Department of Education

Western Province

Compendium of Model

Papers

(With Answers)

EDUCATION DEVELOPMENT UNIT

ICT

Department of Education – Western Province

Education Development Unit

Information & Communication Unit

Address	:	**Department of Education Western Province** **"Ranmagapaya",** **Kaduwela Road,** **Baththaramulla.**
Contact	:	**(+94) 11 2875893-95**
Fax	:	**(+94) 11 2868606**
E-mail	:	**pde@edudept.wp.gov.lk**
Website	:	**http://www.wpedu.lk**

Counseling

Mr. A.G. Nimal Jayweera - Provincial Director of Education

Mrs. W.A. Ajitha Priyangani – Additional Provincial Director of Education

Mr. A. M. A. A.C. Perera – Deputy Director of Education

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- Mrs. Shenika Jayawardena - WP/Kela / St. Joseph's College, Wattala Branch, Colombo 10

Message from Director of Education Western Province

For today's students who are looking for a way to the new world, the subject of information technology provides a strong support. It is my personal feeling that the education system's move to provide IT subject from grade 6 onwards is to fulfill a need of the moment. Education is a process that provides the meaning of "cultural transmission" as well as "emergence from within". Just as education should try to bring out such skills in children, imparting the knowledge gained by human resources to them is also a process of its own. I believe that the IT subject will be extremely helpful for this.

A strong problem that arises when the children of grades 10 and 11 face the general examination has been solved by the edition of this question and answer book. I offer my gratitude to all those who dedicated their hard work and intelligence for that. I hope this will be of great help to the students.

Mr. A.G. Nimal Jayaweera
Provincial Director of Education
Department of Education – Western Province

Directress Message - Additional Provincial Director
(Development & Planning)

In the evolution of human beings from the past, the evolution of technical mental and intellectual abilities is ahead of the physical body transformation. Anthropologists believe that it is the primary reason for the astonishing speed of human evolution rather than the evolution of animal culture. The main achievement here is the development of information technology. Today, information technology has become an indispensable part of human culture. With the Corona epidemic, it became a tool in the hands of children. The transformative difference was that the older generation of teachers and the younger generation of students depended on new technological tools and techniques like never before. The subject of information technology provides the knowledge and skills of using tools and tools to acquaint children with the new world in a formal manner. It is compulsory for all children from Grade 6 to Grade IX and becomes a targeted subject for children selected for the General Examination in Grades 10 and 11. Therefore, for those children, this collection of questions and answers prepared by our department will provide a relief. I offer my heartfelt gratitude to all those who pledged and worked for it.

Mrs. W.A. Ajitha Priyangani
Additional Provincial Director of Education
Development & Planning
Department of Education – Western Province

Deputy Director of Education Message

First of all, I am happy that I was able to publish such a work in the short time I served as the subject coordinator of IT in the Western Province. This would be just a dream if it were not for the dear teachers who worked with me for this work. At the same time, it is a heartfelt memory of teachers who supported the English medium and the Tamil medium by translating those papers. I remind with Respect the Provincial Director of Education and Additional Provincial Director (Development and Planning) Mrs. W. Ajitha Priyangani who reffered me to this process. I also respectfully remember Mr. Viraja, who works as an editor attached to the provincial education department.

We are happy to remind that this task of ours is for the future generation of students. They are the future of the country. This set of questions and answers provides practice for their General Test. Teachers can use it as a practice test for the relevant period. Also, this which is completed in the above compound is set in relation to the level of general paper question papers. Thank you to everyone who supported this work.

Mr. A.M.A.A.C. Perera
Deputy Director of Education
Information & Communication Technology
Department of Education – Western Province

Table of Content

Department of Education - Western Province

| G.C.E. Ordinary Level | 80 – E - I | Information and Communication Technology | 01 hour |

Note: * Answer **all** questions
* In each of the question **1** to **40**, pick one of the alternatives **(1), (2), (3) , (4)** which is **correct** or most **appropriate**.

1. Which of the following is **not** a characteristic of qualitative information?
   (1) Low cost   (2) Completeness   (3) Efficiency   (4) Timeliness

2. Which of the following institutional websites can be used to connect with the government services and to obtain government information?

   A- Government Information Centre
   B- Vidatha Resource Centre
   C- Institute of Information and Communication Technology

   (1) A and B   (2) A and C   (3) B and C   (4) All A, B and C

3. Which of the following is used to check the accuracy of a cheque?
   (1) MICR – Magnetic Ink Character Reader
   (2) OCR – Optical Character Recognition
   (3) OMR – Optical Mark Recognition
   (4) ATM – Automated Teller Machine

4. Which of the following answers includes pointing devices?
   A - Mouse
   B - Keyboard
   C - Joystick
   D - Barcode Reader
   (1) A and C only   (2) A, B and C only
   (3) A, C and D only   (4) A, and D only

5. The port used to connect the hub/switch to the computer system is,
   (1) Parallel Port   (2) USB Port
   (3) RJ45 port   (4) Serial Port

6. The correct answer, which denotes Least Significant Digit (LSD) and Most Significant
Digit (MSD) of 5228.00 is,
(1)   1.0 and 5   (2)   5 and 0   (3)   0 and 8   (4)   5 and 8

7. The following statements have been made about the base value of a 357_x by a student,
    A.   It belongs only to the decimal number system.
    B.   It does not belong to the binary number system and belongs only to the hexadecimal number system.
    C.   It belongs to all three number systems of octal, decimal and hexadecimal.
    Which of the above is/are **true**?
(1)   A only   (2)   B only   (3)   C only   (4)   A and C only

8. Decimal number 107 is equal to?
(1) 1101011_2 (2) 611_8 (3) 1001011_2 (4) $7B_{16}$

9. The category which only belongs to measure data storage capacity units is,
(1)   GB, byte, Hz, bit   (2)   nibble, bit, TB, KB
(3)   KB, KMPS^{-1}, GHz, size   (4)   nibble, MHz, KHz, Hz

10. Which of the following is a correct formula for the given logic circuit?
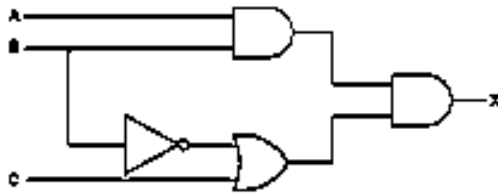
(1)   AB. $\overline{B + C}$ (2)   AB. $\bar{B}$+C
(3)   A+B+ $\bar{B}$.C   (4) $\overline{A + B + B.C}$

11. Consider following truth table.

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

Appropriate Boolean expression for above table is,

(1) F= A+B

(2) F=A.B

(3) $\overline{A + B}$

(4) $\overline{A.B}$

9

12. Basic Input Output System (BIOS) access the memory with power supply to the computer. Which answer contains the correct order of the process that follows?

(1)   Read Master boot record, Activates the POST program, Accession of the Operating System, Displays the user interface.
(2)   Activates the Basic Input Output System (BIOS), Activates the POST program, Accession of the Operating System, Displays the user interface.
(3)   Activates the POST program, Accession of the Operating System, Read Master boot record, Displays the user interface.
(4)   Activates the POST program, Read Master boot record,, Accession of the Operating System, Displays the user interface.

13. Which of the following statements are correct, regarding the functions related to memory management of an operating system is?

(1)   Maintaining control devices and driving devices of the computer.
(2)   Reduce the impact of malicious software on computers.
(3)   Sharing the computer hardware and software.
(4)   Hold input data and output information until directed to relevant functions.

14. The function represented by the Ctrl+H shortcut key in a word processing software is
(1)   Increase the size of the font   (2)   Find and Replace
(3)   Change the line spacing   (4)   Enlarging the first letter of a paragraph

15. The following tool [icon] seen in Word processing software. What would be the function of this tool?
(1)   Change the spacing between pages   (2)   Change the spacing between letters
(3)   Change the spacing between lines   (4)   Change the spacing between paragraph

16. Select the *incorrect* statement regarding the spreadsheets.
(1)   Every Excel workbook may contain several worksheets.
(2)   Ctrl + Home moves to A1 cell.
(3)   The cell address of the active cell appears in the name box.
(4)   The label inserted into a cell aligns to the right of the cell.

17. What is the correct answer for the cell range of the given spreadsheet segment?

	A	B	C	D
1				
2				
3				
4				
5				
6				

(1)   C2 : B6   (2)   B3 : C5   (3)   A3 : C5   (4)   A3 : D5

18. Pasindu has used a variety of texts and drawings for his presentation. He is required to apply visual movements into those texts and drawings. For this, the facility available in this software is,

(1)   Slide Transition   (2)   Drawing toolbar

(3)   Custom animation   (4)   Layouts

19. Which of the following answer combination is most suitable for the given views of the Electronic presentation software respectively?

(1) Normal view, Slide show view, Reading view, Slide sorter view
(2) Normal view, Slide sorter view, Reading view, Slide show view
(3) Slide show view, Reading view, Slide sorter view, Normal view
(4) Normal view, Reading view, Slide sorter view, Slide show view

- Question **20** and **21** are based on the following tables.

Book Table

Book_ID	Book_Name	Borrowed
B001	Gamperaliya	True
B002	Kaliyugaya	True
B003	Manuthapaya	True

Borrowing Table

Date	Book_ID	S_ID
24/02/2023	B002	S003
25/02/2023	B001	S002
05/03/2023	B003	S001
12/03/2023	B001	S004
15/03/2023	B002	S001

Student Table

S_ID	Student_ Name
S001	Dimuthu
S002	Hansi
S003	Kaushalya
S004	Amali

20. Which student borrows the book "*Gamperaliya*" for the last time?
   (1)   Amali   (2)   Dimuthu   (3)   Hansi   (4)   Kaushalya

21. What would be the most suitable *field/fields* to choose as the *primary keys*?
   (1)   Book Table – Book_ID and Borrowing Table – S_ID
   (2)   Student Table – S_ID and Borrowing Table – S_ID
   (3)   Book Table – Book_ID and Student Table – S_ID
   (4)   Borrowing Table – Book_ID and Borrowing Table – Date

22. Consider the following statements about the Relational Database. Which answer is correct with respect to the following statements?

     (A) There may be duplication of data.
     (B) The efficiency of the database is high.
     (C) The risk of receiving defective information is low.

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

23. Which *field/fields* is most suitable for the *composite key* for the following table regarding an employee's overtime shift data.

Emp_ID	Date	OT_Hours
E001	02/03/2023	2
E002	02/03/2023	4
E003	05/03/2023	5
E002	05/03/2023	4

   (1)   EMP_ID   (2)   EMP_ID and OT_Hours
   (3)   EMP_ID and Date   (4)   EMP_ID, Date and OT_Hours

24. Consider the following pseudo code.

```
Begin
X = 1
While X <=5
        Display X
        X = X+1
EndWhile
End
```
How many times this program does execute?
   (1)   2   (2)   3   3)   4   4)   5

25. Consider the following statements regarding the problem solving.
   (A) The raw data used to solve a problem is input, and the result of solving is output.
   (B) If a problem has more than one solution depending on its nature, they are called alternative solutions.
   (C) The step-by-step method followed to solve a problem is called an algorithm
   (D) The steps of an algorithm are in order and can never be transferred.

Which of the following are **true** with respect to the above statements?

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

26. Consider the following Pascal program.

```
Program Ex04;
Var X : integer;
Begin
     X := 1;
     While X< =5 do
Begin
     X := X+1;
Write(X);
     End;
End.
```

What will be the output after executing the program?

(1) 1 2 3 4 5   (2) 1   (3) 2 3 4 5 6   (4) 2
                      2   3
                      3   4
                      4   5
                      5   6

- Consider the given flowchart to answer the question **27** and **28**.

27. What is the control structures included in given flowchart?
   (A)   Repetition, Sequence
   (B)   Sequence, Selection
   (C)   Repetition, Selection
   (D)   Repetition, Selection, Sequence

28. What is the correct statement to get output as 'FAIL'?
   (1)   Mark < 60   (2)   Mark >60
   (3)   Mark < = 60   (4)   Mark > = 60

29. The word Identifier is used to denote a variable, constant, or a program. According to the rules used to define an identifier, which is the correct answer from the following?
   (1)   Student-Name   (2) $Name
   (3)   Last Name   (4)   Array_Marks

30. What will be the output of Pascal expression 5+ 4 * (6 DVI 2)?
   (1)   5   (2) 17   3)   27   4)   12

31. Which statement is true from the following?
    (1) A system can be set up after coding the solutions
    (2) Identification of dependency of each sub-system is a function of identification of requirements.
    (3) The Integration test is the test that combines all the units.
    (4) Pilot deployment is, success with each stage leads to the next and in completing the new system, and the old system is completely replaced by the new.

32. Allow users to use new systems and fix the errors if any.
    (1) Unit Testing   (2) System Testing
    (3) Integration Testing   (4) Acceptance Testing

33. Is **not** a service of the internet?
    (1) World Wide Web   (2) Remote Access
    (3) Streaming of media   (4) Web Browser

34. Which of the following combinations accurately displays an Internet service and its associated protocol?
    (1) WWW, SMTP   (2) Email, FTP
    (3) IP Address, IP   (4) HTML, ICMP

35. Consider the following HTML code.
    ```
    <Html>
    <Body>
       <h3> <u> Education Department- Western province </u> </h3>
            <a href = "https://www.wpedu.lk"> Model Paper </a>
    </body>
    </html>
    ```
Correct output for the above code is;

(1) **Education Department- Western province**   (2)   **Education Department- Western province**

   Model Paper   Model Paper

(3) Education Department- Western province   (4)

   Model Paper   Education Department- Western province
                                                         Model Paper

36. What is the HTML code segment related to insert "school.jpg" image for a web page.

    (1) body <background="school.jpg ">   (2) <body background-image="school.jpg">
    (3) <img src = "school.jpg ">   (4) <Body imge ="school.jpg ">

37. Consider the following statements.

    A. A pixel is the basic building block of the digital graphic.

    B. The colour per pixel used is 8, if the number of bits per pixel is 4,

    C. The unit of measuring the physical dimension of a digital graphic is pixel.

Out of the above statements, the answer containing only true statements is

Which of the following are **true** with respect to the above statements?

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

38. Choose the most suitable statement from the following statements.

    (1) Quality of the Raster graphic will be lost when changing its volume.

    (2) Raster graphic used large amount of capacity in computer memory.

    (3) Adobe Illustrator is an example for Raster graphic software.

    (4) A Raster graphic is formed by joining of direct and straight lines.

39. Short-term incorrect or inappropriate posture in computer usage may result in,

    (1)   Nausea   (2)   Stress   3)   Musculoskeletal Problem   4)   Vision problem

40. Which of the following postures is correct when using a computer?

    (1)   (2)   (3)   (4)

G.C.E. Ordinary Level	80 – E - II	Information and Communication Technology	02 hours

Note: ∗ Answer *five (05)* questions only, including the **first question** and **four** others.

1)

i. Explain the difference between data and information with an example.

ii. Identify and name the following types of network topology.
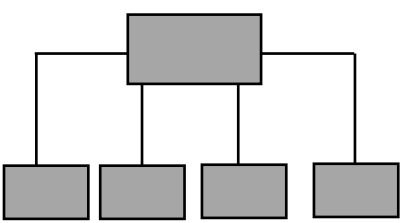
(A)
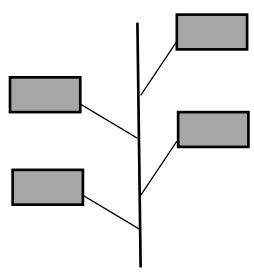
(B)

iii. Below are the RGB values for dark purple used for the background color of a computer-generated document. Find its hexadecimal value.

	R	G	B	Hexadecimal value
Dark purple	121	31	135	#------------------------

iv. a. Considering pins 8,9,10 of the given integrated circuit, if 8=1 , 9=0 then what value should pin 10 be?

b. Write the Boolean equation of the logic circuit connected

to those 3 terminals (if terminals 8,9,10 are F,A,B respectively).
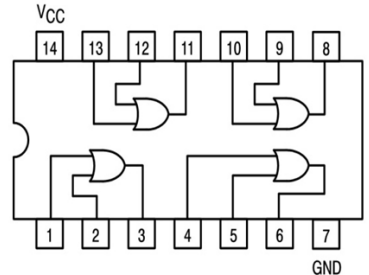
v. A regular student, Kalum is into photography as a hobby. All the photos he has taken so far are stored in C:\Pictures. He decides to install a new operating system, Windows 11, instead of the operating system he is currently using.

a) What should he do first to save his data and install the new operating system?

b) In this way, if operating systems are to be installed repeatedly, the computer's hard disk can be logically divided into sections and the data stored in another section. What is the name used to mention this partitioning?

vi. Note the following toolbar related to mail merge in a word processing document.
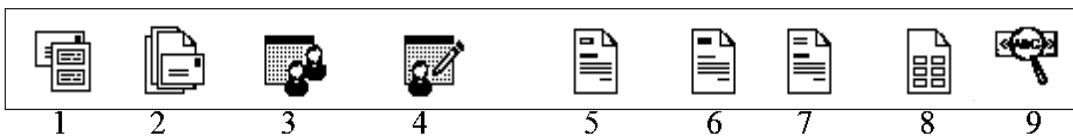
Some of the functions performed by the above tools are labeled P to S in the table below. Write the number that matches the labels P to S.

Task	Tool index
P. Start Mail Marge	
Q. Select Recipients	
R. Address Block	
S. Preview result	

vii. Write in brief how to use the following keyboard shortcuts in the slide show view of the presentation software.

Shortcut key	Task
N	
B	
P	
W	

viii. There are 3 methods of testing used in the System Development Life Cycle (SDLC). Name 2 of them.

ix. List 2 logical problems that arise in the use of information and communication technology.

x. Consider the following programming code, which represent the repetition of the word 'Pascal'.

```
count := 0;
Repeat writeln(`Pascal');
    count := count+1
Until count > 5;
```

Fill in the blanks in the following expressions A , B , C and D with the above programming code. Show the label and the correct answer on the box.

- Initial value of Count variable is .....A.....
- Iterates until the value of the count variable is .....B......
- When iteration stops ...C..... will be displayed on the screen .....D........ number of times.

2) The table below shows the monthly income of a digital art gallery during the month of January. The gallery produces various digital video related artworks under various companies. Answer the following questions using this table.

	A	B	C	D	E
1			Digital Videos		
2	Title	Sales Price	Sales	Income	Artist's Income
3	Music 365	Rs.300.00	4	Rs. 1,200.00	Rs.180.00
4	Shelo Line	Rs.200.00	8	Rs.1,600.00	Rs.240.00
5	Jasin	Rs.150.00	5	Rs.750.00	Rs.112.50
6	Byloof son	Rs.250.00	9	Rs.2,250.00	Rs.337.50
7	Wizaerd classic	Rs.300.04	3	Rs.900.00	Rs.135.00
8	Citizen Rock	Rs.175.00	7	Rs.1225.00	Rs.183.75
9	Brown feathers	Rs.300.00	4	Rs.1,200.00	Rs.180.00
10	Ralo Creations	Rs.300.00	9	Rs.2700.00	Rs.405.00
11	Super Hits	Rs.250.00	5	Rs.1250.00	Rs.187.05
12					
13	Total	Rs.2,225.00	54	Rs.13,075.00	Rs.1961.25
14	Average	Rs.247.22	6	Rs.1,452.78	
15	High Price	Rs.300.00	9	Rs.2,7000.00	
16	Lowest Price	Rs.150.00	3	Rs.750.00	
17	No. of Songs	9			
18					
19	Artist's share	15%			
20					

i. Write the formula to get the revenue from the sale of the Music 365 DVD into cell D3.

ii. Write the function to enter in cell D13 to find the revenue from all DVD sales during the month. function (cell1 : cell2)

iii. What function should be entered into cell D14 to find the average number of DVDs sold during the month?

iv. An author's share of 15% of the monthly revenue of each video (recorded in cell B19) is paid to the author. Write down the function to search for an author's share for the **Jasin** video. (Artist income = Income * Artist's share)

v. If the same function used in question (iv) above was copied to cell E8, write down the corresponding function in cell E8.

