There is no** formula or function that can be used to calculate the total cost of pencils
- I. = SUM(C3:C5)
 - II. =SUM(C 3,C 4,C5)
 - III. =C3+C4+C5
 - IV. =AUTO SUM(C3:C5)
28. Note the following box references ,
- A) D\$5\$
 - B) \$D&5
 - C) \$5D\$
 - D) D\$5
- Among the cell references given above, a correct cell address shown in spreadsheets is ,
- I. B and D only
 - II. B only
 - III. A,C only
 - IV. A,B ,C,D all

Answer questions 29 to 31 based on the following data base.

Student_Event_table			
St_Name	St_ID	Join_Date	No_of_Events
Sithum	167	2020-0-01-05	2
Kavishan	168	2020-01-10	3
Nelum	169	2020-02-12	2

Event Table	
Event_ID	Event_Name
E001	Cricket
E002	Valley Ball
E003	Elle

Student_Table	
St_ID	Event_ID
167	E001
168	E002
168	E001
167	E003
169	E003

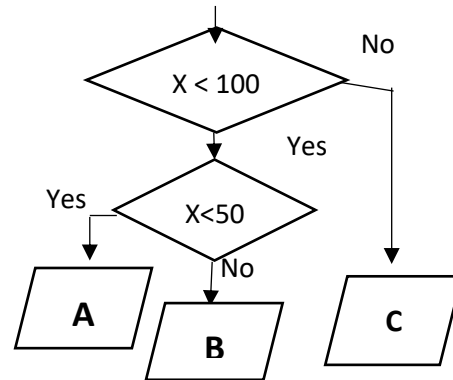
29. A primary key field is,
- I. Join_Date of Student_Table
 - II. Event_ID of StudentTable
 - III. St_ID of Student_Table
 - IV. Event_ID of Event_table
30. A foreign key field is ,
- I. St_ID of Student_Table
 - II. St_ID of Student_Event_Table
 - III. No_of_Events of Student_Event_table
 - IV. Event_ID of event_table

31. A table containing a composite primary key is ,
- I. Student_Table
 - II. event_table
 - III. Student_Event_Table
 - IV. No such table exists.
32. The correct replacements for A,B and C in the flow diagram related to the pseudocode section below are,

```

If (x<100) then
  If (x<50) then
    Display "Fail"
  Else
    Display "Pass"
  Endif
Else
  Display "Incorrect value"
Endif
Endif

```



- I. A - Display "Fail" B - Display "Pass" C - Display "Incorrect value"
 - II. A - Display "Pass" B - Display "Fail" C - Display "Incorrect value"
 - III. A - Display "Fail" B - Display "Incorrect value" C - Display "Fail"
 - IV. A - Display "Pass" B - Display "Incorrect value" C - Display "Fail"
33. "Array" defined in the computer program as follows .
 VarA : array[0..4] of integer;
 By this,
- I. Allocate a memory space in the computer for any 5 real values it takes.
 - II. Allocate a memory space in the computer for any 4 real values it takes.
 - III. Allocate a memory space in the computer for 5 positive or negative integer values it takes.
 - IV. Allocate a memory space in the computer for 4 positive or negative integer values it takes.
34. Select the statement of **false** for the word processing package
- I. Its page limits can be adjusted.
 - II. A document can have different page sizes.
 - III. You can find text in a word processing document and replace it with other text.
 - IV. One word processing document can only add hyperlinks to another word processing document.
35. **List.docx** file type, is Relevant to ?
- I. MS-Excel
 - II. MS - Power Point
 - III. MS-Word
 - IV. MS-Access,
36. The code used to access web pages by mobile phone is called ,
- I. Bar code
 - II. QR code
 - III. IATA Code
 - IV. ISBN Code

37. Below are some statements made by a grade 10 student regarding word processing software. Among them **the wrong** statements/statements are,
- A- The first thing to do when creating a new document is to set up the page.
 - B- No need to care about orientation in page layout.
 - C- Formatting a letter or paragraph before typing is not possible .
 - D- Shortcut keys can be used to center a paragraph .
- I. B and C II. A, B and C III. A and D IV. A,B ,C,D all
38. Which of the following key combinations should be used to remove a selected section and insert it in another position in a word processing software?
- I. ctrl + C then ctrl + V
 - II. ctrl + X then ctrl + V
 - III. ctrl + B then ctrl + V
 - IV. ctrl + N then ctrl + V
39. The output of this pseudocode is,
- ```

Begin
X=0
Y=5
While x<5
 X=X+2
 Y=X+2
Endwhile
Display X,Y
End.
```
- I. X = 5   Y = 10
  - II. X = 15   Y = 10
  - III. X = 6   Y = 11
  - IV. X = 4   Y = 8
40. URLof the Department of Education Publications is Given below,  
<http://www.edupub.gov.lk>
- I. Its domain name is **http** and top level domain is **.gov**
  - II. Its domain name is **www** and top level domain is **.lk**
  - III. Its domain name is **edupub.gov.lk** and top level domain is **lk**
  - IV. Its domain name is **.lk** and the top-level domain is **.gov**

