

Second Term Examination - 2025

Grade

10

Subject

Information and Communication Technology I II

Time

3 hours

Name -

Answer all questions.

- 1) Of the following statements, the one that best describes data and information is,
 - i) A set of information is called data.
 - ii) A meaningful idea can be obtained by data.
 - iii) It is not necessary to have up-to-date information.
 - iv) Relevance is a characteristic of quality information.

- 2) An example of quantitative data is,
 - i) Madushan is a good student of mathematics.
 - ii) The price of a computer is Rs.210,000.
 - iii) Pavani is a good student.
 - iv) Samantha is a handsome student.





- 3) "The class in-charge teacher asks students to collect **marks** obtained by each student for Mathematics and find their **average marks**."
 Words printed in bold black letters indicate,
 - i) Data and Information
 - ii) Information and Data
 - iii) Data and Data
 - iv) Information and Information

- 4) Out of the following services, the answer that includes only the services provided by the Government of Sri Lanka to other States (G2G) is,
 - A. Sri Lanka Customs Details
 - B. Diplomatic and visa information
 - C. Forms and Circulars
 - i) Only A and C
 - ii) Only B and C
 - iii) A and B only
 - iv) A, B and C are all

- 5) The generations of computers based on vacuum and artificial intelligence are, respectively,
 - i) First generation and fifth generation
 - ii) Second Generation and Third Generation
 - iii) The first generation and the second generation
 - iv) Third generation and fourth generation

- 6) Among the following statements relating to various areas of use of information communication technology, the incorrect statement is:
 - i) Fingerprint machine and card reader are used for human resource management.
 - ii) In the field of agriculture, electrical signal id equipment is used to detect insects.
 - iii) A networked home monitoring system is used to monitor the patient from home.
 - iv) In the fishing industry, sensors are used to identify the locations of fish.

- 7) The most accurate statement about the evolution of the computer is,
 i) The punch card concept was introduced by Joseph Jacquard
 ii) Charles Babbage invented the abacus.
 iii) Analytical engine is the world's first ever mechanical mathematical device.
 iv) Mark I was invented by Gottfried Wilhelm.
- 8) The correct choice for classifying computers taking into account the design technology is,
 i) Server Computer, Client Computer
 ii) Laptop, Analog, Server Computer
 iii) Digital computer, Analog computer, Hybrid computer
 iv) Great Analog Computers, Mini Analog Computers, Micro computers
- 9) The answer given correctly by the data transmission methods used in the following instances is,
 a) The teacher gives a question paper to the students by e-mail.
 b) Giving a command to receive a printed copy from the computer to the printer.
 c) Kamani makes a video call to a friend in Japan.
 i) Simplex, Full Duplex, Half Duplex
 ii) Full Duplex, Simplex, Half Duplex
 iii) Simplex, Half Duplex, Full Duplex
 iv) Half Duplex, Simplex, Full Duplex
- 10) Which is not a non-volatile memory?
 i) Cache Memory
 ii) Memory Cards
 iii) Random Access memory
 iv) Memory Register
- 11) Consider the following statements,
 a) Memory register capacity is lower than hard disk capacity.
 b) The data access speed of memory registers is lower than the hard drive data access speed.
 c) The cost of a bit of data storage in memory registers is more than the cost of a bit of hard disk data.
 Among the above statements, correct statement(s) is/are?
 i) A and B only
 ii) Only B and C
 iii) Only A and C
 iv) All of the above
- 12) A printer that can get faster printed copies is,
 i) Dot Matrix Printer
 ii) Ink Jet Printer
 iii) Laser Printer
 iv) Line Printer
- 13) One of the most suitable scanner to check a document with many pages in a very short time period is,
 i) Optical Character Recognition (OCR)
 ii) Optical Marker Recognition (OMR)
 iii) Magnetic Ink Character Reader
 iv) Flatbed Scanner
- 14) Which of the following characteristics has diminished with the evolution of computer generations?
 A. Efficiency
 B. Power Consumption
 C. Heat Generation
 D. Physical Size
 i) Only B and D
 ii) B and C Only
 iii) Only B, C, D
 iv) All of the above

i)  ii)  iii)  iv) 

16) The device which can be used for both Input Output purposes?

i) Scanner ii) Touch Screen iii) Printer iv) Mouse

17) 1759 belongs to which number system/ systems?