3) "Game World" is a company that rents out computer game software DVDs. A three-table relational database is used to manage this process. In those tables, the details of the company's DVDs, membership registration and disc rentals and returns are as follows.

DVD_Table		
DVD_ID	**DVD_Title**	**Availability**
DV0001	Half Life	Yes
DV0002	Spar Filed	No
DV0003	Valorant	Yes
DV0004	Call of Duty MW3	No
DV0005	Alan Wake II	Yes
DV0006	Assassin's Creed II	Yes

Rent_Table		
Date	**DVD_ID**	**Cust_ID**
22/10/2023	DV0001	CU0001
02/11/2023	DV0003	CU0003
10/11/2023	DV0006	CU0003
15/11/2023	DV0005	CU0004
20/11/2023	DV0001	CU0002

Customer_Table	
Cust_ID	**Name**
CU0001	Chamithu
CU0002	Dewmin
CU0003	Senitha
CU0004	Jerome

i.   a. Write down the primary key of the rent_table.

b. Write down the guest key(s) in the rents_table.

ii. Which table(s) should be updated to make the following changes?

a. Adding a new video game disc called "Resident Evil IV" to the DVD collection.

b. Get the DVD 'Volarant' By 'Senitha Perera' on 24/11/2023.

iii. A new customer named 'Sumeth Perera' (Cust_ID: CU0005) gets 'Assassin's Creed II' DVD on 27/11/2023. Write down the new record/records to be added to the relevant table/tables for the above event.

Note: For each record use table name--> (field1, field2...) format.

iv. What are the relevant tables to connect when writing a query to find the names of customers who bought the DVD "Half Life"?

4)

i. Draw a flow chart representing the pseudo code below.

```
Begin
    Get Name
    Get MarkSubject1
    Get MarkSubject2
    Average = (MarkSubject1 + MarkSubject2)/2
    If Average >=50 then
            Display Name, "Pass"
    Else
            Display Name, "Fail"
    EndIf
End
```

ii. It is assumed that the pass status for G.C.E. O/L ICT subject will be determined as follows.

```
75 - 100 - "Excellent"
60 – 74 - "Good"
45 – 59 - "Average"
Below 45 – "marginal"
```

The following flow chart is used to print the pass status according to the marks obtained by the students.

Write the (variables) /value(s)/ statements/ conditions corresponding to the labels P to U infront of that label.

P - ....

Q - ....

R - ....

S - ....

T - ....

U - ....
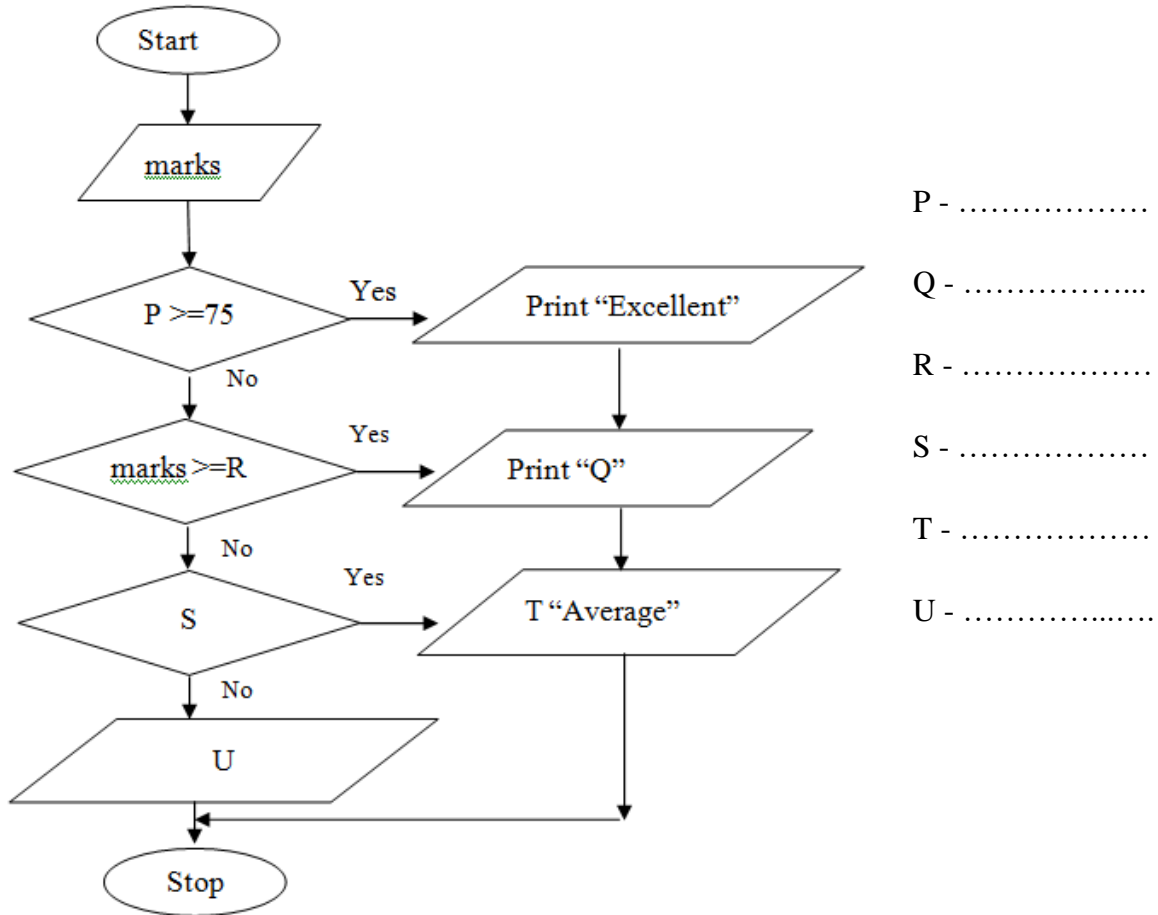
5) i. Note the labels A to D below.

A- Domain name ....   B- URL ....

C- IP address ....   D- Search engine ....

Choose the answers that match the labels from the list below.

{Msn, http://www.nie.lk , 192.168.1.1 , gov.lk, http, www }

ii.   The web page shown in Figure 1 below should be created using the source code shown in Figure 2. Figure 2 shows ten empty tags, labeled ① - ⑫. Select and write the correct bearing corresponding to the labels from the given list. (Only write down the label number and valid HTML up to ① - ⑫.)

List :   { ul, li, h3, td, ol, rowspan, Hr, Br, tr, Table, center, li,colspan,h1,p,img,th}

Figure 1

```
<html>
<body>
<①>Computer Memory</①>
<② >
<li>Volatile memory</li>
<②><li>RAM</li>
<li>Registers</li>
<li>Cache</li>
</②>
<li>Non-volatile memory</li>
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permanently.</ ⑤>
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<⑫>Flash Drive</⑫></⑪></⑧>
</⑦>
</body>
</html>
```

Figure 2

6) With the advancement of technology, the ability to express ideas by adding animation software to drawings and images created using various graphic software (digital graphics) has been positively developed today.

i. Complete the blanks using suitable terms.

........(a) .... is the basic building block of a digital graphic. A .... (b) .... which we are watching at is created from thousands of pixels. A digital graphic is rectangular ....(c) .... and this.............. (d)…….. also known as ....

(bit array, bitmap, pixel, pixel array, digitized graphic)

i. Find the number of colors in a pixel if the number of bits in a pixel is 4.

ii. Consider the following statements regarding the Vectorian Giotto software used for animation. State the statements as *true* if they are true and *false* if they are false. It is enough to write the question number and write true and false.

    a) Both the Geometric Objects and the Shapes and Colors tools in the Vectorian Giotto workspace offer a variety of color choices.

    b) An animation file created and saved by Giotto must be saved in .vge file format and need to saved it as .swf file format when saving it as an embeddable file on the website.

iv. State the two types of color substitutes used in numbered graphic design and state their primary colors. Give one instance of using those color substitutes.

7)

Select the generation "B" whose characteristics are mentioned in column "A" below and write the corresponding number in front of it.

"A"		"B"
1. Use of punch cards for data input, processing, saving and output	....	(i) First generation
2. Using keyboard and mouse for data input	....	(ii) Second generation
3. Using graphical user interface (GUI) operating systems	....	(iii) Third generation
4. Using floppy disk/tape for secondary storage	....	(iv) Fourth generation

ii)

a) Describe with examples 2 undesirable effects of ICT.

b) Name 2 cases in which information and communication technology is helpful in the field of education, by giving each example.

c) Describe 2 services available under emergency telemedicine.

Department of Education - Western Province

| G.C.E. Ordinary Level | 80 – E - I | Information and Communication Technology | 01 hour |

Note: * Answer **all** questions
  * In each of the question **1** to **40**, pick one of the alternatives **(1)**, **(2)**, **(3)** , **(4)** which is **correct** or most **appropriate.**

1. Choose the most suitable word for the blank.

……………………. the world's first mechanical mathematical calculator was invented by Blaise Pascal.

   (1)   punch card   (2)   analytical engine
   (3)   mark 1   (4)   adding machine

2. A service which is **not** provided by a government to other states
   (1)   Government Law   (2)   Sri Lanka Custom Informa
   (3)   Information on loan facilities   (4)   Map of Sri lanka

3. Choose the most correct word that for following blank.

Monitoring or treating a patient outside a hospital using information and communication technology is called ....
   (1)   Remote clinical care   (2)   Telemedicine
   (3)   Telesurgery   (4)   Medical Teletraining

4. This is known as general purpose computer, this type of computer where several users connect through several terminals and exchange data.
   (1)   Super computer   (2)   Mainframe Computer
   (3)   Mini computer   (4)   Micro computer

5. The main factor that could lead to the rejection of the use of CRT screens may be,

(1) Being heavier.   (2) More space is expended.

(3) More electricity consumption.   (3) Low cost.

6. The MSB & LSB of 01110.001 is,

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

7. Consider the following statements.

A - The base of any number system is represented by the number of digits and characters used in that number system.

B - A number belonging to any base cannot be represented by an abacus.

C - The positional values of any number are called the weighing factors of that number.

Among these, the correct statement is,

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

8. The binary number equivalent to 206_{16} is

  (1) 110110_2 (2) 1100110_2 (3) 1000000110_2 (4) 10000110_2

9. Which device has the fastest data access speed in a computer?

  (1) Flash Drive   (2) DVD   (3) Register Memory   (4) Magnetic Tape

10. Consider the following logic circuit.
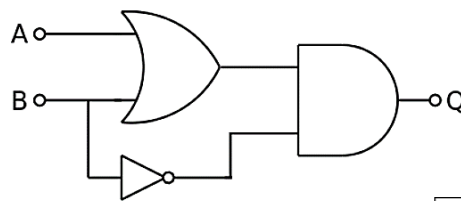
The truth table for the above circuit is,

A	B	Q
0	0	1
0	1	0
1	0	0
1	1	0

(1)

A	B	Q
0	0	0
0	1	0
1	0	1
1	1	0

(2)

A	B	Q
0	0	0
0	1	0
1	0	1
1	1	0

(3)

A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

(4)

27

11. The output of an OR gate with 3 inputs can be,
(1)   F= AB   (2) F=ABC   (3) F=A+B+C   (4) F= AB+C

12. If A=12, B=55, C =21, then consider the X and Y statements below.
        X ->   (A >B)OR (A>C)
        Y ->   (B > C) AND (A > C)
    Which of the following answers represents the results of the above expressions X and Y respectively?
    (1) True and True (2) False and False (3) True and False (4) False and True

13. Which of the following statements, regarding utility programs running in an operating system is **false**?
    (1) Disk defragmentation is the organization of disks by adding small free areas of a disk and increasing the free space.
    (2) Data synchronization software maintains consistency between source storage and target storage.
    (3) System profilers provide detailed information about the software and hardware installed on a computer.
    (4) Short-term storage of data or files for copying, cutting and pasting is done by the task manager.
14. Devmi needs to install both Ubuntu and Windows 10 software on her computer. The most accurate statement regarding the above statement.
    (1) Defragmentation of the hard disk

    (2) Hard disk partitioning

    (3) Formatting the hard disk

    (4) The above task cannot be performed because the operating systems are different.

15. A tool that can be used to perform the formatting related to one part to another part in word processing is,

    (1).   (2)   (3) (4)

16. In a Word processing software, portrait and landscape orientations are include in,
        (1) Orientation   (2) Page border   (3) Page layout   (4) Paper Size

- Answer question numbers 16 to 18 with reference to the table given below.

	A	B	C	D	E
1	3	4	1	3	
2	2	8	6	7	
3	5	5	9	4	
4					

17. The answer to the formula =A2^B3-C2+A3*(B3+D1) is?

     (1) 42   (2) 82   (3) 60   (4) 66

18. = Count (A1:A3,C1:C3) function related answer is ?

     (1) 12   (2) 06   (3) 26   (4) 14

19. The input function in cell A4 is =Sum($A1:A3). When the function is copied into cell B4, the corresponding answer is,

     (1) 27   (2) 10   (3) 17   (4) 08

20. Among the views shown in an Electronic Presentation software, which view is shown as A below?

A

(1) Reading View   (2) Slide Show View
(3) Normal View   (4) Slide Sorter View

- Answer questions number 21 to 23 based on the tables below.

Student Table

St_No	Name	Grade
110	Kelum	8A
111	Amal	8B
112	Dimuthu	9A
113	Sandaru	9B
114	Nipun	9C

Sport Table

Sport_No	Sport_Name	TeacherIncharge
10	Football	Nihal
11	Volleyball	Silva
12	Rugby	Gamage
104	Sandali	11B

Student_Sport Table

St_No	Sport_No
110	10
110	11
111	11
112	10
112	12
113	12
114	12

21. The number of fields and records in the Student_Sport table are respectively,

(1) 2 ,7   (2) 7 ,2   (3) 8 , 2   (4) 2, 8

22. What is the correct answer regarding the foreign key in the above database?

(1) St_No in Student table   (2) Sport_No in Sports table

(3) Sport_Name in sports table   (4) St_No in student_sports table

23. What is the appropriate Data Type for the Grade field in the Student table?

(1) Number   (2) Text

(3) Currency   (4) Date / Time

24. Consider the following Pseudo Code.

Begin

      X = 1

      While X <5

        X = X+1

      EndWhile

      Display X

End

What is the output of above Pseudo Code?

(1)   1   (2) 4   (3) 5   (4) 6

25. Consider the following statements regarding Flow charts.

A - A flowchart is a Graphical representation of an algorithm.

B - Flowcharts can be used to represent control structures such as sequence, selection and iteration.

C - Algorithms can only be represented using flowcharts

Which of the above statements is true?

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

• The following flow chart denotes the calculation of profit and loss of five sales figures, answer the questions 26 and 27 accordingly.


```
            Start

        ItemNo = 0
        Profit  = 0
        Loss    = 0

                          No
             A                  →   Print Profit, Loss   →   End

            Yes

        Read CostPrice (CP)
        Read SellingPrice (SP)

                       Yes
           Is               →        B
          SP>CP

            No            Profit = Profit + ProfitItem

        LossItem= CP - SP

        Loss = Loss + LossItem

        ItemNo = ItemNo+1
```
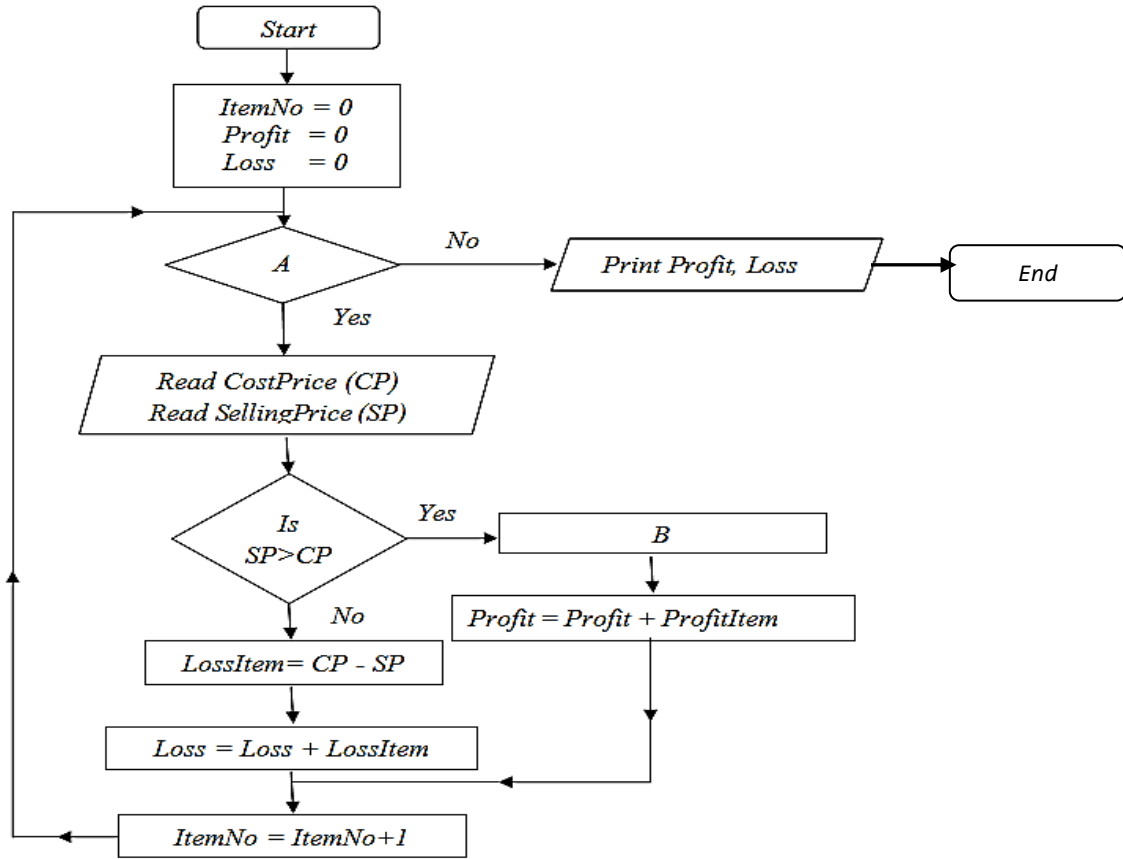
26. Which of the following represent the labels A and B respectively in the flowchart?

    (1) ItemNo<= 5 , ProfitItem = CP –SP   (2) ItemNo<= 4 , ProfitItem = CP –SP

    (3) ItemNo< 5 , ProfitItem =SP –CP   (4) ItemNo< 4 , ProfitItem = SP –CP 39.

27. Which of the following statements regarding control structures in flowcharts is correct?

    (1) Having Repetition in Selection

    (2) Having selection in repetitions

    (3) Having selection within selection.

    (4) Having repetitions within repetitions

28. Consider the following Pascal code.

Program ExArray (input, output);
var num : array [1..4] of integer;
     x : integer;
Begin
num[1] := 45;
num[2] := 15;
    num[3] := num[1] + 10;
    num[4] := num[2] + num[3];
    for x := 2 to 4 do
       write(num [x]);
       readln;
End.

What is the output after executing the above Pascal code?

(1) 45   (2) 15 55   (3) 15 55 70   (4) 45 15 55 70

29. Consider the logic equations given below.

    A   - (20>15)   AND (9 < = 9)
    B   - (20>25)   OR   (9 = 15)
    C   - NOT (10>5)

Choose the correct order of results for expressions A, B, and C

(1) True, True, True   (2) False, False, False
 (3) True, False, False   (4) False, True, True

30. Solving the Pascal expression 36 + 2 * 7 mod 2 gives the answer.

    (1) 36   (2) 38   (3) 41   (4) 43

Consider the following Flow chart.