**Part II - Answer the first question and four more questions (2 hours)**

1)

i.

- a. Convert the binary number  $110111001100_2$  to an octal number. Write down your calculation steps.
- b. State the highest and lowest significant digit of the number 0.0897.

ii. E-Government provides connectivity to citizens, other governments, businesses, and employees. Study the following facts and write the correct relations in front.

- a. Forms and Gazettes .....
- b. Sri Lanka Customs Details .....
- c. Renewal of Vehicle License.....
- d. Cash Payment Services .....

iii. Doctors have advised to drink coriander ( K ) with ginger ( I ) or white onion ( S ) to control the corona virus . Regarding this incident

- a. Draw a logic circuit diagram.
- b. Write the Boolean expression

iv. The following document has been created by word processing software . The formatting tools used for this purpose are also shown on the side . Indicate the shape fitting tools for each number.

**Sri Lanka**

Sri Lanka, formerly known as *Ceylon*, and officially the Democratic Socialist Republic of Sri Lanka, is an island country in South Asia. It lies in the **Indian Ocean**, southwest of the Bay of Bengal, and southeast of the Arabian Sea; It is separated from the Indian subcontinent by the Gulf of Mannar and the Palk Strait.

1. **Sinhalese** 74.9%

2. **Sri Lankan Tamils** 11.2%

3. **Sri Lankan Moors** 9.2 %

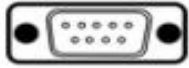



4. **Indian Tamils** 4.2%

5. Others (incl. **Burghers**, **Malays**, **Veddas**, **Chinese**, **Indians**) 0.5%

**Formatting Tools:**

- A: Bold (B)
- B: Italic (I)
- C: Underline (U)
- D: Bulleted List
- E: Numbered List
- F: Decrease Indent
- G: Table

- v. A variety of methods are used to gather information during the User requirements identification phase. Specify the 4 entries.
- vi. As given in the table below, match the first row to the correct name in the second row, write the number of the row and the letter of the correct name.

|              |                                                                                        |                                                                                        |                                                                                          |                                                                                          |
|--------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>PORTS</b> | 1<br> | 2<br> | 3<br> | 4<br> |
| names        | Network port <u>    </u> A                                                             | Serial port <u>    </u> B                                                              | PS/2 port <u>    </u> C                                                                  | Parallel port <u>    </u> D                                                              |

- vii. Using the given list, write down on the basis of which the following websites were created.

- www.youtube.com
- www.news.gov.lk
- www.abcd.org
- www.bing.lk

- viii. Read the following statements and write whether they are true or false.
  - a) A patient outside a hospital cannot be monitored using ICT.
  - b) In distance education, studies can be done from a convenient location without a daily schedule.
  - c) The use of robotics in industrial work can not only increase accuracy but also increase efficiency.
  - d) A video conference requires allocating a specific location.

- ix. Fill in the blanks.
  - The basic device of the computer was .....
  - .....Invented by Blaise Pascal.
  - The loom invented by Joseph Jacquard implemented the concept of .....
  - ..... is called the father of computer because he invented the device ..... which incorporated the concept of input, output, and storage.

x. Consider the following Pascal program fragment.

```

program forLoop;
var
 a: integer;

begin
 for a := 0 to 5 do

 begin
 writeln('value of a: ', a);
 end;
end.

```

The above program Write down the output given by

2) Below are three database tables related to the courses conducted by Vidumina Institute of Higher Education.

