

Name: Maaz Habib

Section: CSE / C

Class :: 1st Semester

Reg no.: 273

Q1) Solve .....

a) consider the last ..... not be sufficient.

ETEA id is :  $(273)_{10}$

To binary :-

divide by "2"	2	273	remainder	R.W Reminder
	2	136	1	$2 \times 136 = 272 / 1$
	2	68	0	$2 \times 68 = 136 / 0$
	2	34	0	$2 \times 34 = 68 / 0$
	2	17	0	$2 \times 17 = 34 / 0$
	2	8	1	$2 \times 8 = 16 / 1$
	2	4	0	$2 \times 4 = 8 / 0$
	2	2	0	$2 \times 2 = 4 / 0$
	2	1	0	$2 \times 1 = 2 / 0$
		0	1	$2 \times 0 = 0 / 1$

$$273 = (10001000)_2 \text{ Ans}$$

To hexadecimal:-

Please Turn over.

16	273	remainder	$\therefore 16 \times 17 = 272, 1$
16	17	1	$16 \times 1 = 16, 1$
16	1	1	$16 \times 0 = 0, 1$
	0	1	

$$273 = (111)_{16} \text{ Ans}$$

Base 5:-

5	273	remainder	$5 \times 5^4 = 270, 3$
5	54	3	$5 \times 10 = 50, 4$
5	50	4	$5 \times 10 = 50, 0$
5	10	0	$5 \times 2 = 10, 0$
5	2	0	$5 \times 0 = 0, 2$
	0	2	

$$273 = (20043)_5$$

Octal number:-

8	273	remainder	$8 \wedge 34 = 272 \mid 1$
8	34	1	$8 \times 34 = 32 \mid 2$
8	4	2	$8 \wedge 0 = 0 \mid 4$
	0	4	

$$273 = (421)_8$$

Q2) a) Divide the binary ..... remainder

$$\begin{array}{r} 01 \\ \hline 110 | 1100010001 \\ 000 | \\ \hline 01000 \\ \hline 100 \end{array}$$

Not possible due to 0-1, which is not possible in subtraction and there is no carry option as well.

$$10 = 1+1=10$$

$$\begin{array}{r} 1+0+0= \\ \hline 1+0=1 \end{array}$$

Q2(b) Add the binary ..... addition method.

$$\begin{array}{r} 10011000 \\ + 10111 \\ \hline 100101000 \end{array}$$

By binary addition method Answer is :-

$$= 100101000 \text{ Ans}$$

Q4) a) Define computer. what are the four parts of a computer system.

Ans) Definition of computer:-

An electronic device for storing data and processing the data in binary form, accordingly the instructions given by the user in a variable program.

four parts of computer:-

four parts of computer

are:-

- 1) Data
- 2) Hardware
- 3) User
- 4) Software

1) Data:-

Data is an information or facts which don't make any sense but computer process it and make it useful for the user.

2) USER:-

User is the person who tells the computer what to do and it is an important part.

### 3) Software:-

Software, there are hundred and thousands of them. They tell the computer how to perform the task given by the user. It is also called program.

### 4) Hardware:-

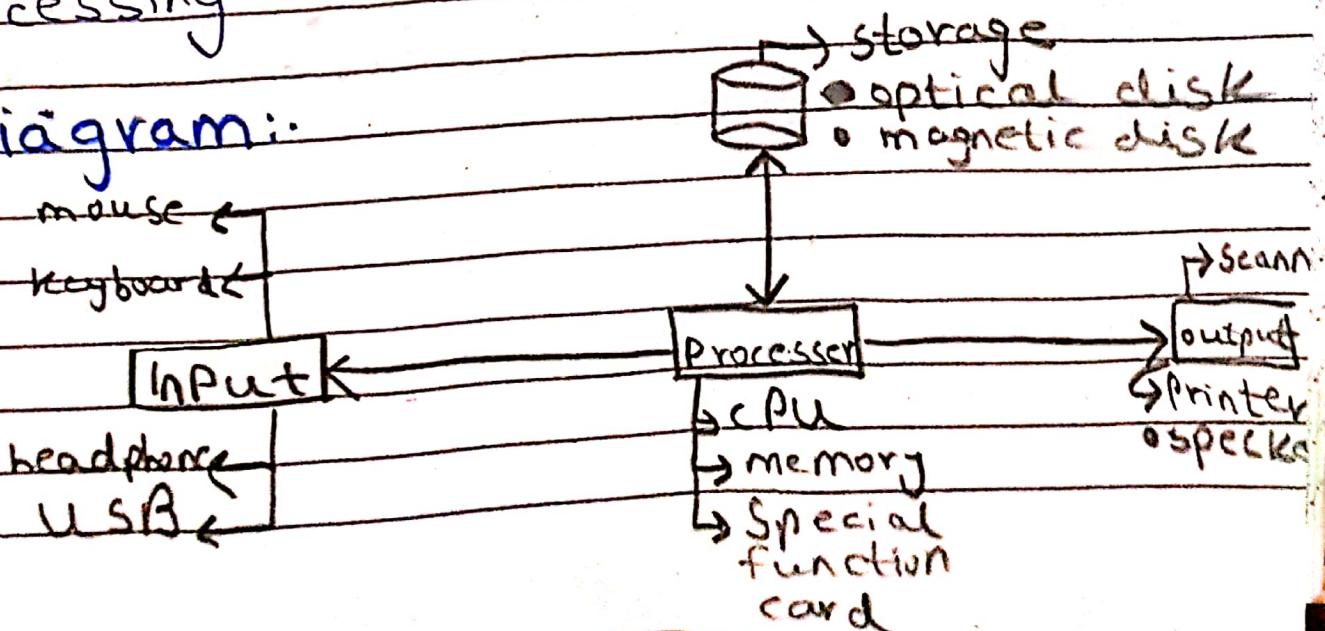
Anything we can touch is called hardware, which includes (for computer) CPU, mouse, keyboard, data storage, USB etc.