31.
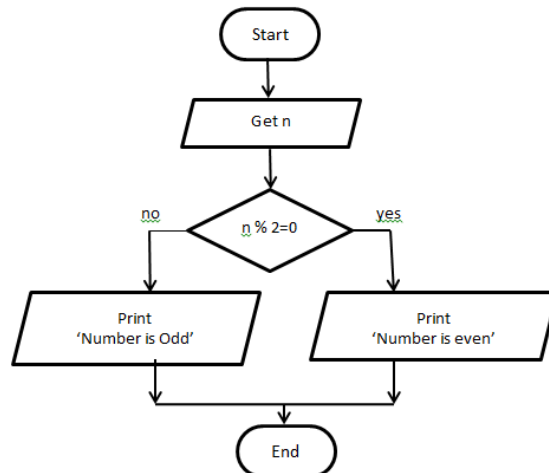
31. The Pseudo code associated with the flowchart is,

(1) Begin	(2) Begin	(3) Begin	(4) Begin
Get n	Get n	Get n	Get n
If n % 2 = 0 then	While n % 2 = 0	repeat	If n % 2 = 0 then
Print' Number is Odd'	Print' Number is Even'	Print' Number is Even'	Print' Number is Even'
Else	Else	Print' Number is Odd'	Else
Print' Number is Even'	Print' Number is Odd'	Until If n % 2 = 1	Print' Number is Odd'
Endif	endwhile	End	Endif
End	End		End

32. In which phase of the system development life cycle does the creation of the infrastructure of applications, databases, interfaces belong?
      (1) Identification of Requirements
      (2) Designing the Solution
      (3) Testing and Debugging
      (4) Coding of the Solution

33. "Iterates one small part at a time and has the advantage that system developers can use the knowledge they have acquired in previous steps" Which type of system development model has these characteristics?
    (1) Prototype model   (2) Iterative Incremental model
    (3) Waterfall model   (4) Spiral model

34. Which of the following is not essential for hosting a website?
    (1) A web host   (2) A search engine
    (3) A domain name   (4) Website design software

35. The file container used to store deleted messages in an email account.
    (1) Inbox   (2) Sent   (3) Trash   (4) Drafts

36. Consider the following expressions related to Graphic Compression.
A - In Lossy compression, the capacity of the graphic can be reduced to a minimum, but the condition is destroyed.
B - Lossless compression destroys the quality of the graphic.
C - GIF, PNG, RAW files are examples of image lossy compression.
D - JPEG, TIFF, BMP files are examples of lossless image compression.

Which of the above statements is true?

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

37. Consider the following statements.

A. Windows Movie Maker is a free video editing software provided by the Windows company.

B. The file format of a file created by Windows Movie Maker is .wmmp

C. Time line stage is used to apply visual effects in Windows Movie Maker.

Among the above statements, the answer containing only true statement/s is,

(1) A only   (2) A andC only   (3) B and C only   (4) A, B, C All

38. When embedding a video file on a website, Which one is doesn't consider about?

(1) Reducing the size of a frame (frame size).

(2) Reducing the frame rate.

(3) Increasing the screen resolution.

(4) Removal of unwanted frames and unwanted noise.

39. Which of the following is not recommended in terms of health and safety when using a computer?

(1) The distance between the computer screen and the eyes is about 18-28 inches (45-70 cm).

(2) Leaning on a chair, keeping the back straight and the shoulder relaxed.

(3) Keeping the legs perpendicular to the ground and the soles lightly on the ground.

(4) Constantly looking at the computer screen and trying to complete tasks.

40. Consider the statements regarding passwords used for logical security of a computer.

A- A password must consist of at least 8 characters.

B- B- A strong password should be a combination of letters, numbers, symbols etc.

C- C- A password should be approximately guessable.

Which of the above statements is correct?

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

Note: ∗ *Answer* ***five (05)*** *questions only, including the* ***first question*** *and* ***four*** *others.*

(1) (i) Below is a diagram showing the components of an information system. Fill in the blanks

(i)	→	Data processing & storing	→	(ii)
Input		Process		Output
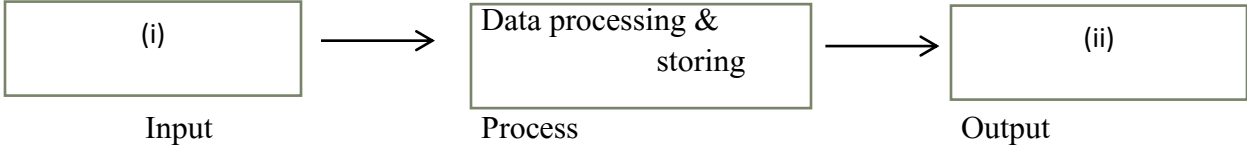
(ii) State 2 differences each between hub and switch which act as mediators in computer networking.

(iii) Consider the two numbers 305.12_{10} and 137_8. Indicate the weighting factors for each number along with the corresponding digit.

(iv)
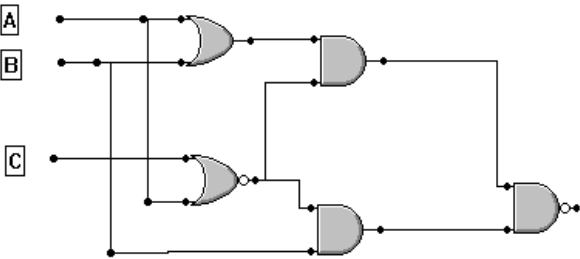
   a) Write the Boolean Expression of above logic Circuit.
   b) If A = 0 , B = 1 in the circuit, what is the value of input C to get output 0?

(v) As soon as a passenger buys a flight ticket, the relevant seat is allotted to that passenger. Which classification of operating system should be running in the computer used to carry out this process?

(vi) Figure 01 shows a table prepared by word processing software and Figure 02 shows the icons used to format the table. Write the symbol used to represent A B C and D in the table (Figure 01) based on Figure

(Match the correct number of the icon with the label)
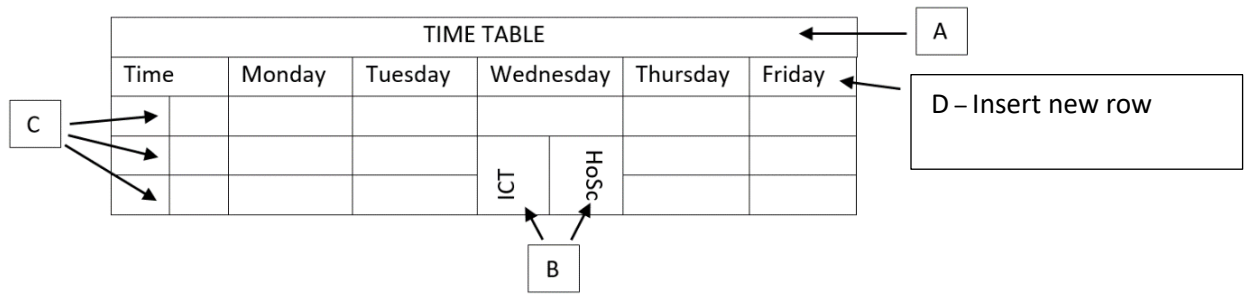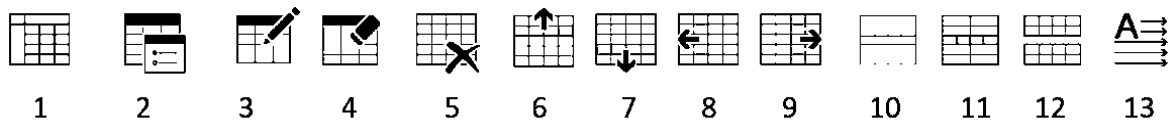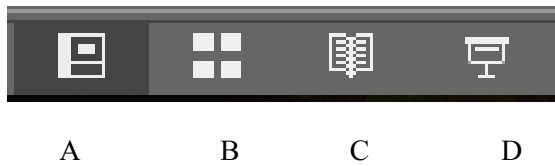

Figure 01

Figure 02

(vii) A student wanted to see all the Slides at once in order to easily arrange the Slides sequence of the e-presentation he had created. Which of the views A, B, C, D should he use for that?

(viii) Write 2 tasks performed in the system design phase.

(ix) Write the correct output of the following Pascal program.

```
Program forLoop1 (input, output);
Var S, T : integer;
Begin
T := 1;
For S:= 1 to 4 do
Begin
Writeln( S+T);
T := T+2;
End;
End.
```

(x) Write 4 health problems caused by not using correct posture while using computer.

(2)

(a) Given below is a part of a spreadsheet prepared for the payment of salaries of several employees of Ram Brothers Company. The equivalent number of hours worked for that month is shown in cell C13 and the payment for an hour of overtime is shown in cell C14. Accordingly, answer the questions asked below.

	A	B	C	D	E	F	G	H	I	J	K
1	Month- December										
2					Ram Brothers Company- Pay Sheet						
3											
4		Basic Salary(Rs)	Total Hours Worked	Over Time Hours	Payment for Over Time(Rs)	Gross Salary(Rs)	Diduction(Rs) Loan	EPF	ETF	Total Diduction (Rs)	Net Salary(Rs)
5	Employee Name										
6	A.P. Silva	145000	153	13	13000	158000	25000	11600	4350	40950	117050
7	S. Sendanayaka	151000	151	11	11000	162000	26000	12080	4530	42610	119390
8	P.Subramaniyam	139500	156	16	16000	155500	20000	11160	4185	35345	120155
9	R. Perera	165000	154	14	14000	179000	27000	13200	4950	45150	133850
10	T.Gunasekara	175000	160	20	20000	195000	27000	14000	5250	46250	148750
11	G. Rajarathman	148000	162	22	22000	170000	18000	11840	4440	34280	135720
12						1019500					774915
13	Normal working Hours		140								
14	Over Time Payment for one hour(Rs)		1000								
15											

 i. Write the equation that should be used to enter the number of overtime hours worked by employee A.P.Silva in cell D6.

ii. Write the equation to get the overtime payment of employee A.P.Silva in cell E6.

iii. Write the formula to be written to calculate the gross salary of A.P.Silva using the SUM function. Gross Salary = Basic Salary + Payment for over time

iv. If A.P.Silva charges 3% of his basic salary for ETF, write the equation that should be used to enter it in cell I6.

v .Write the equation related to get the Net Salary of the employee named A.P.Silva.

    Net Salary=Gross Salary-Total Deduction

(b) Write 2 characteristics of good e presentation.

(3) The database tables shown in half below are used to store details about the supply of various school items by various suppliers in a school bookstore. Items purchased from suppliers are sold at the bookstore.

(Item_Table)

Item_ID	Item_Name	Qty
IT0001	Pencils	120
IT0002	Pens	150
IT0003	Books 40pgs	90
IT0004	Books 80pgs	150
IT0005	Books 120pgs	198
IT0006	Colour Pencil Box (6pcs)	35

(Supplier_Table)

Sup_ID	Name	Tel_No
S0001	Samanala Book Shop	0777256478
S0002	Sac Suppliers	0782489157
S0003	Negombo Stationaries	0112558792
S0004	Nehara Suppliers	0112254789

(Purchase_Table)

Date	Item_ID	Sup_ID	Count
12/06/2023	IT0001	S0001	80
12/06/2023	IT0002	S0001	50
04/08/2023	IT0004	S0003	50
21/10/2023	IT0006	S0004	35

(i) Write whether the following clauses are true or false.

(a) Item_ID is the primary key of the Purchase_Table table.

(b) Sup_ID is a foreign key in the Purchase_Table table.

(ii) Which table(s) need to be updated to make the following changes?

(a). A student buys 2 pens and 2 books of 120 pages from the school bookstore.

(b). Purchase of 30 pans from 'Sac Suppliers'.

(iii) Purchased a new item 'Colour A4 Bundle' (Item_ID: IT0007) 10 on 24/11/2023 from new supplier 'Minsara Stationaries' (Sup_ID: S0005) (Sup. No. 0112568479).Refer to the relevant table/tables for making the above change. Enter the new record(s) to be added.

Use the format tablename--> (field1, field2,...) for each record.

(iii)   Which tables should be linked to write a query to find the names of the items supplied by the supplier 'Samanala Book Shop'?

(4)   (i) Consider the following expressions related to computer languages.

A. Machine language runs directly on the machine and does not require interpreter programs.

B. The Pascal programming language has procedural programming features.

C. An interpreter translates the entire program written in a high-level language into machine language as a whole, before the computer program executes it.

Indicate whether the above statements are true/false. (Answering with A, B and C is sufficient)

(ii) Draw the flowchart representing the pseudo code shown below

```
Begin
T = 1
For S = 1 to 4 do
        Print (S + T)
        T = T+ 2
Next S
End
```

(iii)   Consider an array named marks consisting of 5 values that can contain integers. After entering the values for the following array, draw the array named marks.

```
Var marks : array[0..4] of integer;
 marks[0] := 85; marks[2] := 45;
 marks[1] := marks[0] - marks[2];
marks[3] := marks[1]  + 25;

 marks[4] : =71;
```

(iv)   State the output if the above array outputs values as follows.
```
for x := 1 to 4 do
        writeln (marks[x]);
```

(5) (i)Conversations between two or more people through the Internet with the help of images and sounds are called "Video Conferences".

a. Name 2 main requirements to have a video Conference

b. Write an advantage and a disadvantage of conducting video Conference

c. Name 2 other ways of communicating over the Internet apart from video Conference.

(ii) The web page shown in Figure 2 below should be created using the source code shown in Figure 1. Figure 2 shows ten empty tags, labeled ① - ⑫. Select and write the correct bearing corresponding to the labels from the given list. (Only write down the label number and correct HTML up to ① - ⑫.)

{ src, title, href, bgcolor, alt, border, caption, disc, colspan, td, th, tr, br, rowspan, square,Justify}

```
<html>
<head><①> Sigiriya </①> </head>
<body ②="white">
<H1><font color="Green" face="Comic Sans MS" size="10">  Sigiriya </font></H1>
<img ③="sigiriya.jpg" height=150 width=260   alt="sigiriya" ">
<p align="④"><b><⑤>Sigiriya</b></⑤> is an ancient rock fortress located in the <u>
northern Matale District</u> near the town of<b> Dambulla </b>in the Central Province, Sri
Lanka. The name refers to a site of historical and archaeological significance that is dominated by a
massive column of rock around 180 meters (590 ft)high.</p>
<a ⑥="http://www.srilanka.travel"> Explore</a>
<H3>Some interesting facts about Sigiriya</H3>
        <ul type = "⑦">
        <li>Arts of Sigiriya</li>
        <li>Sigiriya Lion Claws</li>
        <li>Sigiriya Graffiti & Mirror Wall</li>
        </ul>
<H4>SIGIRIYA OPENING HOURS<⑧>
Daily - From 6.30 am to 5.30 pm </H4>
<table⑨ ="1">
<⑩><h5><u> Ticket Prices</u></H5></⑩>
<tr><th ⑪="2">Foreign</th><th>Adult</th><⑫>US$30</⑫></tr>
<tr><th>Children</th><⑫>US$15</⑫></tr>
<tr><th ⑪="2">Local</th><th>Adult</th><⑫>Rs. 100.00</⑫></tr>
<tr><th>Children</th><⑫>Rs.50.00</⑫></tr>
</table>
</body></html>
```

06.

   (a) 1. Several types of frames are used to create an animation. Name 2 of them.

      2. Below is a diagram of a tool in the drawing toolbar of Vectorian Giotto software.

I. Identify and name the tool shown in the diagram and briefly state the functions performed by it.

II. Name 2 image file formats that can be added to the Vectorian Giotto desktop

(b) A library has been newly established for a new additional class institute. At present, the work is being carried out in an informal manner and various problems have arisen there. The library management requests you to develop the library as an online system to improve the efficiency and improve the quality of internal processes as well as the users of the library.

i. Write 2 methods that can be followed to gather the information needed to develop the system.

ii. Write 2 advantages of maintaining a computer-based information system over a manual system.

iii. At what stage of the system development life cycle should the dependencies of each system be identified?

Iv Management is expected to handle cash collections, its requirements are not clear. The waterfall system development methodology is expected to be used in the system development life cycle. Do you agree with that? If so, why? If not, state the reason and suggest a new method

(6)   (i) Match the details labeled P to S with the correct term given below. In front of each label, write the label of the corresponding term.

Label	Description
P- MRI	A. Used as fourth generation hardware technology.
Q- RFID	B. It is the device used to record brain activity.
R- LSIC	C. Used to count, identify and locate animals.
S- EEG	D. Obtaining detailed diagrams of the internal parts of the body

(ii) Consider the following statements labeled 1 to 4.

1. Mention the information of the author or authors

2. Indicating the copied part as a quotation

3. Mention the web page address from which the information was obtained at the end of the essay

4. Ensuring legal protection of intellectual property

Choose the term that matches the above clauses from the list below and write the relevant number in front of it.

(Citing/ Plagiarism/ Cybercrime/ Referencing/ Patent/ Quoting)

(iii) Suggest 4 measures that can be taken to protect a computer and computer network from malicious software.

Department of Education - Western Province

G.C.E. Ordinary Level	80 – E - I	Information and Communication Technology	01 hour

Note: * Answer **all** questions
* In each of the question **1** to **40**, pick one of the alternatives **(1)**, **(2)**, **(3)**, **(4)** which is **correct** or most **appropriate**.

1. Following are some of the facilities of a learning management system. Which of them are correct?
   A - Assignment monitoring and reporting results
   B - Parents can know their children's educational progress from home.
   C - Engaging in co-curricular activities through videos.

   (1) A and B   (2) A and C   (3) B and C   (4) All A, B and C

2. Choose the *false* statement from the following statements regarding computer generations.

   (1) The ENIAC computer belongs to the second generation.
   (2) The third-generation computers used keyboard and mouse for data input.
   (3) The microprocessor was used in the fourth generation.
   (4) Operating systems with graphical interfaces are used in fourth generation computers.

3. Which of the following is does not come under microcomputers?

   (1) Desktop Computers   (2) Laptops
   (3) Smart mobile phones   (4) Server computers

4. Which of the following is, the printer used to produce a quality printout using toner is?
   (1) Dot matrix printer   (2) Lazer printer
   (3) Line printer   (4) Ink jet printer

5. Not a uniqueness of Universal Serial Bus port,
   (1) Supplying power to the device through it.
   (2) Instant activation of connection.
   (3) Unable to connect large number of devices.
   (4) Ability to connect while the computer is running.

6. Amal and Sujith, who are studying in class 11, scored 739 and 850 respectively in the term examination. The answer showing the difference between their marks is,

    (1) 11111_2 (2) 111_8 (3) 1101111_2 (4) 1111011_2

7. Incorrect statement about content of 6 MB,

    (1) 6×2^{10} KB   (2) 3×2^{21}byte   (3) 2^{23}byte   (4) 6×1024KB

8. Which of the following is true when the capacities of data storage devices are arranged in ascending order?
    (1)   RAM, ROM, Cash Memory
    (2)   Register memory, RAM, Hard Disk
    (3)   Cache memory, RAM, Register memory
    (4)   Hard disk, Compact disk, Magnetic tape

9. According to the ASCII code system, if the ASCII decimal value corresponding to the number 3 is 51, the ASCII binary value corresponding to the number 8 is,

    (1) 1001101_2 (2) 0101111_2 (3) 0110011_2 (4) 0111000_2

10. Figure 1 below shows a logic circuit with two inputs A and B and output Y. Figure 2 shows how voltage is given as A, B and Y waves.
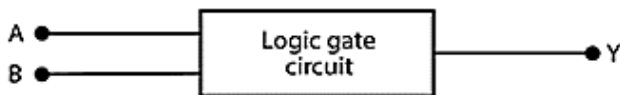

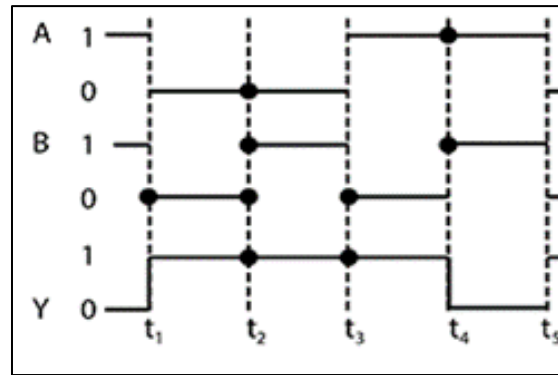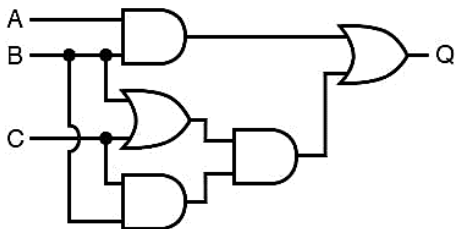*Figure 1*

Figure 2

Name the logic gate represented by figure 1 in proportion to figure 2 above.