- i) Binary, Decimal
- ii) Decimal, Hexa Decimal
- iii) Octal, Decimal
- iv) Octal, Hexa Decimal

18) The Most Significant Digit (MSD) and the Least Significant Digit (LSD) of 0.072 is given respectively?

i) 0 and 2 ii) 2 and 0 iii) 2 and 7 iv) 7 and 2

19) Dark Purple Color RGB The decimal value (red, green, blue) is 135.31.120. The octal value related to its blue color is,

i) 256 ii) 170 iii) 345 iv) 701

20) Decimal equivalent of the binary number 1011_2 ?

i) 10 ii) 11 iii) 12 iv) 13

21) Decimal equivalent of 576_8 is?

i) 376 ii) 378 iii) 380 iv) 382

22) Corresponding RGB values of the colour 'X' are 135, 31, 120 respectively. Find the hexa decimal value of 'X'.

i) #AA22FF ii) #871F78 iii) #63721C iv) #4C2F3A

23) Data communication takes place in the computer,

- i) In a binary manner
- ii) In the decimal manner
- iii) In an octal manner
- iv) In a hexa decimal manner

24) What is the output when 1 and 0 are inserted to an AND gate?

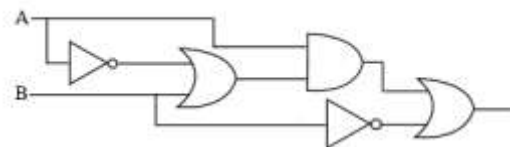
i) 0 ii) 1 iii) 2 iv) 10

25) What is the output when 0 and 0 are inserted to a NOR gate?

i) 0 ii) 1 iii) 2 iv) 10

26) The output of the logical circuit shown on the right is?

- $A. (\bar{A} + B) + \bar{B}$
- $A. (\bar{A} + B) + \bar{B})$
- $(A. (\bar{A} + B) + B)$
- $A. (\bar{A} + B). \bar{B}$



27) A port that can connect the mouse and the keyboard is,

i) VGA ii) PS2 iii) eSATA iv) HDMI

- 28) The port used to connect the router is,
i) USB ii) RJ45 iii) HDMI iv) VGA
- 29) A document that cannot be easily created with a word processing software
i) Question Papers ii) Applications iii) Official Letters iv) Student Register
- 30) The tool that make the font darker is?
i) Bold ii) Italic iii) Underline iv) Subscript
- 31) The tools for assembling and positioning in a word processing software are
i) Justify ii) Shapes iii) subscript iv) Redo
- 32) What cannot be created under the facility Mailing in word processing software (Mail Merge)?
i) presentations ii) email
iii) letters iv) envelopes
- Answer questions 33-35 with the following spreadsheet .

	A	B	C	D
1	Student Name	Term 1	Term 2	
2	W.A. Aruni Perera	85	75	
3	K.P. Pathum Soyza	56	ab	
4	Rihana Suhain	79	80	
5	H.M. Ganesh	90	84	

- 33) What is the formula that should be entered in the cell D2 to find the maximum marks obtained by students in the Term 1?
i) =COUNT(B2:B5) ii) =MAX(B2:B5) iii) =SUM(B2:B5) iv) =MIN(B2:B5)
- 34) If the formula =COUNT(A1:B3,C1:C3) is inserted in the cell E1, what is the value displayed in the cell E1?
i) 4 ii) 5 iii) 6 iv) 7
- 35) What is the formula that should be entered in the cell C6 to find the average ICT marks in the second term?
i) =AVERAGE(C2:C5) iii) =C2+C3+C4+C5/4
ii) =AVG(C2:C5) iv) =AVERAGE(C2:C5)
- 36) _____ is used to connect two computer networks.
i) Switch ii) Firewall iii) Router iv) Hub
- 37) What is the binary equivalent to the hexa decimal number A4?
i) 100110002 ii) 100101002 iii) 100010002 iv) 101001002
- 38) How many bits are used in the EBCDIC coding system to represent one character?
i) 4 ii) 7 iii) 8 iv) 16
- 39) Which of the following numbers is the smallest?
i) 31 ii) 328 iii) 110112 iv) 3B16
- 40) Which of the following is **not** a word processing software?
i) Frame Maker ii) Microsoft Office Word iii) Abi Word iv) Apple keynote

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Answer 5 questions including the first question

1)

- i. In order to get G.C.E(O/L) results on the website of the Department of Examinations of Sri Lanka, you should visit the website and enter the examination number. The system checks whether the exam number is correct and displays the results related to that exam number on the screen from the database containing the results.