### Q4) b) what are the ..... cycle draw diagram.

Ans) The four phases are; -

- Input
- output
- Storage
- Processing

### Diagram:-



## 1) Input:-

They are used for making things easy for user, to handle everything easily. Input includes many devices like mouse, keyboard, USB etc, and they all have there uses.

## 2) Output:-

They are mostly speakers, monitor, projector etc. monitor is for display, projector is also display but it is bigger than monitor. While Speakers are used to for better experience of sound.

## 3) Storage:-

Storage can be of many types: external and internal. External includes hard drives ~~etc~~, ~~etc~~ USB etc. while internal storage is RAM and ROM.

## 4) Processing:-

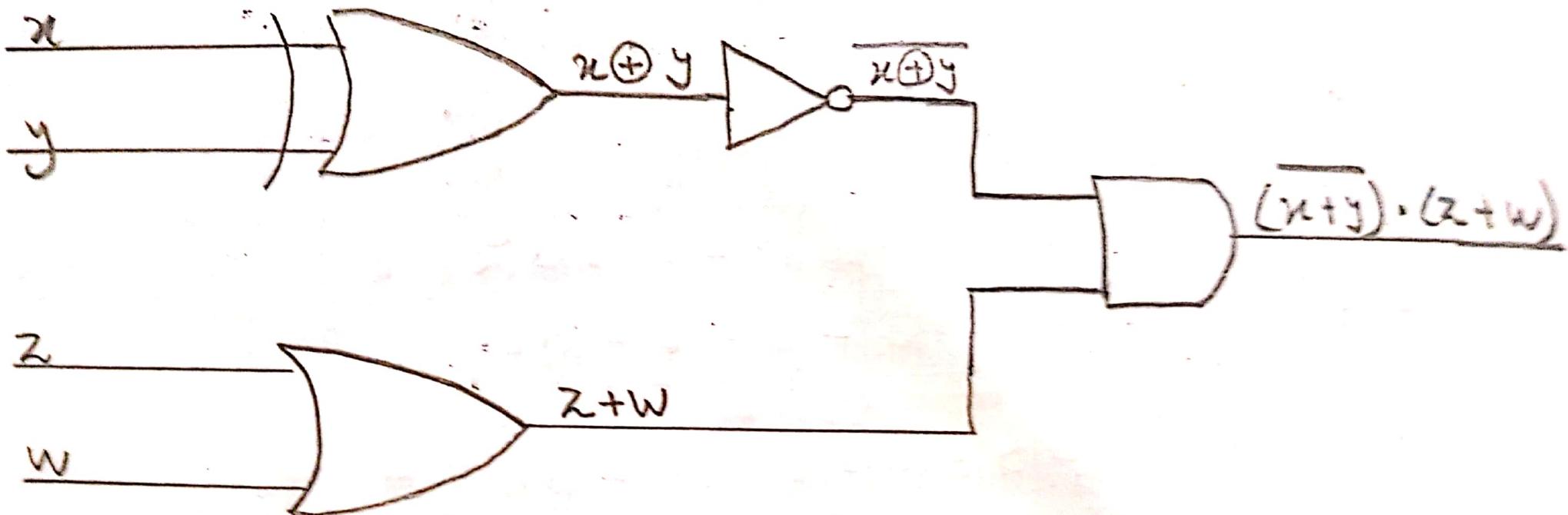
It includes CPU, motherboard and memory. They are used for processing information within the computer.