    (1)   NOR   (2)   OR   (3)   AND   (4)   NAND

11. Consider the following Logic circuit.

44

Which of the following is an appropriate Boolean expression for above Logic circuit is,

(1) Q= (A.B) + ((B.C)+(B+C))   (2) Q= (A.B) + ((B+C).(B.C))
(3) Q= (A+B) + ((B.C)+(B.C))   (4) Q= (A+B) . ((B+C)+(B+C))

12. Which is correct from the following, after matching the relevant answer for part 1 from part 2?

Part 1	Part 2
A. Single User	P- Windows Server
B. Multi User	Q -ATM Machine
C. Multi-Tasking	R - Windows 10
D. Realtime	S - MS Dos

(1) A→P , B→Q , C→R , D→S   (2) A→S , B→P , C→Q , D→R
(3) A→S , B→P , C→R , D→Q   (4) A→S , B→R , C→Q , D→P

13. Incorrect statement about operating systems with a graphical user interface is,

(1) Easy to use for the user.
(2) The user must know the commands.
(3) Use Window, Icon, Menu, Pointer (WIMP).
(4) Ubuntu operating system is an example of that.

14. A university student prepares his research thesis using word processing software. The following instructions should be followed while preparing the thesis.

    A - Page size is A4 and page margins should be 1 inch.
    B - Both paragraphs should be aligned parallel.
    C - Line spacing should be 1.5.
    D - Spelling must be correct.

The tools to be used to perform the above tasks are listed in order,
    (1) Page setup, Indentation, Line spacing, Spelling and Grammar
    (2) Page setup, Alignment, Line spacing, Spelling and Grammar
    (3) Page border, Alignment, Line spacing, Spelling and Grammar
    (4) Page setup, Alignment, Paragraph, Spelling and Grammar

15. Used to reduce font size in word processing software.
    (1)   (2)   (3)   (4)

- Consider the following table to answer the questions 16 and 17.

	A	B	C	D	E
1	Name	Maths	Science	English	Tamil
2	Kavisha	75	51	62	
3	Dinuja	72	59	80	
4	Chalana	43	60	55	
5	Highest masks				
6	Lowet masks				

16. What is the correct formula to enter in cell E3 to calculate the total number of marks obtained by Dinuja?
(1) =A3+B3+C3+D3   (2) =B3*C3*D3
(3) =B3+C3+D3   (4) =B3+C3*D3

17. The correct function to be applied to find the average marks of Kaveesha is,
(1) =AVERAGE(A2,B2:D2)   (2) =AVERAGE(B2:D2)
(3) =AVERAGE(A2,B2,C2,D2)   (4) =AVERAGE(B2,D2)

18. During an electronic presentation (slide show), the presenter accidentally touched the letter N on the keyboard. What is the possible outcome here?
(1) New slide has been added to the electronic presentation.
(2) Electronic Presentation window has been closed.
(3) Next slide has been popped up of the presentation.
(4) Error message has been viewed.

19. Which of the following answer combination is most suitable for the given views of the electronic presentation software respectively?

(1) Shift + F5   (2) F5   (3) F1   (4) F3

- Answer the questions **20** to **22**, using the following tables.

Teacher_ID	Name	Gender	Address	Contact	DOB
T0001	Tharanga	Male	No 62 , Waththala	011-5223265	4/15/1995
T0002	Malsha	Female	No 50 , Kelaniya	011-2897843	7/20/1998
T0003	Subhashini	Female	Main Street , Kottawa	011-2789565	10/12/1995
T0004	Lasantha	Male	No15 , Nugegoda	011-2231468	3/23/1996

20. Which is more suitable for primary key?

(1) Teacher_ID (2) Contact (3) Gender (4) DOB

21. What would be the most suitable data type for 'Contact' field?

(1) Number (2) text (3) Currency (4) date & time

22. A collection of data related to a teacher in above table is called ……………………… .

(1) Field (2) form 3) Record 4) Query

23. Encryption,

       A. Information is used to protect against unauthorized access.

       B. Avoids entering the same data in multiple tables.

       C. Used to maintain the confidentiality of information in a database.

Which of the above statements is *true*?

(1) A Only (2) A and B Only (3) A and C Only (4) All A, B and C

24. Consider the following pseudo code.

```
Begin
X = 1
While X <=5
        X = X+1
        Display X
    EndWhile
End
```

How many times this program does execute?

(1) 1 2 3 4 5 (2) 1 2 3 4 3) 2 3 4 5 6 4) 2 3 4 5

25. Consider the table below that shows data types in Pascal. The first column shows data types and the second column shows examples.

	Data Type	Example
A	Integer	46, -12
B	Real	0.0 , 25.68
C	Boolean	`ICT',   `programming'
D	Char	True or False

Which of the rows A, B, C and D in the above table is correct?

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

26. The output of the Pascal expression is 36 + 2 * 7 mod 2

(1)   36   (2)   38   3)   14   4)   0

- Consider the given flowchart to answer the question **27** and **28**.

27. How many times will the following pseudocode be executed?

Begin
  x = 0
  y = 1
  Repeat
      x = 2 * x +1
      y = y + 2
  Display x + y
  Until x>= y
End

(1)   3   (2)   4   3)   2   4)   5

28. Consider the following array for reading the math scores of 40 students.

var maths : array[0..❶] of integer;
        i,marks : integer;
for i := 0 to 39 do
    begin
    writeln('Enter marks');
    read(❷);
    maths[❸] := marks;
end;

The correct answer for labels ❶, ❷ and ❸ is,
(1)   40 array marks   (2)   39 marks i
(3)   0 array 40   (4)   39 array 40

29. Which statement is unrelated to the maintenance phase of a system?

(1) To maintain the system according to newly identified user requirements

(2) To correct errors detected by the end user during the acceptance test

(3) To correct errors identified during system implementation which is not identified during system testing

(4) To increase efficiency by applying new technological advances to the system

30. Which 3 methods can be used respectively, to deploy a new system using following A, B and C characteristics?

  A - The risk is low but the cost is high

  B - Initial implementation of a system in a small-scale field

  C - Each successful stage moves to the next stage and when the last stage is completed the old system is replaced by the original system.

(1) Direct Deployment, Pilot Deployment, Phase Deployment

(2) Parallel Deployment, Phase Deployment, Pilot Deployment

(3) Direct Deployment, Phase Deployment, Pilot Deployment

(4) Parallel Deployment, Pilot Deployment, Phase Deployment

31. Not an internet service,

(1)	World Wide Web	(2)	Remote access
(3)	Streaming of media	(4)	Web Browser

32. Which of the following is described 'http' in the URL **https://www.islandcricket.lk/**?

(1)	Domain name	(2)	Service
(3)	Top Level Domain	(4)	Protocol

33. Which of the following is a correct example of an IP Address (Internet Protocol addresses)?

 (1) 192.30.85 (2) 172.240.60.1 3) 192.70.12.2.10 4) 172.256.6.3

34. The table below lists some of the tools used in GIMP and their functions. Choose the answer that matches A and B correctly.

A		B	
P	Choice of any color available in Graphic	L	
Q	Darkening or sharpening of a graphic	M	
R	Selecting the image background	N	
S	Selecting the desired section in the ellipse shape	O	

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

35. Choose the most correct statement from the following statements.
(1) Audacity is an audio editing software that can only be installed in the Windows operating system.
(2) Audacity is visual editing software available for purchase.
(3) Audacity software cannot record music playing on a computer.
(4) Audacity software can edit AIFF, FLAC format files.

36. Which of the following issues is a legal issue arising from the use of information and communication technology?

(1)   Unauthorized access to computer systems. (2)   Plagiarism of written material
(3)   Keeping duplicates   (4)   Restricting access through doors

37. Consider the following statements.
   A- Closed Circuit Television (CCTV)
   B- Backups
   C- Surge protection
Which of the above is used for physical security?
   (1)   A only   (2)   C only   3)   A and B only   4)   A and C only

38. A disease that can occur due to excessive disposal of e-waste is;
   (1) Carpel Tunnel Syndrome
   (2) Repetitive Stress Injury,
   (3) Brain Cell Damage
   (4) Computer Vision Syndrome,

39. What should not be done for the logical security of a computer system?

   (1) Opening emails from unknown people immediately.
   (2) Keeping passwords, usernames, etc. confidential from others.
   (3) Keeping the computer safe in a locked room.
   (4) Not allowing students to use computers

40. Which of the following statements is true?

   A- The method of minimizing digital division is introduced by digital bridge.
   B- Online forums are a service provided by social websites.
   C- Unauthorized posting of photos of people on the internet is a cybercrime.
   (1)   A only   (2)   C only   3)   A and C only   4)   All A,B and C

Note: ∗ *Answer **five (05)** questions only, including the **first question** and **four** others.*
∗ *The first question carries **20** marks and each of other questions carries **10** marks.*

1. (i) Name 2 characteristics of distance education.

(ii) Select the term from group B that matches group A and write the corresponding letter of group B in front of the number of group A.

Group A	Group B
1. Acts as a data translator. (……..)	a. Router
2. A security barrier between the Internet and computer networks. (……..)	b. WiFi/ Access Point
3. Provides the interface for connecting the data transmission guided media to the computer. (……..)	c. Firewall
4. Used for computer networking wirelessly. (……..)	d. Modem

(iii) Fill in the following table containing the number of bits used and the number of characters for each of the coding systems used in the computer.

Coding Method	Number of bits used	Number of Characters
P	4	16
ASCII	Q	128
EBCDIC	8	R ....
S	16	65536

(iv) Write the Boolean expression of the given logic circuit.
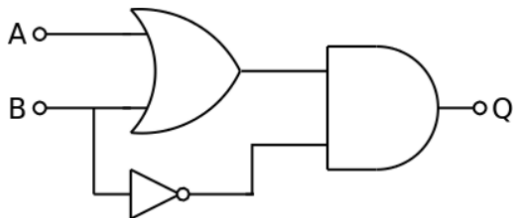
(v) Saman connected the printer that he purchased to his computer, to get a copy of the assignment titled 'Applications of Information Technology', but was unsuccessful. In this process, he has missed one of the hardware management of a computer system. What is that management?

(vi) . Write down the tool related to the formatting available from 1 to 4 of the word processing document shown in figure.

(vii) Write down 2 characteristics of a qualitative presentation.

(viii) Explain the pilot deployment among the ways of setting up a system deployment approaches.

(ix) Creating a website and keep updating it is an activity done by a group of people.

O n the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert
1. tables
2. headers
3. footers
4. lists
5. cover pages
and other document building blocks. When you create
➢ pictures
➢ charts
➢ diagrams
they also coordinate with your current document look.
You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.
IT club / Sri sumangala Vidyalaya/Rakvana

Column A of the table below shows some positions and Column B shows the roles related to each position. Select the role in column B, that matches the position name in column A and write it in number → label form. (ex: 1 → A)

Column A	Column B
①. Web Designer	A. Writing code, error checking and debugging.
②. Editor	B. Perform maintenance related to web client and databases
③. Publisher	C. Website interface design.
④. Website Admin	D. Publishing the website

(x) Write suitable expressions for labels A, B, C and D in this flowchart.

   (Answering under the labels is sufficient and it is not necessary to copy the above flowchart.)

53
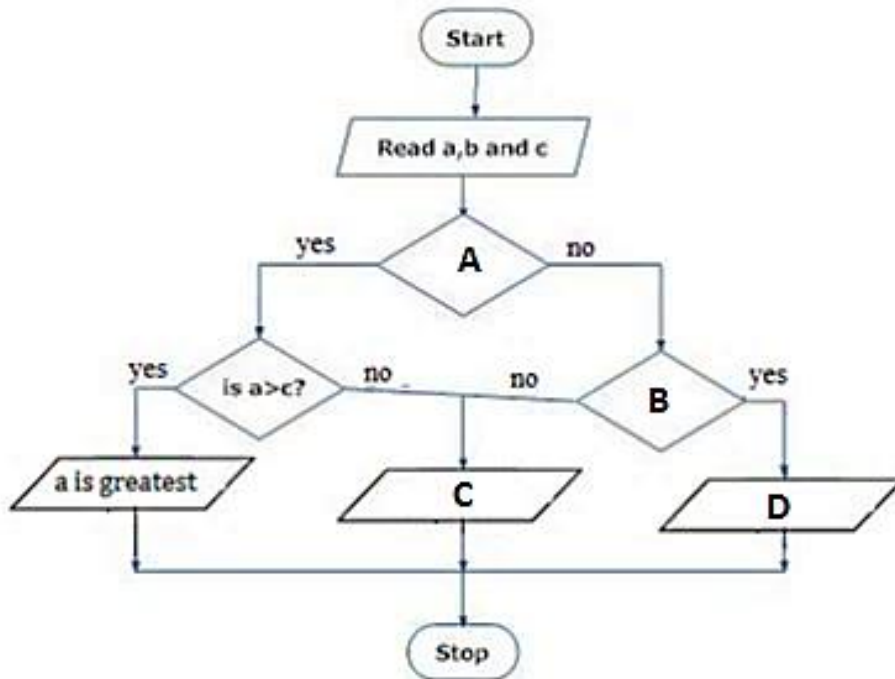
2. Below is part of a spreadsheet detailing the prevalence of dengue in Sri Lanka for the months of January to June in the years 2021, 2022 and 2023.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2	**Prevalence of the dengue from January to June in the years 2021, 2022, 2023**												
3													
4	**Tendency of dengue deaths**	**2%**											
5													
6	**Year**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**June**	**Total dengue patients**	**Average dengue patients**	**Reported Max dengue patients**	**Reported Min dengue patients**	**Reported no of Deaths**	
7	2021	2,250	2,425	2,400	2,225	3,250	2,944	17,515	2502.14	3,250	2,021	350	
8	2022	7,812	3,252	3,325	4,000	6,432	1,136	27,979	3997.00	7,812	1,136	560	
9	2023	8,872	6,852	6,324	7,874	9,964	9,900	51,809	7401.29	9,964	2,023	1,036	
10													

(i) To get the total number of dengue patients reported in the year 2021, write the function to be entered in cell H7 as =function(cell1:cell2).

(ii) If the function entered in cell H7 was copied to cell range H8:H9, write down the function shown in cell H8.

(iii) To get the average number of dengue patients reported from January to June in the year 2021, write the function to be entered in cell I7 in the form =function (cell3:cell4).

(iv) Write down the relevant cell range (cell5:cell6) for the function to be written to get the highest number of dengue patients reported in the months from January to June 2021 in cell J4.

(v) Write down the formula to be entered in cell L7 using only cell addresses, to find the number of deaths based on the prevalence of dengue deaths in according to the total number of dengue patients in 2021. (Note: Note that this formula has to be copied for other years also.)

(vi) Select the most appropriate type of graph available in spreadsheets that matches the scenario given below from the given list of graphs.

a. To show the number of dengue cases reported in each month of the year 2023 as a percentage

　　　Chart List: {Area, Bar, Pie, Scatter}

3. Below are some tabular sections of a database containing information on 'One Galle Face PVR' Cinema.

Film Table

Film_ID	Film_Name	Duration (Hours)
F001	The Marvels	2
F002	Asu	2
F003	The Wacky	2
F004	Kathuru Mithuru	2

Audience Table

Cust_ID	Tel_No	Show_ID	Seat_No
C0001	0314457986	S110	212
C0002	0114453698	S110	213
C0003	0112257896	S111	214

Show Table

Show_ID	Time	Film_ID
S110	10.30	F001
S111	1.30	F002
S112	6.30	F003
S113	9.30	F004

(i). (a). Write down the primary key of the Film Table.

   (b). Write down the Foreign Key of the Audience Table.

(ii). Which tables should be updated to meet the following?

(a). Screening a 2 hour film (Film_ID: F005) "Swara" at 11.30 in Cinema Hall (Show_ID: S114).

(b). A new audience 'C0004' with phone number 0777936842 booked a seat number 202 for watching the movie 'Kathuru Mithuru'.

(iii) Write down the new record(s) to be entered in respect of making the change referred to in part (II) (a) above;

   Write as TABLENAME --> (FIELD1, FIELD2,...)

(iv). Wanted to find the name of the movie watched by the 'C0001' customer. Which tables should be used for this requirement?

4. (i) Consider the following expressions related to computer languages.

A. Machine language runs directly on the machine and does not require interpreter programs.

B. The Pascal programming language has procedural programming features.

C. An interpreter translates the entire program written in a high-level language into machine language as a whole, before executing the computer program.

Indicate whether the above statements are true/false. (Answering with A, B and C is sufficient.)

(ii) Draw the flowchart representing the pseudo code shown below.

```
Begin
T = 1
For S = 1 to 4 do
        Print (S + T)
        T = T+ 2
Next S
End
```

(iii) Consider an array called **marks** consisting of 5 integer values. If values are entered for that array as below, draw the array called **marks**.

```
Var marks : array[0..4] of integer;
marks[0] := 85, marks[2] := 45;
marks[1] := marks[0] - marks[2];
marks[3] := marks[1] + 25;
marks[4] : =71;
```

(iv) If the above array outputs values as follows then write down the output.

```
for x := 1 to 4 do
        writeln(marks[x]);
```

5. (i) Consider the statements with blanks, labeled A to F. Find the most suitable terms to fill in the blanks from the following list. Write down the correct term corresponding to the given label. (label → term).

A - A unique name used to identify a website on the Internet is called a ....

B – A large collection of electronic documents is known as ....

C - Website name (URL) is used to search for unknown web pages.

D - Uses ....service for large file transfer through the internet.

E - An email address is separated into two parts, the username and the domain name, by the .... symbol.

F - A computer connected to the Internet is uniquely identified by ....

G - When exchanging e-mails, the .... directive is used .

H - A document in a web server (Web Server) is used to communicate to a web client (Client) computer. .

List of terms: {WWW, search engine, HTTP, @, IP address, domain name, FTP, SMTP}

(ii) The web page shown in Figure 1 below should be created using the source code shown in Figure 2. Figure 2 shows ten blank tags, labeled ① - ⑫. Select and write the most suitable tag corresponding to the blanks from the given list. (Only write down the label number and correct HTMLtag up to ① - ⑫.)

List : {Head, body, src, border, color, H1, p, H3, b, u, i, ul, ol, type}

Use of Internet

The Internet is a global network of billions of computers and other electronic devices.With the Internet, it's possible to access almost any information, communicate with anyone else in the world, and do much more.

Some of the commonly used internet services are :

- Communication Services.
- Information Retrieval Services.
- File Transfer.
- World Wide Web Services.
- Web Services.