Write down the input, process, output related to the above process separately.

- ii) Select and write the answers to the blanks below using the terms given within brackets.

- is used to mark multiple choice answer sheets.
- is used to enter price data of goods to the computer system.
- is used to scan a document with a large number of pages in a short time.
- is used to check the accuracy of a cheque.

(Bar Code Reader, Magnetic Ink Character Reader (MICR), Optical Marker Recognition (OMR), Optical Character Recognition (OCR))





- iii) Read the following sections and indicate them as T if they are true and F if they are false .

- Cache memory is a non-volatile memory.
- The data and commands required for the computer's basic process are stored in the Read Only Memory.
- Solid-state devices are equipped with non-moving elements that store data by creating a magnetic charge.
- The speed of the central processing unit is measured in GHz.

iv)

- Convert the number 354_8 into a binary number.
- Convert the number 452 into an octal number.

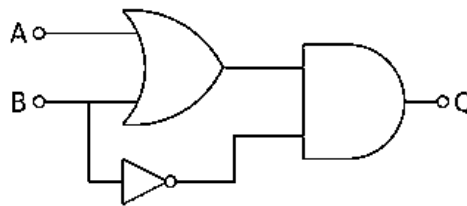
- v) Match following icons and names correctly in word processing software. Write the answer as label pair only.

A	B
i. Change Case	a) 
ii. Highlight	b) 
iii. Format Painter	c) 
iv. Clear All formatting	d) 

- vi. Fill out the table below that contains the code methods used on the computer and the number of bits used for each of their sub-features and the number of sub-features that can be written

Coding System	Number of bits used	Number of characters
..... (A).....	4	16
ASCII	..... (B).....	.....(C).....
..... (D).....	8	256
Unicode	.....(E).....	65536

- vii. Write the Boolean expression for the logical circuit below and draw the truth table.



- viii. Write the formula to be included in The D2 Cell to find the full price of the books in the spreadsheet below.

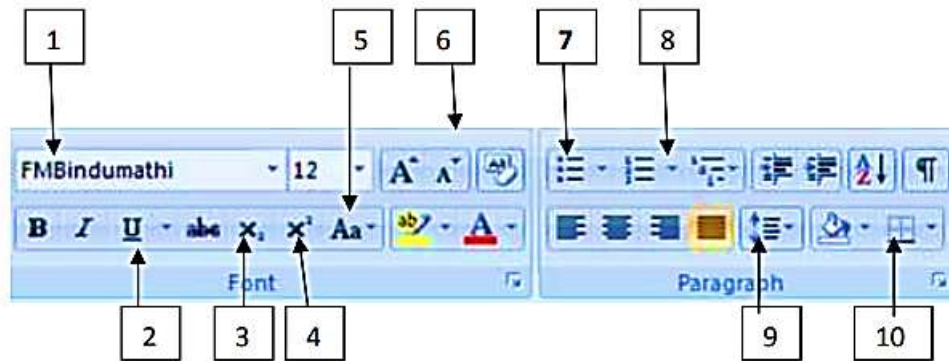
	A	B	C	D	E
1	item	Quantity	Unit price	Price	
2	book	10	35		
3	pen	20	15		
4	eraser	15	7		
5	pencil	12	18		
6			total		
7			cash		
8			balance		
9					

- ix.
- Write down two characteristics of distance learning.
 - Write down two facilities that a student gets from a learning management system.

- x. What is the answer when the formula $=6*4+9/3$ is copied to a spreadsheet?

