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Information and Communication Technology

Grade 10

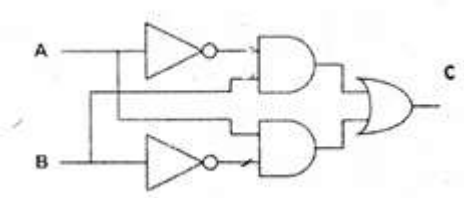
III Term – 2023

Part II

Answer questions including no 1 and 4 other questions.

(01)

1. Convert the hexadecimal value F816 into octal value. Show your calculations.
2. Consider the following logic circuit. Write the Boolean for the above logic circuit.



3. When we work with a spreadsheet, using a key/key combination we can move the cell pointer to any cell address. Select the correct key/key combination from the list given below, which can use to get following results. (Mention the question number and relevant answer.)
    a) Go to cell A1
    b) Go to tight down cell in the cell range of data
    c) Go to row A through the column of the active cell
    d) Move forward between worksheet tabs

    (Page up , Home , Ctrl + Home , Ctrl + Page down , Ctrl + End)

4. Column A has some task working in operating system. Column B has some software list. Write the Correct Software from B to the task of A.

	A	B
1	Find out the errors in Hard Disk	Disk Formatting
2	Provide the secure to computer to find and remove the molisious software	Compression Software
3	Prepare the hard disk to store the files and folders	Disk Scanner
4	Convert the large capacity file into small capacity file	Antivirus Software

5. Give two instances of benefits for farmers in the filed of agriculture with the speedy advancement of information and communication technology in Sri Lanka
6. Name two storage devices that the capacity in higher than a compact Disk and lower than a normal hard disk.
7. Name two scanner devices from the field of medicine that are used for diagnosing a diseases.

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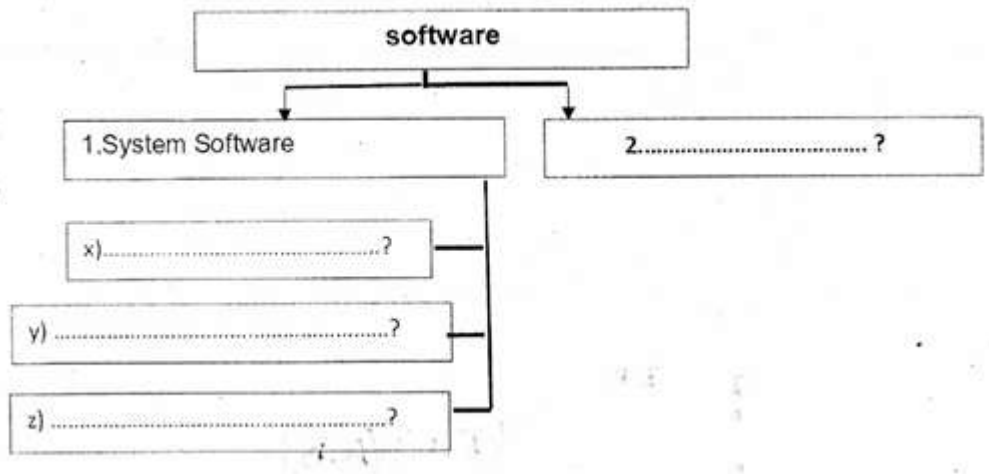
8. When Saman's and his sister's ages are added-up , the value equals to 11000_2. If Saman's age is 17_8 find the decimal value of age of his sister.

9. Many softwares running in computer. Below diagram describe the type of software running in computer. Write the labels 2 , x,y,z in your answer sheet and fill the suitable software type.(do not draw the diagram)



10. Give two instances where infrared rays are used for data communication.

(02) Assume that the following is a part of the relational database of a business information system. This business has shops in certain schools in different parts of the country.

Sales Table

Month	ShopID	Sales
January	001	12400
March	001	18700
December	003	15330
February	001	11230
March	002	16330

Category Table

Category	Item
A	Ice cream and milk
B	Milk
C	Milk and Stationery

Branch Table

Name	ShopID	Category
ABC College	001	A
PQR Central College	002	B
XYZ College	003	C

i. Write down two primary keys and their respective table names.
ii. Write down two foreign keys and their respective table names.
iii. What table should be modified to include the telephone number of each shop ?
iv. Assume that a new shop with shopID 004 selling Milk and Photocopying services is opened at HU College. What tables need to be updated to include the given information ?
v. Write down the newly added records as specified in (iv) above along with the respective table names.

