



மாகாணக் கல்வித் திணைக்களம்
வடக்கு மாகாணம்

Provincial Department of Education – Northern Province



Second Term Examination 2022

Grade 10

Information &
Communication Technology

Index No:.....

80

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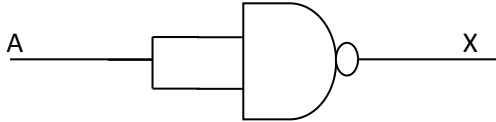
II

Instructions:

- ❖ Answer five (5) questions only, including the first question and four others.
- ❖ First question carries 20 marks and each of the other questions carries 10 marks

1)

- Write two features of a good information.
- Write the decimal equivalent of octal number 756_8 .
- State two examples for non - impact printers.
- Suman has a flash drive with the storage capacity of 2^{34} byte. Write down this capacity in Giga byte.
- Which logic gate's function is equal to the following logic gate?



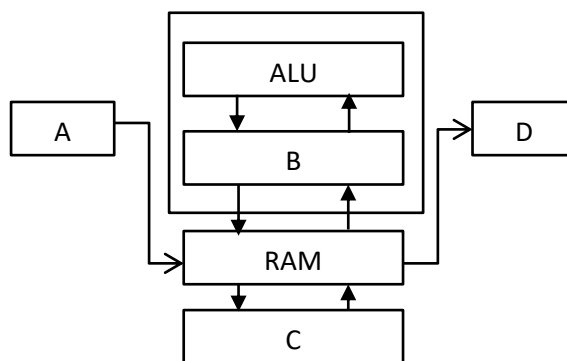
- How many bits are used in BCD coding system for representing the decimal numbers?
- Find out suitable pairs from the columns A and B. Write down the letter of Column B against the number of Column A in your answer script.

	Column A
1	Simplex
2	Fiber optics
3	Half duplex
4	Radio wave

	Column B
A	Browsing websites
B	Radio broadcast
C	Guided media
D	Wi-Fi

- Nishan has a printed photograph. He wants to send that to his father who is in abroad via e-mail. Write two methods which he can use for converting the printed photograph to electronic format.
- You have been asked by your teacher to connect two computers in the school computer lab with twisted pair cable. Write one essential networking device which you need for connecting these two computers together.
- State whether the following statements are 'True' or 'False'.
 - Hard disk is a volatile storage device
 - Memory registers have less capacity than cache memory
 - Half duplex mode can have two ways communication
 - Disk defragmenter is an application software

- 2) i) What are the types of software?
 ii) Write two examples for utility software.
 iii) Write two unique characteristics of real time operating systems.
 iv) Write any two reasons for partitioning a hard disk.
 v) What is fragmented file in a hard disk?
- 3) i) Convert the following numbers to decimal number system.(Show your computations)
 a) 11100110_2 b) 11111111_2
 ii) Convert the following numbers to Hexadecimal number system. (Show your computations)
 a) 101111010101_2 b) 2760_{10}
 iii) Convert the following numbers to binary number system. (Show your computations)
 a) 343_8 b) 115_{10}
 iv) Find the BCD value for the following decimal numbers.
 a) 67_{10} b) 934_{10}
 v) Identify and write the MSD, LSD of the following numbers.
 a) 0.0760_{10} b) 11010.11_2
- 4) i) What are the components of a system?
 ii) Write two differences between data and information.
 iii) What is G2G data transaction in e-government. Write two examples for it.
 iv) Write four characteristics of 1st generation computers.
 v) Write two advantages and two disadvantages of online shopping.
- 5) i) Classify the computers according to the technology.
 ii) The following block diagram of computer shows the data flow inside of a computer. Use this diagram for answering the given questions.



- a) Identify and write the names of the devices labelled as A, B, C, D.
 b) Write the name of the device which has high access speed in this diagram.
 c) Write the name of the non – volatile memory shown in this diagram.
- iii) Rohan had a video call conversation with his brother who is in abroad. He said that he was in a computer network as he and brother were connected together using internet. What do you think about his statement? Was there any computer network established? If so, write the types of the computer network which he established.
- iv) Write two differences between network switch and network hub.

- 6) i) A digital system is designed with three inputs. When the binary value of inputs is less than 3_{10} , the output of the circuit will be 1. Output will be 0 in other instances. Construct a truth table for this scenario.
- ii) There is an alarm system designed to protect the computer from being getting heat. Three fans fixed inside to reduce the heat. If all three fans work correctly, alarm doesn't sound. If atleast one of the fans doesn't work, alarm sounds.
- a) Write a truth table for describing the above scenario.
- b) Draw the logic gate / circuit which can represent this description.
- iii) Derive a Boolean expression for the output x in the following logic circuits.