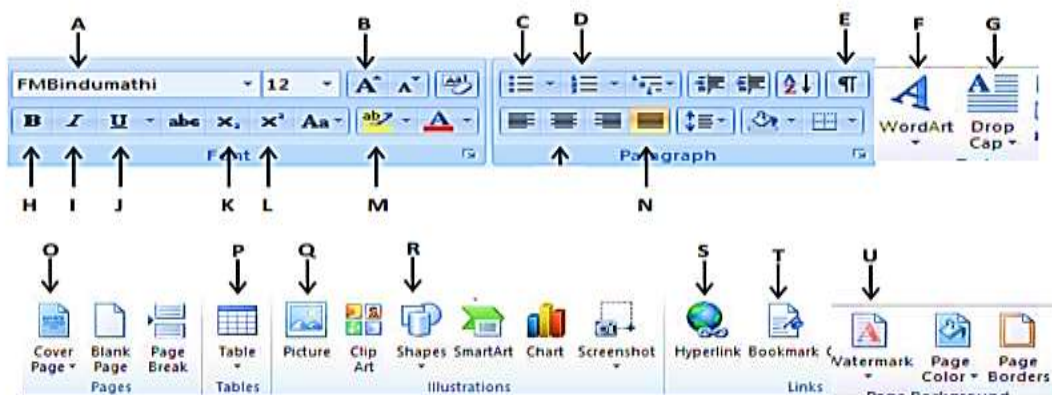
2)

- a. Shown in the diagram below is a part of the toolbar of a word processing software. Identify the tools numbered from 1 to 10 and select them from the list below.




[Line Spacing, Bullets, Change Case, Numbering, Underline, Decrease Font Size, Border, Subscript, Font, Superscript]

- b. Write tasks related to the following shortcut keys in a word processing software.
- Ctrl+ X
 - Ctrl+ C
 - Ctrl + P
 - Ctrl + Y
- c. The tools in the word processing software used to format the document below are labeled A – U.
- Write down the number/numbers related to the tool used to perform the following tasks.
- The topic specified as A.
 - Image shown as B.
 - Preparing the words given by C.
 - Arranging the words given by D.
 - The list given by E.
 - Preparing the paragraph given by F.



Art Festival ← **A**

 ← **B**

← **C**

The school principal has informed that this year's **Art festival** is going to be celebrated. The assigned task of you team is preparing necessary documents for the art festival. Accordingly, you have to design *letters, invitations and certificates* ← **D**

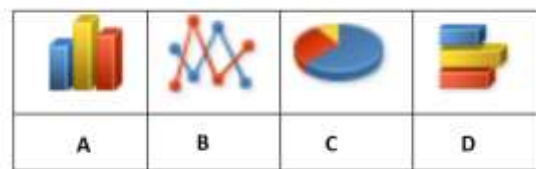
1. Design invitations
2. Prepare letters to the parents ← **E**
3. Design certificates

These documents should be well prepared and printed. After drafting the above documents, you now want to find the best method of document preparation. "We should find attractive types of letters and add pictures. A border will give a good finish. A typewriter won't provide such facilities, will it?" ← **F**

3) Below is a section of the spreadsheet of an analysis of diseases treated in three years in the outpatient department of a basic hospital. Answer the following questions.

	A	B	C	D
1	බාහිර රෝගී අංශය - රෝග විශ්ලේෂණ 2022 - 2024			
2	රෝගය	ප්‍රතිකාර ලබා ගත් රෝගීන් සංඛ්‍යාව		
3		2022	2023	2024
4	අධි රුධිර පීඩනය	5489	6865	7890
5	දියවැඩියාව	7659	8086	8970
6	වකුගඩු රෝග	2467	3478	4589
7	හෘද රෝග	7954	9768	9954
8	සන්ධි රෝග	2156	2897	3487
9	රිය අනතුරු	12658	15769	16587
10				
11	මුළු රෝගීන් සංඛ්‍යාව	38383	46863	51477
12	වැඩිම ප්‍රතිකාර ලබා ගත් රෝගයේ රෝගීන් සංඛ්‍යාව	12658	15769	16587
13	වැඩිම ප්‍රතිකාර ලබා ගත් රෝගයේ ප්‍රතිශතය	32.97814	33.649148	32.222157
14				