Ways to connect to Internet

i. Dial-Up
ii. Broadband
iii. Wireless Connection
iv. Satellite

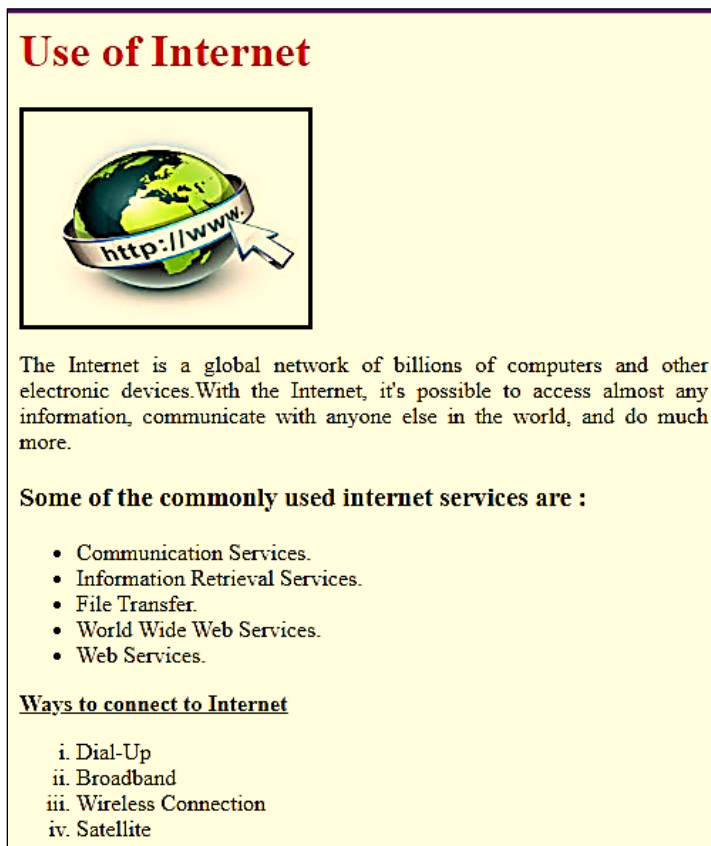Figure 01

```
<html>
<①><title> internet </title> </①>
<② bgcolor="white">
<③><font ④="Red">Use of Internet</③></font>
<img ⑤="internet.jpeg" height=150 width=200 ⑥="3" ">
<p align="justify">The Internet is a global network of billions of computers and other electronic devices.
With the Internet, it's possible to access almost any information, communicate with anyone else in the
world, and do much more.</p>
<⑦>Some of the commonly used internet services are :</⑦>
<⑧><li>Communication Services.</li>
<li>Information Retrieval Services.</li>
<li>File Transfer.</li>
<li>World Wide Web Services.</li>
<li>Web Services.</li></⑧>
<⑨><⑩>Ways to connect to Internet</⑩></⑨>
<⑪ ⑫="i">
<li>Dial-Up</li>
<li>Broadband</li>
<li>Wireless Connection</li>
<li>Satellite</li>
</⑪>
</②>
</html>
```

Figure 02

6) (i) The manager of Sadipa Institute is planning to introduce a new computer based system to replace the existing manual system. Merina Institute was assigned to develop this computer based system.

a) Merina Institute will collect the details of the new system and the old system and prepare a written document. This is done under which step of the system development life cycle ?

b) What is the professional title of the person who identifies the needs and designs the new system?

c) What is the name of the inspection which is conducted to get the approval of Sadipa Institute?

d) Mention the most appropriate system deployed method that you suggest for Sadipa Institute to carry out its day-to-day operations without risk.

(ii) Compressing is important to avoid the inconvenience of storing and transmitting large graphics.

I. State the two ways of compressing a graph.

II. Write a special characteristic of each of the forms of compressing.

III. Specify the file format that can be used in each of the above mentioned compression modes.

7) (i) (a). Mention 2 reasons why the USB drive is becoming more popular as a storage medium.

(b). Choose the correct answer for group A from group B and write the letter related to group B in front of the number related to group A.

| A	B
i. Used to check the validity of a cheque.	OMR
ii. Used to computerize commodity price data.	OCR
iii. Multiple choice answer sheets are used for marking.	Barcode reader
iv. A document with a large number of pages is used for monitoring in a short time.	MICR

(ii) Match the description indicated by the labels P to S with the correct term in the list of terms given below. Write the number of the correctly matched term in front of each label.

label	description
P	Taking one's own new product or process without permission, that was not previously in use or known to the public.
Q	Presenting off creator's ideas, essays or other creation as one's own without owner's permission.
R	The ability to handle computing and the knowledge about it separates a man economically or socially.
S	Publish news that harms the reputation of individuals.

Glossary- **1. Misuse of social networks 2. Plagiarism 3. Numerical division**

**3. Cybercrime 4. Intellectual Property 5. Digital bridge**

(ii) State the cause of the digital divide and name an action taken by the Government to remove it.

Department of Education - Western Province

G.C.E. Ordinary Level	80 – E - I	Information and Communication Technology	01 hour

Note: ∗ Answer **all** questions
∗ In each of the question **1** to **40**, pick one of the alternatives **(1), (2), (3), (4)** which is **correct** or most **appropriate.**

1. Choose the answer that describes the characteristics of quality information.
    (1) Relevance, accuracy, cost Effectiveness, planability
    (2) Incompleteness, up-to-date, cost-effectiveness, relevance
    (3) Minimum cost, timeliness, storability, accuracy
    (4) Completeness, cost minimization, relevance, dependability

2. It is not an example of Learning Education at any place at any time.
    (1) nenasala.lk   (2) ethaksala.lk   (3) www.daraz.lk   (4) www.vidumanpetha.com

3. According to design technology, the ECG machine used to monitor the activity of the heart in computer classification belongs to,
    (1) Under Analog computer.   (2) Under digital computer.
    (3) Under Hybrid computer.   (4) None of the above.

4. The most commonly used technique for printing house plans and town plans is,
    (1) Plotter   (2) Optical pen   (3) Thermal printer   (4) Flatbed Scanner

5. Choose the answer that includes only techniques belonging to the non-volatile memory category from the following techniques.
    A- Random Access Memory
    B- Reading Only memory
    C- Cache memory
    D- Flash memory
    (1) A and B   (2) A, B and C   (3) A, B and D   (4) A and C පමණි

6. A number not written in Binary Coded Decimal (BCD) code,
    (1) 00110000   (2) 01010011   (3) 0111110011   4) 010001100000

7. What is the ascending order of the given binary numbers 1110_2, 1101_2, 1011_2?

    (1) 1011_2, 1101_2,1110_2 (2)1110_2 ,1101_2 , 1011_2

    (3) 1110_2 , 1011_2,1101_2 (4)1101_2, $1011_2$$1110_2$

8. Values shown are matched to 10TB,

    (1)10^3 GB   (2) 10^{10} MB   (3) 10^2 GB   (4) 10^4 GB

9. The price of an apple is Rs. 75 and the price of a mango is Rs. 125. The answer in Octal form is the cost of buying 2 mangoes and 2 apples.

    (1) 82   (2) 280   (3) 620   (4) 802

10. The correct inputs to be given to get output 1 in the following Logic circuit are,
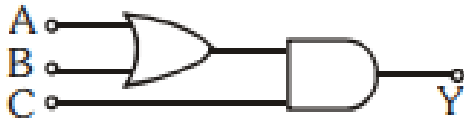
    (1) A=0, B=1, C=0   (2)A=1, B=0, C=0   (3) A=1, B=1, C=0   (4) A=1, B=0, C=1

11.
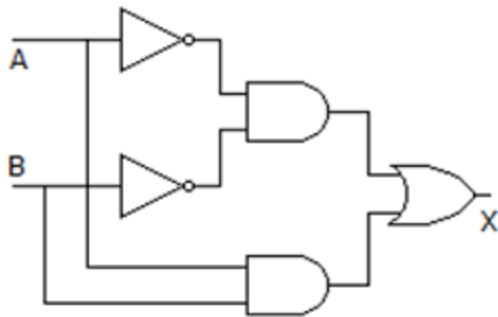
    What is the Boolean expression shown in above logic circuit?

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

12. Vihagata was told that the partitioning is necessary once again because various errors can be seen on the hard disk of Akalank's computer. Vihaga has the opinion that once again partitioning would be delete valuable data stored on the hard drive. What is the method to protect data before partitioning?

    (1) Installing anti-virus software
    (2) Backing up data
    (3) Installing another operating system
    (4) Storage on another partition of the same hard disk

13. Not a function of file management in Operating System.
    (1) Preparation of new files
    (2) Changing the location of a file
    (3) Protecting the file from unauthorized access
    (4) Arrange Folders as appropriate and delete unnecessary Folders

14. What is the tool that displayed Number of pages, the selected language, the number of words etc in the interface of a word processing software is,

    (1) Home tab   (2) Quick access bar   (3) View bar   (4) Status bar

15. In a word processing software, one of the text should be removed from its place (Cut) and pasted (Paste) to another place. The shortcut keys that can be used for these selctions?
    (1) Ctrl + A ,Ctrl + V   (2) Ctrl + X ,Ctrl + V
    (3) Ctrl + C ,Ctrl + V   (4) Ctrl +X ,Ctrl +P

16. What is the correct answer for the formula = 5+4*3^3/9-2?
    (1) 15   (2) 13   (3) 14   (4) 16

17. Which of the following is an invalid value for absolute cell addresses?
    (1) A$3   (2) C$4$ (3) $D2   (4) G5

18. The file extension of an Electronic Presentation is,
    (1) pdf   (2) exe   (3) doc   (4) pptx

19. What is the Shortcut key for entering a new Slide in an Electronic Presentation?
    (1) Ctrl+N   (2) Ctrl+C   (3) Ctrl+M   (4) Ctrl+V

- Answer questions no. **20 to 22** from the following Database tables obtained from a learning management system.

Teacher_Table	
T_ID	**Teacher_Name**
T0001	Nimali Fonseka
T0002	Achala Gomez
T0003	Achala Jayarathne
T0004	Diyamanthi Fernando

Subject_Table	
Sub_Code	**Sub_Name**
S001	ICT
S002	English
S003	Maths
S004	Science

Teacher_Subject Table		
Sub_Code	T_ID	Start_Date
S001	T0001	09/02/2024
S002	T0004	09/02/2024
S003	T0002	09/02/2024
S004	T0003	09/02/2024

20. Which of the following is most suitable Primary Key in Teacher_Subject Table?
    (1) Sub_Code   (2) T_ID   (3) Sub_Code + T_ID   (4) Sub_Code + Start_Date

21. What is the most suitable data type for Sub_Code?
    (1) Boolean   (2) Number   (3) Currency   (4) Text

22. Consider the following statements.
    A - T_ID is a foreign key in the Teacher Table.
    B - T_ID is a foreign key in the Teacher_Subject Table.
    C - Sub_Code is a primary key of the subject table.
    Which of the above statement is correct?

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

23. Consider the following Pseudo code.

Begin
        X= 1
        Repeat
            X = X+1
        Until X > 5
        Display X
    End
What is the output of the above pseudo code?
(1) 2   (2) 5   (3) 6   (4) 2 3 4 5

• Consider the following flowchart for Output the Multiplication of even numbers from 1 to 10. Answer questions 24 and 25 accordingly.

24. Name the A & B Labels.

(1) X< 10 , M = M + X
(2) X< =10, M = M * X
(3) X >10, M = M * X
(4) M< =10, X= X * M

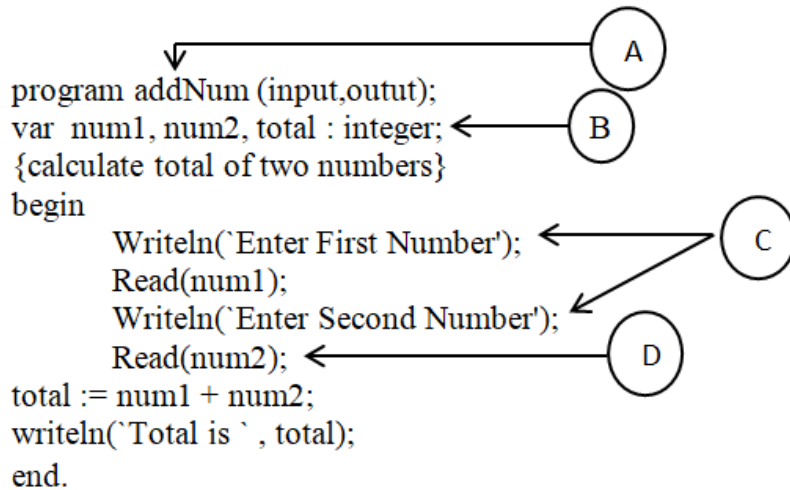25. Which statement is correct about the Control structures in the flow chart?

(1) Having Repetition in Selection

(2) Having selection in repetitions

(3) Having Selection within Selection

(4) Having repetitions within repetitions

Start

X = 1
M = 1

A —No→ End

Yes

X is an Even —Yes→ B

No

X = X + 1
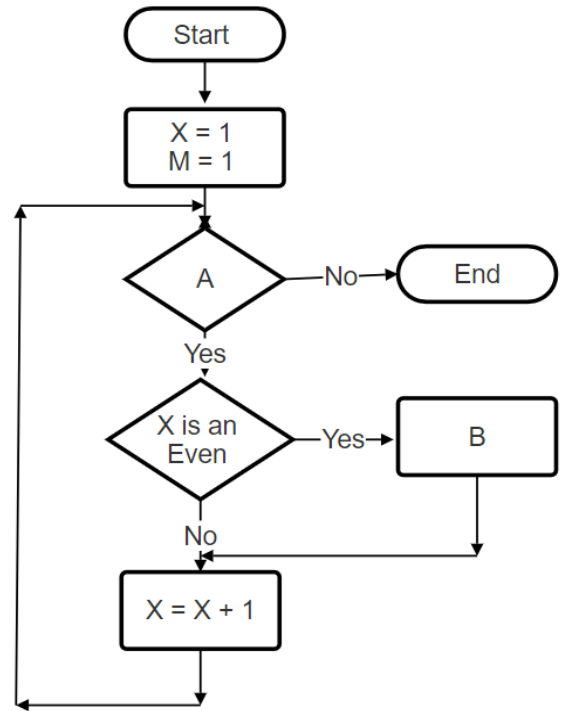
27. The correct answer to Pascal's expression 18/ 2 * (7 mod 4) is,
    (1) 3.0   (2) 9.0   (3) 18.0   (4) 27.0

28. Consider the following Pascal Programme.

```
program addNum (input,outut);          A
var  num1, num2, total : integer;  ←   B
{calculate total of two numbers}
begin
        Writeln(`Enter First Number');  ←
        Read(num1);                            C
        Writeln(`Enter Second Number');  ←
        Read(num2);  ←                         D
total := num1 + num2;
writeln(`Total is ` , total);
end.
```

Choose the correct option for A, B, C and D

    (1) Program name, Identifier, Input, Output

    (2) Identifier, Variable declaration, Output,Input

    (3) Input, Comment , Program name, Output

    (4) Identifier, Input, Variable declaration, Output

29. Consider the following statements.
    A - A system has 3 basic components as input, process and output.
    B - A computer based information system is more efficient than a Manual information system.
    C - In the waterfall model, after one step is completely completed, the other step begins.
    Which of the above statements is correct?

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

30. The methods of system Deployment is,
    (1) Direct, Integration, System, Pilot
    (2) Direct, Parallel, System, Phased
    (3) Direct, Pilot, Parallel, Phased
    (4) Waterfall, Prototype, Parallel, Iterative Incremental

31. Consider the following statements.
    A - Every website has a unique Uniform Resource Locator (URL).
    B – "Hypertext Transfer Protocol – HTTP" is used for transfer Web data.
    C - Uses the web server to convert domains into an IP address.
    Which of the above statements is correct?

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

32. Which of the following statement/statements is/are true?
    A - IP addresses are used to uniquely identify a computer connected to the Internet
    B - Email can be used to transfer a file with a capacity of 30 MB.
    C - Hyperlinks allows to link web pages in World Wide Web.

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

33. The elements of Digital Graphic,
    (1) Pixels, Resolution, Color, Quality   (2) Resolution, color, quality, size
    (3) Pixels, Resolution, Color, Size   (4) Resolution, Color, Pixels, Quality

34. Consider the following statements.
    A - Vectorian Giotto is a free software developed for animation.
    B - Built-in-player is used to run a created animation.
    C - A file created by Vectorian Giotto is saved under the .vgd file format.
    Which of the above statements is correct?

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

35. The HTML source code of the web page shown in Figure 1 is shown in Figure 2 without the tags labeled 1 to 3.

|	
STOP ! *Dengue* <u>it is in your hand</u>	<①>STOP !</①> <②>Dengue</②> <③> it is in your hand </③>
Figure 1	**Figure 2**

Which selection contains the correct tags required for labels ① - ③ shown in Figure 2?

(1) B, I, U   (2) H2, I, U   (3) H4,U,B   (4) B,I,H3,

36. In HTML, the <i> tag is used to italicize a web page. What is another tag that can be used to apply a similar format?
    (1) <strong>   (2) <u>   (3) <black>   (4) <em>

37. Consider the web page below. When designing a website, it is essential to consider the differentiation of the audience.
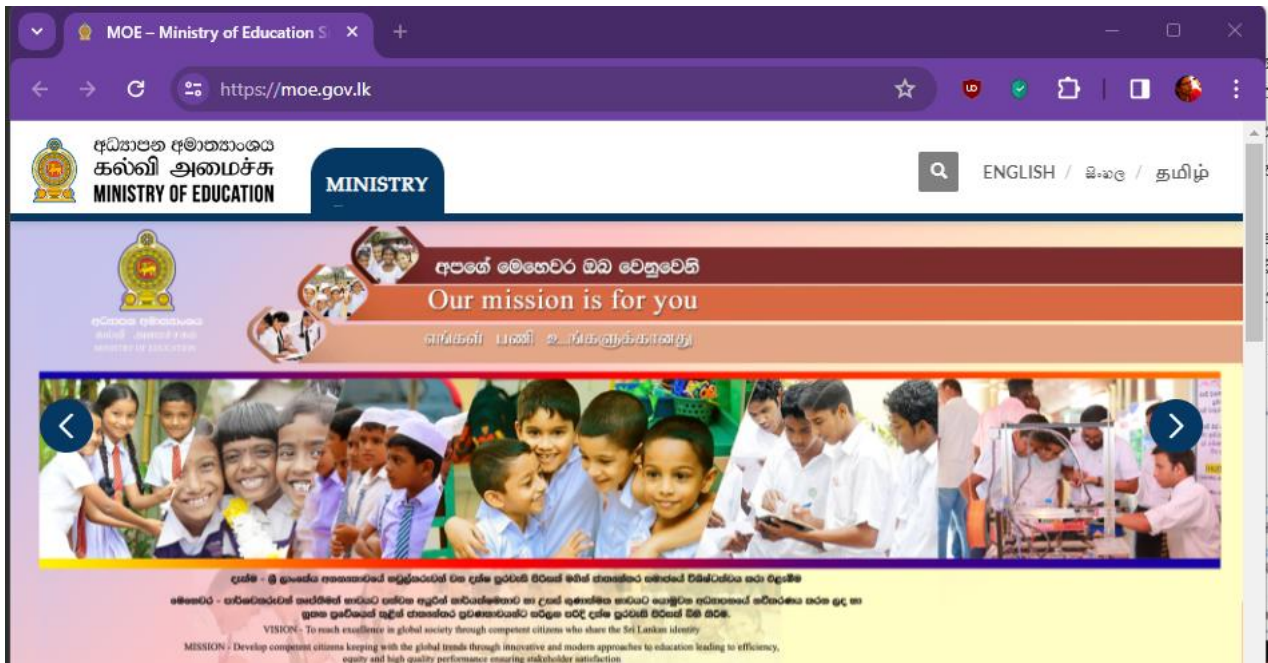
which of the following types of most focused feature in above webpage?

(1) Language and culture   (2) Educational level

(3) Gender   (4) Age level

38. Which of the following clause(s) is/are correct regarding the safe disposal of electronic waste?

A - Reducing unnecessary purchases by properly maintaining current electronic equipment.
B- Daily delivery garbage to collection truck
C- Donate or sell equipment that is old but in working condition without destroying it
   (1) A and B only   (2) A and C only
   (3) B and C only   (4) All

39. …………………………… forming connections among people avoiding the inequality due to the differences in access to, ability to or use of Information Communication Technology.

(1) Digital Divide   (2) Technical Knowledge

 (3) Urban Life   (4) Digital Bridge

40. The feeling of a numbness and pain in the fingers is called,

(1) Repetitive stress Injury
(2) Carpel Tunnel syndrome
(3) Musculoskeletal problems.
(4) Computer Vision Syndrome

Instructions :
- *Answer 5 questions including the first question and 4 optional questions.*
- *The first question carries 20 marks and each other question carries 10 marks.*

1.

(i) The use of Learning Management System (LMS) for school education management is seen in many countries. Mention 2 facilities each for students and teachers

(ii) a) Convert to 201_8 equivalent binary number.

b) Convert to $E15_{16}$ equivalent binary number.

(iii) a) A bell will ring if the temperature of the refrigerator is above -10 degrees centigrade and the door is open.

- Door being open – 1
- Door being closed – 0
- `- 10 in cases above -1
- `+10 in cases above - 0

Which single logic gate represents the above incident?

b) Draw the logic circuit of F= (A+B) . (B+C)

(iv) What are the two ways of accessing files at the operating system? Explain them in brief.