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(03) Consider the following spreadsheet.

	A	B	C	D	E
1	Item	Unit price	No of items	Cost	Final cost
2	Rice cooker	8000	3	24000	23040
3	Blender	6500	2	13000	12480
4	Gas cooker	12000	2	24000	23040
5	Coconut scraper	5300	3	15900	15264
6	No of all items		10		
7	Discount	4%			

i. What is the formula should be on cell D2 to calculate the cost of rice cooker ?
ii. Cell E2 represent cost of rice cooker after the discount. What is the formula it should have. (formula should be copied in to find cost of each item after the discount)
iii. Number of coconut scrapers should be changed as 4. What is/are the data changing cell/cells ?
iv. Write the formula should be written in cell C6 to find no of the all items.
v. When copied the formula entered in cell E2 to E4, Write the formula is shown in cell E4.

(04) 1. Considering the following statements mark "✓" or "X".

i. Operating system is the sole software which manages the whole computer system.
ii. MS Windows Mobile version is used in server computer.
iii. ATM machine is not a Real Time Operating System.
iv. Security Management is a process which is managed by operating system.
v. System profilers is used to provide detailed information about the software installed and hardware attached to the computer.

2. Fill in the blanks using given words.

i. …… Is used for temporary storage of data / files for cut / copy and paste operations.
ii. Dividing a hard disk into multiple logical drives is called ……
iii. It is necessary to keep …… Of the data before disk formatting.
iv. A single file is broken into different pieces and stored in different parts of the disk is called ……
v. …… is the file extension of the file type of access.

(accdb , clipboard , fragmentation / partitioning / D:\chap 5 / backup copies)

3. Maneesha said the graphical user interface is better than Command Line Interface. Write three reasons for it.

4. Name 4 components which is used to make a friendly environment.

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(05)

1. Students doing online learning has to log in to the relevant educational website and enter the username and password given to his/her mobile phone immediately to the system in order to obtain the required tutorials and activities. The system checks its accuracy and display the required definitions and activity notes on the screen , downloads them to their computer and prints then as appropriate. Identify , process , store and output of a given case study and write given blank.

   i. Input - …… …… ……
   ii. Process - …… …… ……
   iii. Output - …… …… ……
   iv. Store - …… …… ……

2. Fill in the blanks

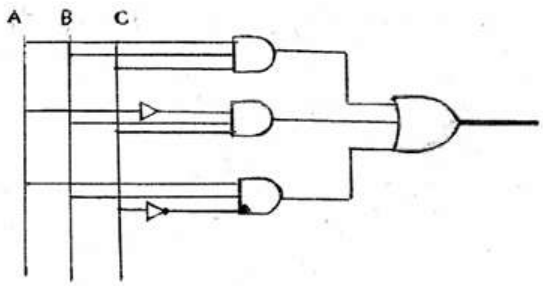
i. …… …… is the first digital computer.
ii. …… Device is introduced by John Napier.
iii. …… Is the first computer programmer.
iv. Punch card was introduced by ……
v. …… Is a device designed by Charles Babbage.
vi. …… Was the father of computer.

3. Below are some of the e-government services. Write down the blank which e-government services are. (G2C / G2G / G2E / G2B)

i. Renewal of vehicle license ……
ii. Sri Lanka custom information ……
iii. Information on business organization ……
iv. Government laws ……
v. Forms ……
vi. Business registration ……

(06)

1. Use the below circuit to answer the questions



i. What are the logic gates used to above circuit ?
ii. Write Boolean statement for above circuit ?
iii. Draw the truth table.

2. The education department has been introduced a security system for schools to use for the students when they enter to the school to avoid from CORONA (covid 19) virus. The system will check out the below conditions.
   - Are the students wearing face masks ? (if yes 1 otherwise 0)
   - Are the students washed hands ? (if yes 1 otherwise 0)
   - Is the body temperature is higher than the relevant value ? (if yes 1 otherwise 0) students who are wearing face mask , washed hands and body temperature is lower than the relevant value can be enter to the school and gate will automatically open.

i. Create a Boolean statement to above scenario.
ii. Draw the Logic circuit and truth table for above scenario.

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