- i) Write the formula in the cell B11 to find the total number of patients who received treatments in the year 2022 from the outpatient department.
- ii) The total number of patients was inserted into cells C11 and D11 using the fill handle. What is the formula displayed in the cell C11 after copying.
- iii) Write the formula to find the maximum number of patients with the disease who received the most treatments in the year 2023 in the cell B12.
- iv) Write a formula to find the percentage of disease that received the most treatment in the cell B13.
(Percentage of disease that received the most treatment = maximum number of patients with the disease who received the most treatments/ Total number of patients x 100)
- v) to show the difference of number of patients according to diseases who visited the outpatient department within the given 3 years Write a suitable graph
- vi) If the number of diabetic patients in year 2024 was changed as 9210, what are the cell addresses being changed accordingly.
- vii) Select the names of the following graph types given within bracket.



[Column Chart, Bar Chart, XY Graph, Line Chart, Pie Chart]

4)

a)

- i. A safe in a gold jewelry store has a ringing bell as per the instructions provided for safety. The instructions are implemented in accordance with the following conditions. Accordingly, the bell rings at the time when both the following conditions are met.

- Passed 6.30 p.m. (A)
- Touching the safe (B)

Sensor	Status	Binary Value
A	Passed 6.30 p.m.	1
	Not past 6.30 p.m.	0
B	Touching the safe	1
	Not touching the safe	0

- Ringing of bell (1)
- Non-ringing of bell (0)

According to the above function, copy the truth table below and complete column C.

A	B	C
0	0	
0	1	
1	0	
1	1	

- ii. a) Draw the logical circuit for the Boolean expression $(A + \bar{B}) \cdot \overline{(\bar{A} \cdot B)}$ and draw the truth table.
 b) Use your knowledge of number systems to fill in the blanks in the table below.

Binary	Decimal	Octal	Hexa Decimal
110100102	.....(A).....	322 ₈	.....(B).....
.....(C).....	176	.....(D).....	.....(E).....
.....(F).....	.....(G).....	.....(H).....	5D ₁₆

- 5) In order to provide efficient service in a government institution, the Director intends to purchase some new computers and a printer for the staff to use. He also intends to network the computers and printers bought.
- It was decided to set up a star topology network for networking in this institution. If you are given three computers, a switch, a printer draw and name the relevant diagram.
 - Write down 2 disadvantages to the network, if the switch is replaced by a hub.
 - What type of network can the above computer network be called? Give reasons for your answer.
 - What is the type of data transmission medium used in this networking?
 - Write down two advantages of computer networking to this organization.
 - Radio waves can be described as one of the most widely used data transmission mediums today. Write two examples of radio waves.
- 6) Samantha paid the electricity bill and phone bill of her house through the e-banking service.
- In addition to paying bills, write down two benefits that we get through e-banking service.
 - What opportunities do such bill payment services represent in the concept of e-government?
 - In addition to the one you mentioned above, write two instances of the concept of e-government?
 - Write down the 2 benefits of online shopping for consumers and commercial establishments.
 - Write down two characteristics of distance learning.

vi. Select the medical device for the following tasks in brackets.

- a) Make three dimensional (3D) images of different parts of the body.
- b) Recording brain activities on a screen.
- c) Showing the function of the heart on a computer screen.
- d) Create digitalized images of the internal organs of the body

(Magnetic Resonance Imaging Machine(MRI), Cardiac Screening Machine, Computerized Axial Tomography Machine(CAT), Electrocardiogram Machine(EEG))

7)

- i. Below is a simple note of the basic process of the computer. Select the words that fit the blanks here from brackets.

The data and instructions input by the 1..... move first to the2..... That data is sent to the3..... in order to process. It is consists of three parts named4....., 5..... and6..... The data and instructions processed by 3..... are redirected to the2..... as information. Information are taken out through7..... Also, the information is sent to the8..... to be saved. 5..... directs and controls the communication between the hardware connected to the computer6..... temporarily stores the data processed and operated in the4..... .

(Central Processing Unit, Memory Register, Random Access Memory, Input Devices, Output Devices, Control Unit, Secondary Memory, Arithmetic and Logical Unit)

- ii. Write one example for each impact printers and non impact printers.
- iii. Write 2 differences between impact printers and non impact printers mentioned above.
- iv. Write 3 types of computer classification according to technology and write an example each..