(v) Figure 01 shows a table prepared by word processing software and Figure 02 shows the icons used to format the table. Write the symbol used to represent A B C and D in the table (Figure 01) based on Figure 02. (Match the correct number of the icon with the label)

Figure 1

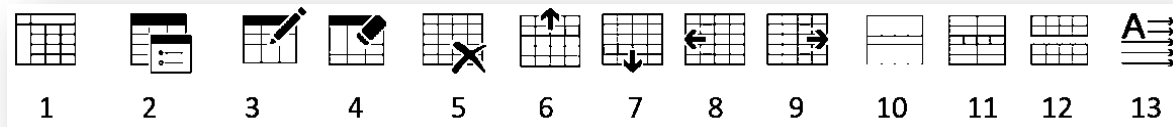| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

Figure 2

(vi) Name 2 free (open source) presentation software

(vii) consider the following pseudo code.

```
Begin
            i = o
            sum = 0
      while i < 5
            input x
            sum = sum + x
            i = i+ 1
            Endwhile
      avg = sum / i
      print avg
end
```

a) Write the correct output of the above pseudo code if input 8,6,14,7 and 3 respectively for x

b) What is the function of the above pseudo code?

(viii) Write 4 methods that can be followed to gather the information required in developing a system.

(ix) Write 3 main services performed by cloud computing.

(x) Write two requirements that a website publisher must fulfill to publish a website.

2.

(i) Consider the following table. The formatting functions of a word processing software are given in the first column (A) to (D) and the tools used for that are given in the second column with numbers (1) to (4)

Formatting	Icons	
(A) Increase the font size	(1)	
(B) Change Capital and simple letters.	(2)	
(C) Sub paragraph	(3)	Aa
(D) Change line space	(4)	A

Figure 2

Match the tasks in the first column to the correct tool in the second column. Write the letter of the task and the number of the correct tool in your answer sheet.

(ii) SANULFURN is an online retailer of furniture. The following spreadsheet shows the prices of several items of furniture, and the discount for each item is presented in cell C2. Answer the given questions using the spreadsheet below.

a) Write the equation you specify in cell D5 to calculate the sales price of a dining table.

b) Write the name of the function you specify in cell C28 to calculate the sale price of the lowest priced furniture item.

c) Write the equation you specify in cell E6 to find the balance for a customer who bought a cupboard.

d) After some time the above store decided to lower the discount on an item to 36%. Specify the cells/ranges of cells that will change when the change is made.

e) The store needs to display a chart showing the gap between selling price and saving. Write the most suitable type of graph for it.

	A	B	C	D	E
1			GRAND SALE SANUFURN		
2		Discount	40%		
3					
4		Furniture	Price (RS)	Sale Price	Saving
5		1 Dining Table	RS. 85,000.00		
6		2 Cupboard	RS. 65,000.00		
7		3 Bed	RS. 45,000.00		
8		4 Sofa Set (A)	RS. 175,000.00		
25		21 Sofa Set (B)	RS. 210,000.00		
26		22 Office Table	RS. 35,000.00		
27		23 Sofa Set (c)	RS. 196,000.00		
28		Cheapest Sale Price			
29		Most Expensive Sale Price			
30		Average Sale Price			

3. Below are some tables extracted from a database of a private educational institution.

Subject Table

Sub_ID	Subject_Name	Duration	Fees(Rs.)
Sub01	Maths	1 Year	15000
Sub02	English	1 Year	15000
Sub03	ICT	1 Year	20000
Sub04	Agriculture	6 Months	10000
Sub05	Science	1 Year	15000

Student_Subject Table

Stud_ID	Sub_ID
S0001	Sub01
S0003	Sub01
S0005	Sub03
S0002	Sub04
S0004	Sub03
S0005	Sub05

Student Table

Stud_ID	Stud_Name	DOB	Gender	Tel_No
S0001	Madhawa	21/05/2007	Male	0112245789
S0002	Iasith	01/03/2007	Male	0112257896
S0003	Shehan	12/06/2007	Male	0112257842
S0004	Malithi	02/02/2007	Female	0312548952
S0005	Dilshani	25/09/2007	Female	0318956327

(i)(a) Write down the Primary Key/Composite Key of the Student_Subject table.

(b) Write down the foreign key in the student_subject table.

(ii) Write down the data types related to each field in the subject table.

(iii) Which table(s) should be updated to make the following changes?

  (a) The educational institution in the name of 'Tech' (Sub_ID: Sub06) for a period of one year Introducing a new subject with a course fee of 20,000
  (b) A student named 'Jehan' (Stud_ID: S0006) enrolls in this newly introduced subject 'Tech'. (DOB: 2007/05/22, Tel_No: 0777156398)

(iv) The new record(s) to be entered in connection with making the change referred to in part (III) (a) above WRITE AS TABLENAME --> (FIELD1, FIELD2,...)

(v) What are the most appropriate tables to connect to write a query to find the names of students registered for the subject 'Maths'?

4.

(i) Briefly state what is the Identifier in Pascal programming language.

(ii) State the true/invalid for the following identifier (Write the answer with the number on the label)

        First Name
        9ABC
        SF77
        While

(iii) If a year is divided by 4 and the remainder is 0, then that year is considered a leap year. Eg 2020 /4 = 0 means 2020 is a leap year. Otherwise it is not a leap year. (Year is not Leap). Create Pseudo code to determine if any given year is a leap year.

5.

(i) (a) Consider the paragraph shown below.

To find out what are the adverse effects of antibiotics, Saman sits in front of the computer and opens ……………A………………… to access the internet and thereby executes ………B…………….. Then ………C………… In, he types "adverse effects of antibiotics".

Which is the most appropriate answer to fill the blanks A, B, C above?

(Search engine, Search box, Web browser, Uniform Resource Locator (URL))

(b) Write two services available on the Internet.

(ii) The web page shown in Figure 1 below should be created using the source code shown in Figure 2. Figure 2 shows twelve empty tags, labeled ① - ⑫. Select and write the correct bearing corresponding to the labels from the given list. (Only write down the label number and correct HTML up to ① - ⑫.)

Economic Crisis in Sri Lanka

Sri Lanka's current **economic** crisis is a result of several years of mismanagement,corruption, shortsighted policymaking, and an overall lack of good vernance. Insufficient foreign reserves at Sri Lanka's Central Bank and loss of access to international capital markets resulted in the country defaulting on debt for the first time in history. Unchecked external borrowings, tax cuts that widened the existing budget deficit the chemical fertiliser imports ban and the sudden floating of the Sri Lankan rupee are among several factors that contributed to the economic collapse.Tourism, together with apparel and tea exports – some of Sri Lanka's main income sources – were affected in recent years due to various internal and external factors such as

- *the 2019 Easter Sunday attacks followed by COVID-19 in 2020.*
- *Russian Ukraine war*

Real sector performance in Sri Lanka -2021

Indicator	Period	2020(LKR-million)	2021(LKR-million)	Change
GDP		6,764,242	7,062,011	4.4%
Agriculture	Jan-Sep	481,963	507,619	5.3%
Indusry		1987,716	1,919,560	6.7%
Services		4,064,034	4,172,782	2.8%

Source Department of cences and statistic-Central Bank -Sri Lanka

```
<html>
<head>
<①>Economy in Sri Lanka</①>
<head>
<②>
<③>
<h1>Economic Crisis in Sri Lanka </h1>
<img src="economy.png" width="200" height="250"></center>
<④ size="4">
<p ⑤="justify">Sri Lanka's current <B>economic </B>crisis is a result  of several years of
mismanagement, corruption, shortsighted policymaking, and an overall lack of good variance.
Insufficient foreign reserves  at Sri Lanka's Central Bank and loss  of access to international capital
markets  resulted in the country defaulting on debt for the first time in history.
Unchecked external
borrowings, tax cuts that widened the existing budget deficit the chemical fertilizer imports ban and
the sudden floating of the Sri Lankan rupee are among several factors that contributed to the economic
collapse. Tourism, together with apparel and tea exports – some of Sri Lanka's main income sources –
were affected in recent

years due to various internal and external  factors such as <⑥>
<ul><li><⑦>the 2019 Easter Sunday attacks followed by COVID-19 in 2020.</li>
<li>Russian Ukraine war</li></⑦>
</ul> </p></④>
<table border="1" ⑧="200" ⑨="150">
<⑩>Real sector performance in Sri Lanka -2021</⑩>
<tr><th >Indicator </th> <th> Period</th><th> 2020(LKR-million)</th>
<th> 2021(LKR-million)</th><th> Change</th></tr>
<tr><td >GDP </td> <td rowspan="4"> Jan-Sep</td><td> 6,764,242</td><td> 7,062,011</td><td> 4.4%</td></tr>
<tr><td >Agriculture </td> <td> 481,963</td><td> 507,619</td><td> 5.3%</td></tr>
<tr><td >Indusry </td> <td> 1987,716</td><td> 1,919,560</td><td> 6.7%</td></tr>
<tr><td >Services </td> <td> 4,064,034</td><td> 4,172,782</td><td>2.8%</td></tr>
</Table><⑥>
<⑦><⑪>Source</⑦></⑪><a ⑫="http://www.statistics.lk"> Department of cences and statistic-Central Bank -
Sri Lanka </a>
</②>
</html>
```

6. With the advancement of technology, the ability to express ideas by adding animation software to drawings and images (digital graphics) created using various graphic software has been positively developed today.

(i) Complete the blanks using suitable terms.

.......A.........is the basic building block of a numbered graph, the one we are looking at ....B..... .... created from thousands of pixels. A numbered graph is rectangular ....C..........and this .... Also known as ....D...........

(bit array, bitmap, pixel, pixel array, digitized graphic)

(ii) Find the number of colors in a pixel if the number of bits in a pixel is 4.

(iii) Consider the following statements regarding the Vectorian Giotto software used for animation. State the statements as true if they are true and false if they are false. It is enough to write the question number and write true false.

    a) Vectorian Giotto provides a variety of color selection options for both geometric objects and the Shapes and Colors tools in the workspace.

    b) An animation file created and saved by Giotto must be saved in .vge file format and saved in .swf file format when saving it as an embeddable file on the website.

(iv) Name the two types of color substitutes used in numbered graphics and state their primary colors. Give one instance of using those color substitutes.

7.

(i) a) In the following sentences with the spaces labeled A, B, C, D, identify the most suitable word that fits the space in the list of words given below and write each word in front of each corresponding label.

1. ………..A....... is used to establish interpersonal relationships and exchange ideas.

2. Electrical or battery-operated electronic products such as computers, televisions, mobile phones etc. are disposed of as ......B................. at the end of their useful life. .

3. Providing security for internet activities is called .... C.............

4. E-mails sent to entice people to commit various financial frauds by fraudulently obtaining their e-mail addresses are Known as ....D………..(Electronic waste, Social Networking Sites, Spam, Firewall, Unwanted Ads, Cyber Security)

    (b) Write 2 examples of anti virus software.
    (c) Write 2 measures that can be taken to create a digital bridge.

(ii) Classify the following data transmission media into Guided and Unguided.

(Radio waves, Infrared , coaxial cable,Micro waves,Fiber optics , Twisted pair)

(iii) Write 2 advantages we get from conducting the video conferencing.

Note: ∗ *Answer **all** questions*
       ∗ *In each of the question **1** to **40**, pick one of the alternatives (**1**), (**2**), (**3**), (**4**) which is **correct** or most **appropriate.***

1. The code used to access web pages after verification by mobile phones is,

     (1) barcode   (2) QR code   (3) ISBN code   (4) Unicode

2. Answer the questions based on the information from A to I in the table below.

Software used	Characteristics	Created systems
A. Machine language	D. Produces less heat	G. Apple II
B. High level programming language	E. Portable	H. IBM 7030
C. Operating systems with graphical interfaces	F. Consume more electricity.	I. ENIAC

    Which answer includes factors that are compatible with the second generation?

     (1)   A, F, I   (2)   B, D, H   (3)   C, F, G   (4)   B,F, I

3. It is not a special feature of the computer,

     (1)   Accuracy   (2)   Timeliness   (3)   Efficiency   (4)   Versatility

4. In a video conversation, data transmission takes place,

     (1)   Simplex Mode   (2)   Duplex Mode
     (3)   Half Duplex Mode   (4)   Full Duplex Mode

5. The unguided media data transmission medium that can be used for data transmission over a distance of about 36000 km is,

    (1)   Radio waves   (2)   Microwaves   (3)   Infrared   (4)   Optical fibers

6. Which of the following four number sequences represent in descending order?

    (1) 11101_2, 105, 37_8, CB_{16} (2)   105, 37_8, CB_{16}, 11101_2
    (3) CB_{16}, 37_8, 105, 11101_2 (4) CB_{16}, 105, 37_8, 11101_2

7. Equivalent to 16GB memory,

    (1)   16 x 1024KB   (2) 2 KB   (3) 2^{24} KB   (4) 2^{10} byte
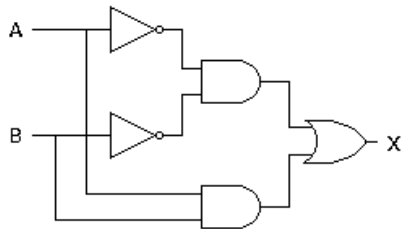
8. Which of the following numbers is the largest?

    (1) 175_8 (2) 11110111_2 (3) $A7_{16}$ (4) 314_{10}

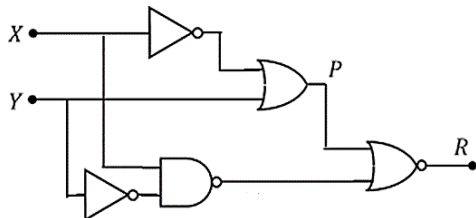9. The binary number equivalent to 1C516 is
    (1) 11100011_2 (2) 11110111_2 (3) 110111_2 (4) 111000101_2

10. The correct logic equation of the circuit below is,

    (1)   A.B+AB   (2) $\bar{A}.\bar{B}$+A.B
    (3) $\overline{\bar{A}.\bar{B}}$+A.B   (4)   All statements are false

11. For the output of the circuit below to be R = 1 what should be the inputs X and Y respectively?

    (1)   0,0   (2)   0,1   (3)   1,0   (4)   1,1

12. A document created using <u>the word processing software</u> has been saved under <u>formatted</u> flash drive within a newly created <u>folder</u>.
   A. A utility software
   B. Application software
   C. File management performed by the operating system
Most suitable for underlined words shown here,

(1)   B, A, C   (2)   C, A, B
(3)   A, B, C   (4)   None of the above

13. Consider the following tasks. Among these, the function of an operating system is,
   A- Data protection against viruses.
   B- Keeping track of files and directories, folders on storage devices.
   C- Control peripheral devices such as disk drives and printers.
   D- Facilitate graphic design.
(1)   A , B and D Only   (2)   B and C Only
(3)   A , B and C Only   (4)   All A,B,C and D

14. The icon used for indentation in word processing is,

   (1)   (2)   (3)   (4)

15. The following tool in a word processing software is used to,
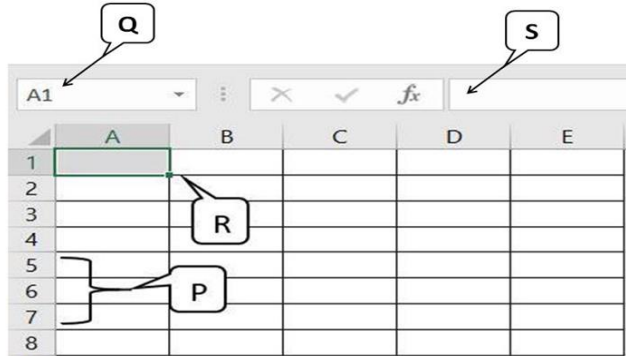
(1)   Mail Merge   (2)   Send E mail
(3)   Setting the orientation of a page (4)   Adjust the size of a page

16. Which is the correct answer related to the formula = 2*6/ (15-3^2)*5?

   (1)   7   (2)   10   (3)   13   (4)   11

17. Consider the following spreadsheet segment,

According to the above table, the correct answer for P, Q, R, S is,

(1)   Row header, active cell, name cell, formula cell
(2)   Row header, Name cell, Active cell, Formula cell
(3)   Name cell, formula cell, active cell, row header
(4)   Row Headers, Formula Cell, Active Cell, Name Cell

18. When the Esc key on the keyboard is pressed during the slide show of presentation software,

(1)   Indicates the first slide
(2)   Indicates the previous slide
(3)   Indicates the end of Slide Show
(4)   indicates the last slide

19. Which of the following functions is performed by the Slide Sorter view?

(1) The selected slide is displayed in the full screen
(2) Gives space to create and clearly read the presentation.
(3) Shows all slides contained in the presentation in small form and allows sorting the slides.
(4) Helps to magnify the contents of the screen

- ABC School purchases goods from various suppliers for its school cooperative. Consider the following data base related to it. Based on that, answer question numbers 20 to 23.

Item table

Item_ID	Item_Name	Stock
101	Pen	22
102	Pencil	30
103	Books (80 pages)	16
104	Books (160 pages)	10

Supplier table

Sup_ID	SName	Contact
S01	Amal	0112256897
S02	Nishantha	0112235986
S03	Kulathunga	0114785452

Purchase table

Date	Sup_ID	Item_ID	Count
2023/8/20	S02	102	15
2023/10/5	S03	101	50
2024/1/10	S01	103	30
20/1/2024	S02	104	30

20. What is the primary key of the Purchase table? (Note that one person cannot buy the same product more than once)
   (1)   Sup_ID   (2)   Item_ID   (3)   Item_ID + Sup_ID   (4)   Item_ID + Date

21. What would be the most suitable data type for '**Sup_ID**' field?

   (1)   Number   (2)   text   (3)   Currency   (4)   date & time

22. Which item is supplied by the "Kulathunga"?

   (1)   Pen   (2)   Pencil   (3)   Books (80 Pages)   (4)   Books (160 Pages)

23. Which table is needed to update, if 30 pens bought by new supplier called "Janaka"?

    (1)   Item table and Suppler table
    (2)   Supplier table
    (3)   Purchase table
    (4)   Supplier table and Purchase table

24. Consider the following pseudo code.

```
Begin
    X = 1
        …....................……
        X = X+1
    End While
    Display X
End
```
The correct expression for the blank to output 6 is,

    (1) While X > 5
    (2) While X <=5
    (3) While X = 5
    (4) until X <=5

25. Consider the following pseudo code.

```
Begin
N= 1
M = 1
Repeat
   M = M +1
   M = M + N
Until M>5
Display M
```
End

The output is,

    (1) 6
    (2) 7
    (3) 6 7
    (4) 5 6 7

26. Consider the following expressions related to variable in Pascal language.

A – A variable is an identifier which changes the values given to it when the program is being executed.

B – In Pascal 'Var' is used to declare variables.

C –A variable has a name, and it stores a value of the declared type.

Which of the above statements is true?

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

27. 4 >= 4 AND NOT(7 > 9) The output of above pascal statement is ?
   (1)   True   (2) False   (3) 1
              (4) 0

28.Consider the following pseudo code. What is the output?
      Begin
              Input a
              Input b
              C = b mod a
              Output C
              Output b
              Output a
   (2)   1, 2, 5   (2) 1 ,5, 2   (3) 2, 1 ,5   (4) 2, 5, 1

29. consider the following pascal code.

      Program printReverse (input,output);
      Var count : integer;
      Begin
              For count := 5 downto 1 do
                  Writeln(count);
      End.
What is the output of above code?

   (1) 1, 2,3,4,5   (2)   1   (3) 5, 4, 3, 2, 1   (4)
                                     2   5
                                     3   4
                                     4   3
                                     5   2
                                                                                                1

30. Consider the following expressions related to arrays

A - Arrays are used to store data belonging to the same form in memory using the same name.

B - Elements of an array are located next to each other

C - The array sequence number (Index) is entered in square brackets with the name of the array

Which statements are correct?