Course Table

| Course no | Course   | Course duration |
|-----------|----------|-----------------|
| C001      | Computer | 6 months        |
| J002      | Japanese | 1 year          |
| E003      | English  | 6 months        |
| F004      | French   | 1 year          |

Information Table

| Student no | Name   | Address     | Course no |
|------------|--------|-------------|-----------|
| V001       | Amila  | Veyangoda   | C001      |
| V002       | Situm  | Nittambuwa  | C001      |
| V003       | Nimali | Mirigama    | J002      |
| V004       | Jayani | Pallewela   | E003      |
| V005       | Ashani | Minuwangoda | F004      |

Table of Charges

| Billing No | Student no | Date of payment | amount Rs. |
|------------|------------|-----------------|------------|
| P001       | V001       | 2021-01-01      | 10000      |
| P002       | V002       | 2021-02-10      | 10000      |
| P003       | V003       | 2021-06-01      | 12000      |
| P004       | V004       | 2021-06-10      | 8000       |
| P005       | V005       | 2021-07-10      | 2500       |

- Write two primary key fields used in this database with their table names.
- Write down a foreign key field in this database with its table name.
- Amila completed the computer course on 1-06-2021 and enrolled in a six-month English course at the same institution . Write down the table to be updated here along with the relevant record.

- d. Apsara Wijekoon, resident of Pasayala, was registered on 10-08-2021 for a one-year Tamil course under course number T005 by Vidumina Institute . She paid Rs 8500 for the course. For this write down the tables/tables to be updated along with the relevant records.
- e. Which data model is used to represent the following fields in the above database ,
  - 1. Course no
  - 2. Date of payment
  - 3. Name
  - 4. amount

3)

a. A few statements related to creating a website are given below.

- I. Checking each page of the website separately.
- II. Checking individual pages of the site together.
- III. General testing of the entire site.
- IV. Reviewing the Website by Comments of Users Using the Website.
- V. Completely remove the old website in use and set up the new website.

Choose the appropriate topic for the above statements from the topics given below and write clearly the character of that expression and the appropriate topic character.

Topics-{ (A.) Integrated Testing, (B.) Global check, (C.) Unit Testing, (D.) System Testing, (E.) Acceptance Testing, (F.) Direct Deployment, (G.) Parallel Deployment, (H.) Phase Deployment, (I.) Clinical Testing}

- b. Explain three differences between the waterfall model and the Iterative Incremental model.
- c. Imagine you have the opportunity to design a new computer-based system for your school's library. Explain how requirements are identified for system design.

- 4) Below is a rough spreadsheet showing how the monthly income of several government employees is prepared. The gross pay of each employee is calculated based on the basic salary. (basic) , Allowances and by adjusting the Cost of Living Allowances (COL Allowances) and the calculation of the total payment is made for widows and orphans. ( W&OP ) , Agrahara ( Agrahara ) , disaster ( dist. Loan ) , property loan By adding stamp fee to ( Dep.sup.loan ) .

|    | A                           | B        | C         | D         | E         | F       | G          | H            | I        | J       |
|----|-----------------------------|----------|-----------|-----------|-----------|---------|------------|--------------|----------|---------|
| 1  | C.O.L Allowances            | 7800     |           |           | Stamp     | 25      |            |              |          |         |
| 2  |                             | EARNINGS |           |           | DEDUCTION |         |            |              |          |         |
| 3  | Name of the Employee        | Basic    | Allowance | Gross pay | W&OP      | Agragar | Dist. Loan | Dep.sup.loan | Tot .Ded | Net pay |
| 4  | A.G.S.R Sriyathna           | 50545    | 5000      | 63345     | 3538.15   | 125     | 2725.3     | 8305.52      | 14719    | 48626   |
| 5  | M.M.S Kumari                | 34520    | 5000      | 47320     | 2071      | 600     | 1635.81    | 10443.73     | 14775.5  | 32544.5 |
| 6  | R.C Wijekoon                | 42500    | 2500      | 52800     | 2750      | 600     | 2521.3     | 17500        | 23396.3  | 29403.7 |
| 7  | C.R Dasanayaka              | 75800    | 3000      | 86600     | 4500      | 125     | 1425.5     | 1225.3       | 7300.8   | 79299.2 |
| 8  | P.S Hareth                  | 64500    | 1500      | 73800     | 3200      | 600     | 2150.4     | 6250.45      | 12225.9  | 61574.2 |
| 9  | R.M.P Rathnayaka            | 48200    | 2500      | 58500     | 2900      | 250     | 1750.25    | 7450.3       | 12375.6  | 46124.5 |
| 10 | A.A .Kumari                 | 36450    | 7500      | 51750     | 1500      | 600     | 1625.75    | 8150.63      | 11901.4  | 39848.6 |
| 11 | G.Dias                      | 50750    | 6000      | 64550     | 3600      | 600     | 2125.2     | 2653.31      | 9003.51  | 55546.5 |
| 12 | H.R Silva                   | 75250    | 7200      | 90250     | 4000      | 600     | 1250.12    | 3250.4       | 9125.52  | 81124.5 |
| 13 | A.T Jeewanee                | 80750    | 3500      | 92050     | 5200      | 600     | 1416.5     | 8750.36      | 15991.9  | 76058.1 |
| 14 | Maximum income of the Basic | 80750    |           |           |           |         |            |              |          |         |
| 15 | Minimum income of the basic | 34520    |           |           |           |         |            |              |          |         |
| 16 |                             |          |           |           |           |         |            |              |          |         |
| 17 |                             |          |           |           |           |         |            |              |          |         |