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

31. Below statements related to the system development life cycle, the answer relevant only to the **designing the solution** step is,

(1) Gathering information to identify user needs

(2) System design based on newly identified user needs

(3) Prepare a written note on the objectives, benefits, efficiency etc. of the new system

(4) Infrastructure design of software, databases, interfaces

32. The answer that includes the statement related to the waterfall model is,

(1) The final result of the developed system can be seen in the last stage

(2) It is not necessary to first identify the need well

(3) The main step here begins with the simple implementation of a system requirement

(4) This is not a system development with part by part.

33. Not a advantage of cloud computing,

(1) Less cost of software (2) Requirement of constant internet connection
(3) Increased performance (4) Minimized maintenance problems

34. Consider the following clause with blanks

Internet is …………………… and a website is …………………….

(1) A network of computer networks, Uniform Resource Locator (URL)

(2) An information source, a physical document consisting of multiple media

(3) A collection of servers, a collection of web documents

(4) A network of computer networks, a hypertext (HTML) document or collection of documents that can be opened through a web browser.

35. Which of the following HTML code snippets is correct?

(1)<Img Src= "school"/>   (2) <Img Src= "school.png"/>
(3) <Src Img= "school.png"/>   (4) <Img Src= school.jpg/>

36. My *country* is <u>Sri Lanka</u>

What is the correct HTML code for above output?

   (1) <p> My <sup>country</i><sup> is <u>Sri Lanka</u></p>
   (2) <p> My country is <u>Sri Lanka</u></p>
   (3)   <p> My <i>country</i> is <u>Sri Lanka</u></p>
   (4) <p> My <i><b>country</i><b> is Sri Lanka</p>

37. The list includes only software that can be used to prepare and edit audio on a computer.

   (1)   Power Sound Editor, Wavosaur, Sound Engine, Stash Space
   (2)   AVI Edit, Wave Pad Sound Editor, Ardour, Sound Engine
   (3)   Audacity , Wavosaur , Mp3Direct Cut , Ardour
   (4)   Stash Space , Wave Pad Sound Editor , AVI Edit , Ardour

38. The table below shows some of the tools used in the Vectorian Giotto software and some of their functions. Choose the answer that matches A and B correctly.

A		B
P	Rotate created shapes and images	L
Q	Draw freely lines	M
R	Freely draw larger images	N
S	Cut out shapes and figures	O

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

39. What is the demerits of using ICT?

(1) Due to the use of modern machinery, work can be done efficiently.

(2) Limited human handling skills.

(3) Being able to connect with a teacher and do educational work from home.

(4) Being able to contact a doctor from home and check his health condition.

40. The agency set up to notify when a cyber crime occurs is,

(1) Information Security Management System (ISMS)

(2) Sri Lanka Computer Emergency Readiness Forum (CERT)

(3) Information and Communication Technology Institute (ICTA)

(4) Sri Lanka Cyber Crime Forum (SLCCT)

Note: ∗ *Answer **five (05)** questions only, including the **first question** and **four** others.*
  ∗ *The first question carries **20** marks and each of other questions carries **10** marks.*

1. (i). Write 4 instances where information and communication technology is used for entertainment.

(ii). Select the term from column B that matches the function shown in column A and write the label character in column B, in front of the label number in column A, **label number →label character**.

A	B
i. Used to check the validity of a cheque.	OMR
ii. Used to computerize commodity price data.	OCR
iii. Used for marking Multiple choice answer sheets.	Barcode reader
iv. A document with a large number of pages is used for monitoring in a short time.	MICR

(iii). The EBCDIC code system has 12010 for the "&" character. Convert it to EBCDIC binary value.

(iv). Draw the logic circuit to the Boolean statement F= (A+B) + (B+C).

(v). What are the two ways to access files in the operating system plane? Explain them in brief.

(vi). Shortcut Keys used in word processing software and their functions are given under columns A and B below. Select the function from column B that matches the shortcut key in column A and write the label number on your answer sheet in the form of **label number →label character**

A	B
1. Ctrl + N	P. Save document
2. Ctrl + A	Q. Search words
3. Ctrl + F	R. Select all together
4. Ctrl + S	S. Open new document

(vii). Write 2 characteristics that a quality presentation should contain.

(viii). The existing system and the new system are maintained for a certain period of time and if the new system is successful, the old system is stopped and the new system is implemented.

    (a). The above statement describes which deploy in the system deployment phase?

    (b). Write one advantage related to that deployment.

(ix). Some of the main services performed by the cloud computing concept are shown with the labels A to D below.

    A - To provide the necessary space to store data in the server computer

    B - Provide an environment necessary for software development and execution

    C - Providing operating systems, computer language environments etc. to the client

    D - Facilitating the use of application software installed on the Internet

    Among the above services, write down which services fall under development environment services.

    (Only writing the relevant label is sufficient)
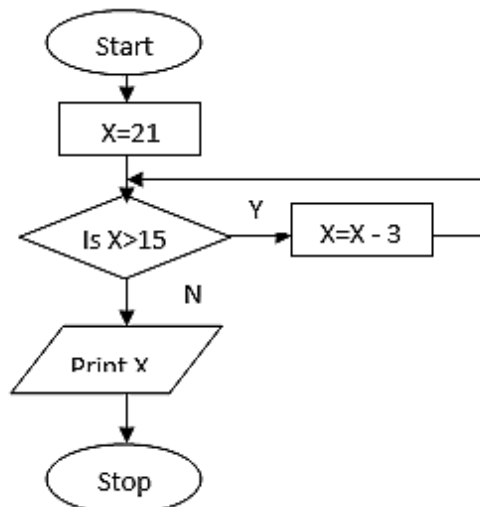
(x).. (a). What is the output of the flowchart?

(b). What is the output of the flowchart if X> 15 is changed to X>=15?

2. The following is a part of a work sheet maintained by a shoe manufacturing company regarding shoe production.

	A	B	C	D
	Item(raw material)	Unit price (Rs)	Qty	Expense (Rs.)
1				
2	Fabric (metre)	170.00	160	27,200.00
3	Dye (kg)	150.00	3	450.00
4	thread (metre)	100.00	80	8,000.00
5	Rubber (feet)	370.00	60	22,200.00
6		Shoe production total expense		57,850.00
7		Percentage of profit (%)		5,785.00
8		Expense + profit =		63,635.00
9	Total produced pair of shoes		65	
10	Sale price of a shoe			979.00
11	Mamimum raw material quantity		160	

(i). What formula should be mentioned in cell D6 to find the total amount spent on shoes?

(ii). Write down how to calculate the profit percentage value for D7 using the cell addresses.

(iii). As mentioned in cell B9, if the number of shoes produced that day is 65, what is the formula to be mentioned in cell D10 to calculate the selling price of a pair of shoes?

(iv). Write the corresponding equation to indicate the maximum amount of ingredients in cell C11.

After finding the cost of fabric for cell D2, write step by step how it can be copied for other items like dye/thread/rubber.

3. A car rental company intends to create a database to store its information. They want to include the company's cars, the details of the people renting them and the details of the vehicles currently on rent.

Vehicle Table		
V_ID	**Title**	**Available**
V_100	Alto	No
V_101	Nissan	Yes
V_102	Corolla	No
V_103	Audi	Yes
V_104	Allian	No

Vehicle_Customer Table		
Date	**V_ID**	**Cus_ID**
18/5/2023	V_101	S001
25/5/2023	V_102	S002
2/6/2023	V_104	S001
12/6/2023	V_100	S004

Customer Table			
Cus_ID	**Name**	**Telephone**	**Address**
S001	Parakum	0312253689	Kurana
S002	Navod	0312258796	Negombo
S003	Amal	0112254896	Seeduwa
S004	Lahiru	0112257841	Ja-Ela

(i). Write whether the following clauses are true or false.

(a). **V_ID** is the foreign key of the Vehicle_Customer table.

(b). **Cus_ID** is the primary key of the Customer table.

(ii). What table(s) need to be updated for the following changes?

(a). Getting a new vehicle **(V_105)** as Honda Fit for rent.

(b). Mr. Parakum renting Nissan vehicle on 5/7/2023.

(iii). A new customer **(S005)** named Nimal resident of Kandana registered under phone number 0112256483 and he rented the Audi on 10/7/2023.

(a) Which tables need to be updated to make the above change?

(b) Write the corresponding updates, **tablename --> (field1, field2,...)** as

(iv). Which tables should be connected to prepare a query to find people who have rented Alto cars?

(v). Which tool should be used to obtain a report on each customer's rented vehicles?

4. (a). Consider the following statements regarding the evolution of programming languages.

> A - It is a characteristic of machine language that the operation is very fast and does not require language interpreter programs.

> B - Assembly A program written in assembly language does not depend on the machine.

> C - Pascal Pascal is an example of a high-level computer language.

> D - High-level languages do not need to be converted to machine language instructions before they can be run. not

Indicate whether the above statements are true/false. (Indicating true/false in front of the relevant label characters is sufficient)

(b). Amal has started the following dummy code to get the sum and average of any 10 numbers. Total, Average, number and n is the variable and n represents the number of repetitions. Complete the blanks in the pseudocode below that Amal could not complete.

```
BEGIN
Total = 0
Average = 0
n = 1
  WHILE ....A.....
        READ .....B......
        CALCULATE ......C..........
        ..........D.......
ENDWHILE
CALCULATE ......E.......
DISPLAY.....E...., Average
END.
```

(c). Consider the Pascal code below

```
program displaySum;
var
Sum:integer;
Begin
   Sum:=0;
   repeat
      Sum:=Sum+5;
      writeln(Sum);
   until Sum>25;
End.
```

(i). Write the output of the above Pascal code

(ii). Indicate what the desired function from this code.

5. (a) Choose the correct example that fits the item labeled A to D from the list of examples given and write the label as an example.

A-A domain name

B-Web editing software

A C-search engine

D-uploading software

E=a web browser

F-Internet service provider

List - {Yahoo, Dream Viewer, SmartFTP, SLT, Goole Chrome, Blue Griffon,PHP}

(b) The web page shown in Figure 1 below should be created using the source code shown in Figure 2. Figure 2 shows ten empty tags, labeled ① - ⑫. Select and write the correct bearing corresponding to the labels from the given list. (Only write down the label number and correct HTML up to① - ⑫.)

Environmental Pollution

Sri Lanka faces several ecological problems, including water pollution, air pollution, solid waste, and biodiversity loss. Primarily the cases of environmental pollution are industrialization, urbanization, population growth, transportation, and deforestation.

Types of Pollution			
Air Pollution	Soil Pollution	Noise Pollution	Water Pollution

How to minimize the environmental pollution

1. Reduce the number of trips you take in your car.
2. Reduce or eliminate fireplace and wood stove use.
3. Avoid burning leaves, trash, and other materials.
4. Avoid using gas-powered lawn and garden equipment.

For more information please visit [Central Environmental Authority](#)

```
<html>
<head> </head>
<body>
<①><②><font color="Green" ③="Comic Sans MS">  Environmental Pollution </font></②>
<④ src="e.png" height=250 width=350></①>
<p ⑤="justify"><font size="4">Sri Lanka faces several ecological problems, including water pollution, air
pollution, solid waste, and biodiversity loss. Primarily the cases of environmental pollution are
industrialization, urbanization, population growth, transportation, and deforestation.</font></p>
<⑥ border="1">
<tr><⑦ colspan="4"><font size="5">Types of Pollution<//⑦></font></tr>
<tr><⑧><④ src="e1.png"><//⑧><⑧><④ src="e2.png"><//⑧><⑧><④ src="e3.png"><//⑧>
<td><④ src="e4.png"></td></tr>
<tr><⑧><①>Air Pollution<//①><//⑧><⑧><①>Soil Pollution<//①><//⑧><⑧><①>Noise
Pollution<//①><//⑧><⑧><①>Water Pollution<//①><//⑧></tr></⑥>
<⑨>How to minimize the environmental pollution<//⑨>
<⑩><li>Reduce the number of trips you take in your car.</li>
<li> Reduce or eliminate fireplace and wood stove use.</li>
<li> Avoid burning leaves, trash, and other materials.</li>
<li> Avoid using gas-powered lawn and garden equipment.</li>
</⑩>
<p><⑪>For more information please visit <⑫ href="http://www.cea.lk">Central Environmental
Authority<//⑪><//⑫>
</body>
```

6.

(a) Match the details indicated by the labels A – D with the correct terms in the list of terms given below. In front of each label, write the corresponding term in the form label - term.

Label	Description
A	Checking that the entire system produces the desired output given the relevant inputs
B	A system is initially installed in a small-scale field
C	Here the user approves the proposed system or shows what needs to be corrected.
D	Completely removing the old system and implementing the new system

List -(Pilot Deployment, Acceptance Testing , Direct Deployment ,system testing)

(b) Compression is important to avoid the inconvenience of storing and transmitting large graphics.

- (i) State the two ways of compressing a graph.
- (ii) Write down a special characteristic of each of the forms of contraction.
- (iii) Specify each of the file formats that can be used in the above mentioned compression modes

7. (a) According to design technology, there are 03 types of computers. Name them and write the example in the bag.

(b) (i) Column "a" below shows the types of damage and software that affects computers and column "b" shows the damage caused by it. Select the type from column "b" that matches the malware shown in column "a". It is sufficient to write the corresponding letter in column B in front of the number in column A while providing answers.

A	B
1.computer virus	A. When the user connects to the Internet, he misleads and redirects the incoming connection to other web pages.
2. Computer Worms	B. Used to collect personal information through instant messages and Internet conversations.
3. Spyware	C. Tricking users into obtaining information on their bank accounts or e-accounts etc.
4. Bots	D. A type of computer-damaging virus that can run alone and spread.
5. Hijacker	E. Appearing to be genuine but malicious software, this infects the system without the user's knowledge.
6.(phishing)	F. Infiltrating computers through networks and external storage devices by connecting to computer programs and spreading copies of themselves inside the computer

(ii) The figure below shows the posture a person should follow while using a computer.
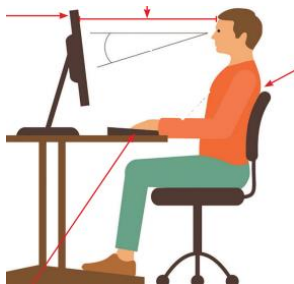
Write 2 correct postures followed by the person as shown in the figure.

(iii). Identify digital division and name 2 steps that can be taken to avoid it.

ANSWERS

Model Paper- 01

Department of Education – Western Province

Information & Communication Technology I – Answer

1	3		11	4		21	3		31	3	
2	2		12	4		22	3		32	4	
3	1		13	4		23	3		33	4	
4	1		14	2		24	4		34	3	
5	3		15	3		25	2		35	2	
6	4		16	4		26	3		36	3	
7	3		17	2		27	2		37	2	
8	1		18	3		28	1		38	1	
9	2		19	2		29	4		39	3	
10	2		20	1		30	2		40	1	

INFORMATION AND COMMUNICATION TECNOLOGY (80)

Model Paper 1 – ANSWER SHEET

1.		2X10 =20
	i. Data is a collection of facts, while information puts those facts into context. While data is raw and unorganized, information is organized. (difference 1mark, example 1 mark)	ii. A- Star , B - Tree
	iii. 87 1F 79	iv. a – 1 , b=F=A+B
	v. a- Format, b- Parttioning	vi. P-2 Q-3 R- 7, S-9
	vii. N- New slide B- screen black P- Previous slide W – White scree	viii. Any 2 from unit testing, integrated testing, system testing
	ix. Unauthorized accesses, sudden crashes of systems, destruction of data	x. A-0 B=6 C-Pascal D- 6

2.
    i.   =B3*C3
    ii.   =SUM(D3:D11)
    iii.   =AVERAGE(D3:D11)
    iv.   =D5*B$19
    v.   =D8*B$19
		2X5= 10

3.
 (I)   (a) DVD_ID + Cust_ID   **(marks 2)**
          (b) DVD_ID
            Cust_ID   **(marks 2)**
 (11)   (a) DVD_Table   **(marks 1)**
         (b) Rent_Table
           DVD_Table   **(marks 1)**
 (111) Customer_Table ⟶ (CU0005 , Sumeth)
       DVD_Table) ⟶ (DV0006, Assassin'sCreed 11, No)
       Rent_Table ⟶ (27/11/2023, DV0006, CU0005**)**   **(marks 3)**
 (1V) Customer_Table
     DVD_Table   **All three tables must be named.**
     Rent_Table   **(mark 1)**
		Marks 10

4.

i.

```
┌─────────────┐
│    Begin    │
└─────────────┘
       │
       ▼
   ╱─────────────────╲
  ╱   Input name,      ╲
  ╲ marksub1, marksub2 ╱
   ╲─────────────────╱
       │
       ▼
┌───────────────────────────┐
│ Average=marksub1+marksub2 │
└───────────────────────────┘
       │
       ▼
      ╱╲
     ╱  ╲
    ╱ If  ╲
   ╱Average╲────────►  ╱──────────╲
   ╲>=50   ╱          ╱   Print     ╲
    ╲    ╱            ╲   "Pass"     ╱
     ╲  ╱              ╲──────────╱
      ╲╱                    │
       │                    │
       ▼                    ▼
  ╱──────────╲        ┌─────────┐
 ╱   Print     ╲─────►│   End   │
 ╲   "Fail"     ╱     └─────────┘
  ╲──────────╱
```

(1 x 7=marks 7)

ii.   P-marks , Q- Good, R-60, S-marks<45,T- print , U- print marginal **(.5 x 6=marks 3**)

5.

  i.   A- gov.lk, B- http;//www.nie.lk , C- 192.168.1.1, D- MSN **(1x 4=marks4**)

  ii. 1-h1, 2- ul, 3-h3, 4-img, 5-p, 6-br, 7-table, 8-tr, 9-th, 10-colspan, 11-td,12-center
     (0.5 x 12=marks 6)

6.

  i.   (a) A pixel

  ii. (b) A digital graphic

       (c) A pixel array

       (d) A bit representation   marks 2

  iii. Number of colors per pixel= $2^{\text{Number of bits in a pixel}}$

                            $= 2^4$

                            =16   mark 1

  iv. (a) True (b) False   (½ *2 = mark 1)

Model	Primary colors	Occasion of use
RGB Model	Red, Green and Blue	When creating images on television or computer screens
CMYK Model	Cyan, Magenta, Yellow ,Black	When printing images on paper
marks 2	marks 2	marks 2

7.

  i.   1- 1, 2-3, 3-4, 4-2 marks 4

  ii.

      a.   Suitable answer marks 2

      b.   Suitable answer marks 2

      c.   Suitable answer marks 2

Model Paper- 02

Department of Education – Western Province

Information & Communication Technology I – Answer

1	4		11	3		21	1		31	4	
2	3		12	2		22	4		32	2	
3	2		13	4		23	2		33	2	
4	3		14	2		24	3		34	2	
5	3		15	1		25	3		35	3	
6	2		16	1		26	3		36	1	
7	2		17	4		27	2		37	1	
8	3		18	2		28	3		38	3	
9	3		19	1		29	3		39	4	
10	2		20	2		30	2		40	2	

1.

i.	(i) data (ii) Information
ii.	Data transfer is faster on a switch than Hub A hub forwards information to all computers while a switch forwards information only to that particular compute
iii.	$\begin{array}{cccccc} 3 & 0 & 5 & . & 1 & 2 \\ 10^2 & 10^1 & & 10^0 & 10^{-1} & 10^{-2} \end{array}$ $\qquad$ $\begin{array}{ccc} 1 & 3 & 7_8 \\ 8^2 & 8^1 & 8^0 \end{array}$
iv.	i. $\big((A+B).(\overline{A+C})\big).\big((\overline{A+C}).B\big)$ ii. C=0
v.	real time
vi.	A-12, B-13, C-11, D-7
vii.	B
viii.	Identification of hardware Designing the user interface
ix.	2 5 8 11
x.	Musculoskeletal problems Repetitive stress injury Carpel Tunnel Syndrome Computer Vision Syndrome

2.

i.   =C6-C$13
ii.   =D6*C$14
iii.   =B6+E6
iv.   =B6*3%
v.   =F6-J6

3.

i (a) False   (b) True   (ළ 2)

ii. (a)Item_Table   (ළ 1)

    (b) Purchase table , Item_Table   (ළ 2)

   iii.   Item_Table ⟶ (IT0007 , Colour A4 Bundle , 10)

            Supplier_Table ⟶ (S005 , Minsara Stationaries , 0112568479)

            Purchase_Table ⟶ (24/11/2023 , IT0007 , S0005, 10) (ළ 3)

  iv.   Item_Table ,Supplier_Table

         Purchase_Table   (ට 2)

4.

i.   (a) True (b)   True   (c)   False

ii.

(iii)
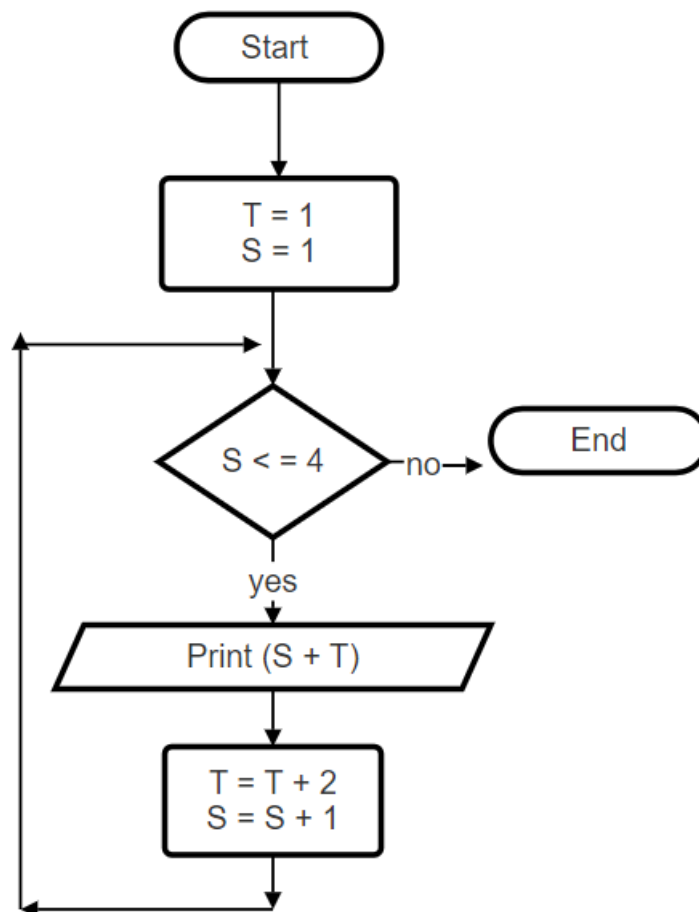
marks[0]	marks[1]	marks[2]	marks[3]	marks[4]
85	40	45	65	71

(iv) 40
45
65
71

5.

(i)   (a) Internet connection

Communication software

Web camera

Communication devices

(b)less cost, no need separate location , saves time

(c) E-mail, social media, exchanging instant messages

(ii)

1. Title	6.href	11.rowspan
2.bgcolor	7.disc	12.td
3.src	8.br	
4.justify	9.border	
5.I	10.caption	

6. (a)

i.   Key frame,tween frame,blank key frame

2. I Image collection tool

Used to add images to the workspaceJPEG ,TIFF,PNG,GIF

(b) I. Questionare,interview,observation

Ii. can update easily

Being able to process information in less time

minimal errors

Iii. system design stage

Iv' No

In the waterfall system development method, the needs must be identified first, so that method is not suitable

Iterative Incremental Model suitable.

7. (i)	P -D	Q -C	R - A	S -B	

(ii)

     1. Quoting

     2. citing

     3. referencing

     4. patent license

(iii)   i. Install virus protection software on the computer and update it properly

       Ii It's virus protection when connecting external storage devices (USB) to your computer
         Testing by software

       iii. Always install legitimate software on the compute

       iv. Normal user instead of Administrator account for general

Model Paper- 03

Department of Education – Western Province

Information & Communication Technology I – Answer

1	4		11	2		21	2		31	4
2	1		12	3		22	3		32	4
3	4		13	2		23	1		33	2
4	2		14	2		24	3		34	2
5	3		15	2		25	2		35	4
6	3		16	3		26	2		36	1
7	3		17	2		27	3		37	4
8	2		18	3		28	2		38	3
9	4		19	2		29	2		39	1
10	4		20	1		30	4		40	4

Model Paper - 3
Paper II - Answers

i.

  • Ability to study from a convenient location within a flexible time frame

  • Digital library link provided at course registration

  • Online assignments and quizzes

  • Facility to connect with an online teacher

  • Availability of consultancy services   **(1 x 2= marks 2)**

ii. 1- d

   2- c

   3- a

   4- b   **(0.5 x 4 = marks 2)**

iii.

Code system	Number of bits used	Number of characters
BCD	4	16
ASCII	7	128
EBCDIC	8	256
Unicode	16	65536

                                                                    (0.5 x 4 = marks 2)

iv. Q= (A+B). $\overline{B}$ **(marks 2)**

v. Device Management   **(marks 2)**

vi. 1 – Drop Cap

   2 - Numbering

   3 – Bullets

   4 – Underline   **(0.5 x 2 = marks 2)**

vii.

• If pictures, graphs, tables and graphs etc. are included then only two maximum should be included in one section.

• Between 6 - 9 rows are suitable for each slide.

• Generally, the font size should be 32 points (Font Size 32) or more.

• Spelling and language usage should be checked for correctness.

                                                       (0.5 x 2 = marks 2)

viii. The system is first installed in a small scale field and after its successful installation in the rest of the fields is called pilot deployment.

E.g.: Introduce the vehicle revenue license system first only in the Western Province and then introduce it to the rest of the provinces as well.
(marks 2)

xi. 1 – C

   2- A

   3- D

   4- B   **(0.5 x 4 = marks 2)**

x. A – a > b

  B – b > c

  C - c is greatest

  D - b is greatest   **(0.5 x 4 = marks 2)**

                                            (total marks 20)

2. i. =SUM(B7:G7) **(marks 2)**

ii. =SUM(B8:G8) **(marks 1)**

iii. =Average(B7:G7) **(marks 2)**

iv. =MAX(B7:G7) **(marks 2)**

v. =H7*$C4 / =H7*$C$4 **(marks 2)**

vi. a. Pie chart **(marks 1)**

(1 x 2 = marks 2)

(total marks 10)

3. (i) (a) Film_ID **(marks 2)**

)b) Show_ID

(ii) (a) Film Table **(marks 1)**

Show Table

(b) Audience Table **(marks 1)**

) iii (Film Table) ⟶ (F005 , Swara , 2) **(marks(2**

Show Table ⟶ (S114 , 11.30, F005) **(marks(2**

(iv) Film Table

Show Table (All three tables should be named marks (2

Audience Table

(total marks 10)

4. (i). A – True

B - True

C – False

(1/2 x 3=marks 1 1/(2

(ii).


```
        Start
          |
          v
     T = 1
     S = 1
          |
          v
       S < = 4  --no-->  End
          |
        yes
          |
          v
     Print (S + T)
          |
          v
     T = T + 2
     S = S + 1
```
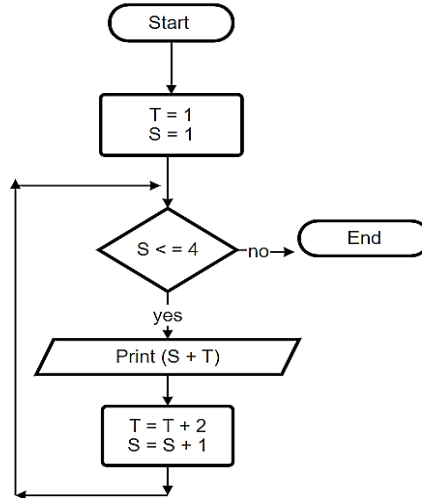
(marks 4(

(iii)

marks[0]	marks[1]	marks[2]	marks[3]	marks[4]
85	40	45	65	71

(5 x 1/2=marks1 2 /(2

(iv) 40

45

65

71   **(marks(2**

(total marks 10)

5.i. **A –** Domain Name

   B - WWW

   C - Search Engine

   D - FTP

   E - @

   F – IP Address

   G – SMTP

   H - HTTP   **(1/2 x 8 = marks 4)**

ii. 1 – head   5 – src   9 – b/u

   2 – body   6 – border   10 – b/u

   3 - h1   7 – h3   11 - ol

   4- color   8 – ul   12- type

                                                                  (1/2 x 12 = marks 6)

---

6. i. a) first step- - identification of requirement step   **(mark 1)**

   b) System Analyst   **(mark 1)**

   c) User Acceptance Testing)   **(mark 1)**

   d) Parallel Deployment   **(mark1)**

 ii.

 i). Lossy Compression   **(1 x 2 = marks 2)**

     Lossless Compression

 ii).Lossy Compression - :

       In compression, its quality is destroyed.

Lossless Compression:

 No loss of quality during compression.   **(1 x 2 = marks 2)**

iii). Lossy Compression- :

        ex -JPEG, TIFF, BMP

    Lossless Compression: -

        ex -GIF, PNG, RAW   **(1 x 2 = marks 2)**

---

7. i) a). Easy to carry around.

    Being able to store more data in less space.   **(1/2 x 2 = mark 1)**

  b).

  i – MICR

  ii – barcode reader

  iii – OMR

  iv – OCR   **(1 x 4 = mark 4)**

  ii). P – 5

    Q – 2

    R – 3

    S – 4   **(1 x 4 = mark 4)**

 iii).

Establishment of Nansala Centers all over the country.

Establishment of Computer Resource Centers across the country.

Providing free/low cost computer courses.

Creating free WiFi zones

Expansion of Mahindodaya laboratories across the country.   **(mark 1)**

Model Paper- 04

Department of Education – Western Province

Information & Communication Technology I – Answer

|									
1	2		11	2		21	4	31	1
2	3		12	2		22	2	32	2
3	3		13	3		23	3	33	3
4	1		14	4		24	2	34	4
5	4		15	2		25	2	35	2
6	3		16	1		26		36	4
7	1		17	2		27	4	37	1
8	4		18	4		28	2	38	2
9	3		19	3		29	3	39	4
10	4		20	3		30	3	40	2

1.

  (i) Student   - Instantly upload school assignments at home
                        - Ability to connect with lessons through videos
     (ii)   Teachers   - Commenting by joining discussion forums
                        -Activity monitoring and assignment tracking   (2 marks)

  (iii) a) 201   →   010 , 000 , 001   → 10000001_2 (1 marks)
        b)E15   → 14 1 5 → 1110 0001 0101 →111000010101_2 (1 marks)
        a) AND gate   (1 marks)
        b)
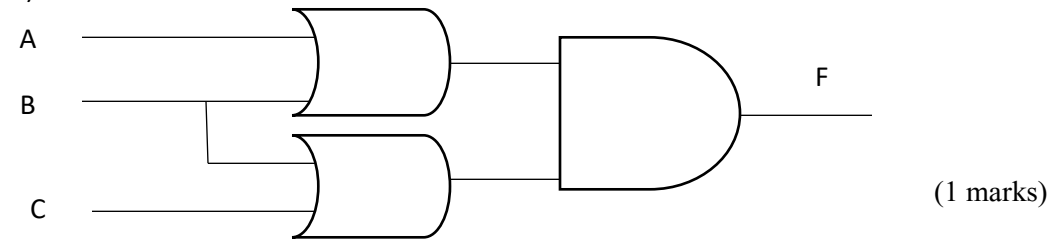
                                           (1 marks)

  (iv) Random access- randomly access the files
        Sequential Access - Accessing files sequentially one after the other   (2 marks)
  (v) A - 1 0   B - 13   C - 1   D - 7   (2 marks)
  (vi) Open Office Impress , Libre Office impress   (2 marks)
  (vii) a) 7.6   (1marks)
     b) Find the sum of five numbers entered by the user and calculate the average

                                           (1 marks)
  (viii) Questionnaires Observations, Interviews, Document sample collection, Questionnaires

                                           (2 marks)

  (ix) Infrastructure as a service
        Platform as a service
        Software as a service   (2 marks)
  (x) Website design software, web hosting, domain name   (2 marks)

2.

  (i) A - 4   , B - 3   C - 1   D - 2   (2 marks)
  (ii) a) =C5 - (C5*C$2)   (2 marks)
      b) Min Or   =Min(D5:D27)   (1 marks)
      c) =C6 - D6   (2 marks)
      d) D5:D27   and E5:E27 , C28 , C29 , C30   (2 marks)
      e) Line chart   (1 marks)

3.

  (i) (a) Stud_ID + Sub_ID   (2 marks)
)b) Stud_ID   / Sub_ID   (1 marks)

(ii) Sub_ID – Text
 Subject_Name – Text
 Duration   - Text
 Fees (Rs.)   - Currency   (2 marks)
(iii) (a) subject table   (1 mark)
 (b) student table,studenu_subject table   (1 marks)
(iv) Subject table → (Sub06 , Tech, 1Year , 20,000)   (1 marks)
(v) Student table,subject table,student_subject table   (2 marks)
 All three tables

4.
 (i) User-entered terms to denote variables and constants in a program**(2marks)**
 (ii)
 1- Invalid
 2- Invalid
 3- valid
 4- Invalid   **(2marks)**
 (iii)

```
Begin
Input Year
If Year  /4 = 0 then
        Display 'Year is Leap'
Else
        Display ' Year is not Leap'
Endif
End.
```
(6 marks)

5.
 (i) (a) A - Web Browser
      B - Search Engine
      C - Search Box   **(3 marks)**
      (b) www, Search engine, Remote access,E mail , File Sharing , FTP **(1 marks)**

 (ii)   1 - title
        2 - body
        3 - center
        4 - font
        5 - align
        6 - br
        7 - i
        8 - width / height
        9 - width / height
        10 - caption
        11 - b
        12 – href

6.
 (i) A -pixel
    B – digital graph
    C – pixel array
    D – bit map   (2 marks)
                     $=2^4$
                     =16   (1 mark)
(ii))a)true) b) false   (1 mark)

(iii)

Color model	Basic colors	usage
RGB	Red, Green and Blue	When creating images on television or computer screens
CMYK	Cyan, Magenta, Yellow ,Black	When printing images on paper
(2 marks)	(2 marks)	(2 marks)

7. .
     (i)   (a) A – social media website
            B – electronic waste
            C – cyber security
            D – attached email   (2 marks)
        (b) Avira , Avast , eset   (1marks)
       (C) Providing computers at concessional rates.
          Providing free or subsidized internet facilities
     Setting up free and low-cost computer technology centers like Vidatha Centres, Nansalas,
     Computer Resource Centres.
                   (2 marks)
   (ii)   Guided   - coaxial,fiber,twisted pair
         Unguided – infrared,micro wave, radio waves   (3 marks)

    (iv)Saving of transportation cost as no need to travel

      Saving time
                         (2 marks)

Model Paper- 05

Department of Education – Western Province

Information & Communication Technology I – Answer

1	2		11	3		21	4	31	4
2	2		12	1		22	1	32	1
3	2		13	3		23	4	33	2
4	4		14	1		24	2	34	4
5	2		15	1		25	2	35	2
6	4		16	2		26	4	36	3
7	3		17	2		27	1	37	3
8	4		18	3		28	2	38	3
9	4		19	3		29	4	39	2
10	2		20	3		30	4	40	2

1. (i).

- 3D imaging technology
- Holographic imaging technology
- Cartoon movies
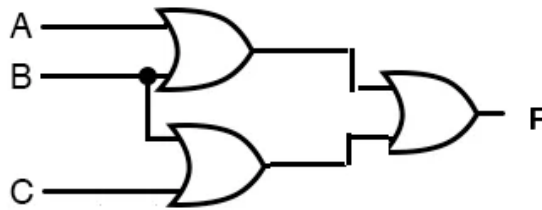- Digitized audio editing
- Number games
- Simulation games

   (ii).

     1 - MICR
     2 – barcode reader
     3 - OMR
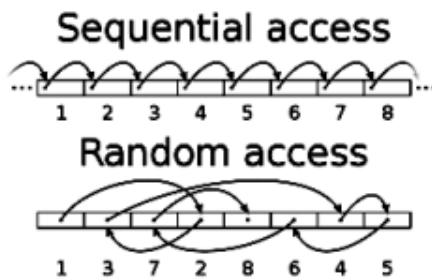   4 - OCR

(iii). .

   120 -> hexadecimal 78_{16} -> 01111000

(iv). F= (A+B) + (B+C)

(v).

(vi). 1 – S
    2 – R
    3 – Q
    4 – P

(vii).
- Containing between 6-9 lines of sentences per slide
- Font size should be 32 points or larger
- Spelling and language applications must be correct
- color variation applied to the letters and the background should be considered well
- A maximum of two pictures, graphs or tables should be included per slide.
- Motion pictures and videos should be entered only one per slide.
- It is important to consider the audience object when using multimedia.

(viii).

  (a). Parallel execution

  (b). Risk reduction by enabling the new old system to function when the new system has errors

  Getting a chance to get used to the new system

  .

(ix). B,C

(x). (a). 15

  (b).12

2.

(i).   =D2+D3+D4+D5   (marks 2)
(ii). =D6*10/100   (marks 2)
(iii). =D8/B9   (marks 2)
(iv). =MAX(C2:C5)   (marks 2)
(v).   Get the cell pointer to cell D2. Get the fill handle and drag it to D5 and drop it.
                                                              (marks 2)

3.

(i).

  (a). true.

  (b). true   (marks ½ x 2=1)

(ii).

  (a). Vehicle table.

  (b). Vehicle_Customer table   (marks 1 x2=2)

(iii).

  (a) Customer table, Vehicle_Customer table   (marks 1 x2=2)

  (b) Customer --> (S005,Nimal, 0112256483 ,Kandana)

    Vehicle_Customer --> (10/7/2023,V_103,S005). (marks 1 ½ x2=3)

(iv).   Customer table, Vehicle table , Vehicle_Customer table (marks ½ x3=1 ½)

(v). Report table(marks ½)

4. (a).

A - true
B - false
C - true
D - false

(b). A – n<=10

B – number

C – Total=Total+C

D – n=n+1

E – Average=Total/10

F – Total

(c).

(i). 5

10

15

20

25

30

(ii).   View multiples of 5 from 0 – 30

5. (a).

A-nie.lk

B- Blue Griffon

C- Yahoo

D- SmartFTP,

E- Goole Chrome

F- SLT   (all correct – 4 / 5 correct -3 / 3,4 correct – 2 / 2,1 correct- 1)

(b).

        1   - center
        2   -H1
        3   – face
        4   – img
        5   – align
        6   – table
        7   – th
        8   – td
        9   – H4
        10 – ol
        11 – b
        12 – a   (marks ½ x 12 = 6)

6. (a). A – System Testing
          B – Pilot Deployment
          C – Acceptance testing
          D – Direct deployment   (marks 1 x 4 = 4)
    (b).
        (i). Lossy
              Lossless.   (marks 1 x 2 = 2)

(ii).   lossy - picture quality decreases

        lossless- The picture quality is not reduced   (marks 1 x 2 = 2)

        (iii). lossy - jpeg, tiff, bmp
             lossless - png, gif, raw   (marks 1 x 2 = 2)

7. (a). Digital computers - Computers used in everyday life

     Analog computers - speedometers, street lamps with sensors, weather gauges

     Hybrid Computer - ECG machine.   (marks 1 x 3 = 3)

    (b), (i).

   1 – F

   2 – D

   3 – E

4 - B

5 - A

6 – C   (marks. 3)

(ii).

1. Keeping the computer on a suitable table at eye level or a little lower.
2. The distance between the computer screen and the eye to be 18 – 28 inches or 45 – 70 cm.
3. Keeping the user's back straight against the back of the chair and keeping shoulders relaxed.
4. Keeping legs vertical to the ground with the soles flat on the surface.
5. Keeping the mouse near the computer, keying in words lightly, moving wrist as is necessary while keeping the keyboard straight at elbow level or lower.

.   (marks .2)

(ii). Digital Divide - The economic and social segregation of human beings based on their ease and ability to use, handle and know about ICT..   (mark .1)

Digital divide Avoidance measures   (marks ½ x 2= 1)

- Giving digital literacy
- Provide computers
- Removing other financial barriers and providing equal opportunities
- Coalition of intermediaries

****