- Gross pay of A.G.S.R Sriyathna Write the formula to be entered in cell **D4** for calculation . ( The formula entered in cell D4 should return correct values when copied to other cells.)
- Write down the formula to be entered in cell **I4** to calculate A.G.S.R Sriyathna 's total payments (Tot. Ded) . ( The formula entered in cell **I4** should return correct values when copied to other cells.)
- Write down the formula to be copied to cell J4 to calculate the net pay of A.G.S.R Sriyathna .
- Write the function to enter the maximum basic salary in cell **B14** .( = function (cell1:cell2) )
- Calculating the minimum basic salary Write the function to be entered in cell **B15** in the form = function(cell1:cell2) .
- Write down the appropriate type of graph to represent the salary details of each employee separately.

5)

- Give the appropriate word in the blank.( Use the question number to answer).

a) The Ownerless Internet is operated by.....1.....

- b) **Com** domain represents .....1..... field and .....2..... domain represents non-profit organizations.
- c) **IP addresses** Exchange control doing by .....1.....Protocol and SMTP protocol controls the.....2..... exchange.

b. Two HTML outputs are shown in the box below. To get them, the relevant HTML codes are on the left and find the appropriate word for the respective blanks and give the correct answers by the number inside.

```

<!DOCTYPE html>
<html lang=" en ">
<head>
<title>Example of HTML nested list</title>
< 1..... >
<body>
 <h1>HTML Nested List</h1>
 2. _ _ _
Item 2 < ul >
Item 2.1
Item 2.2
Item 2.3

Item 3
< ul >
... 3...
 4.....
< ul >
 ... 5.....
... 6....
... 7....< / li>
</ ul >

 ... 8.....
</ ul >
< .. 9..... >
 < .. 10..... >
</body>
</html>

```

## HTML Nested List

- Item 1
- Item 2
  - Item 2.1
  - Item 2.2
  - Item 2.3
- Item 3
  - Item 3.1
  - Item 3.2
    - Item 3.2.1
    - Item 3.2.2
    - Item 3.2.3
  - Item 3.3

```

<!DOCTYPE html>

<html lang=" en ">
<head>
< 11. ... >Example of HTML Table Rowspan and Colspan <... 12. ... >
</head>
<body>
<h2>Example of Table Rowspan </h2>
 <table border="1" cellpadding="10">
 <tr>
 < th ... 13. ... ="4">Users Info</ th >
 </tr>
 <tr>
 <td>1</td>
 <td>John Carter</td>
 <td>johncarter@mail.com</td>
 </tr>
 <tr>
 <td>2</td>
 <td>Peter Parker</td>
 <td>peterparker@mail.com</td>
 </tr>
 <tr>
 <td>3</td>
 <td>... 14.... </td>
 <td>johnrambo@mail.com</td>
 <.. 15.... >
 </table>
 </body>
</html>

```

**Example of Table Rowspan**

|                   |   |              |                      |
|-------------------|---|--------------|----------------------|
| <b>Users Info</b> | 1 | John Carter  | johncarter@mail.com  |
|                   | 2 | Peter Parker | peterparker@mail.com |
|                   | 3 | John Rambo   | johnrambo@mail.com   |

- 6)  
 a. Consider the Pascal script given below .

```

program exArrays ;
var
n: array [0.. 4] of integers; (* n is an array of 10 integers *)
 i : integer;

begin

for i := 4 DOWNTO 0 do
begin
 n[i] := i * i ;

end;
end.

```

Identify the corresponding values of the one-dimensional array named N that is created by executing it and fill in the blanks ( recopy on the answer sheet and complete the answer ) .

|   |   |   |   |   |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |
|   |   |   |   |   |

1. Below is a flowchart of a program designed to **count the number of even numbers** from given number. Identify the correct parts from the list below and complete the flowchart.