Q3) a) Determine ... . . . with proper label.

a)  $(\bar{w} \oplus y) \cdot (z + w)$

As we know  $2^n$ , where  $n=4$  so,  
 $2^4 = 16$

$\bar{w}$	$\bar{z}$	$y$	$z$	$w \oplus y$	$w \oplus y$	$w + z$	$(\bar{w} \oplus y) \cdot (z + w)$
0	0	0	0	0	1	0	0
0	0	0	1	1	0	0	0
0	0	1	0	1	0	0	0
0	0	1	1	0	1	0	0
0	1	0	0	0	1	1	1
0	1	0	1	1	0	1	0
0	1	1	0	1	0	1	0
0	1	1	1	1	0	1	0
1	0	0	0	0	1	1	1
1	0	0	1	1	0	1	0
1	0	1	0	1	0	1	1
1	0	1	1	0	1	1	1
1	1	0	0	0	1	1	1
1	1	0	1	1	0	1	0
1	1	1	0	1	0	1	0
1	1	1	1	0	1	1	1

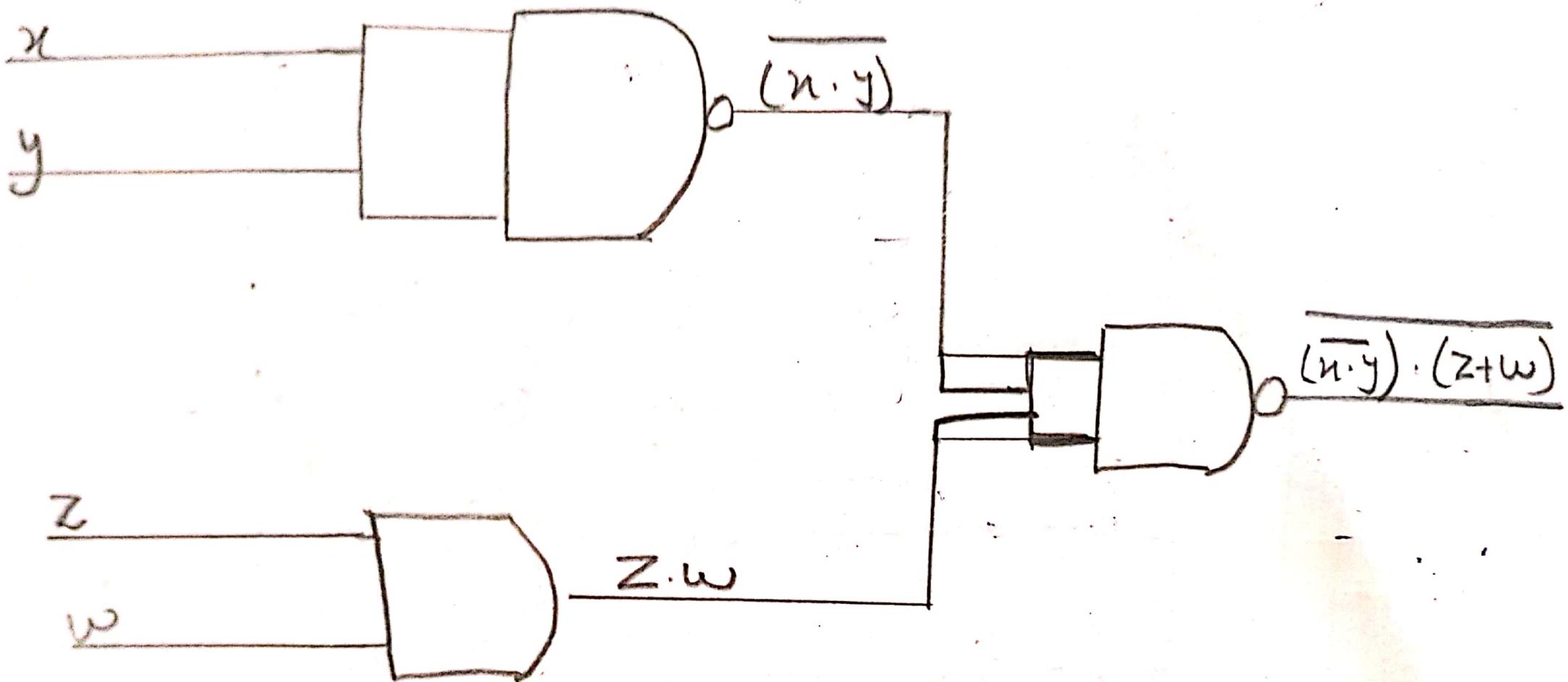


$$Q3b) (\bar{x} \cdot \bar{y}) \cdot (z \cdot w)$$

$$2^n, n=4$$

$$2^4 = 16$$

$w$	$x$	$y$	$z$	$\bar{x} \cdot y$	$\bar{x} \cdot \bar{y}$	$z \cdot w$	$(\bar{x} \cdot \bar{y}) \cdot (z \cdot w)$	$(\bar{x} \cdot \bar{y}) \cdot (z \cdot w)$
0	0	0	0	0	1	0	0	1
0	0	0	1	0	1	0	0	1
0	0	1	0	0	1	0	0	1
0	0	1	1	0	1	0	0	1
0	1	0	0	0	1	0	0	1
0	1	0	1	0	1	0	0	1
0	1	1	0	1	0	0	0	1
0	1	1	1	1	0	0	0	1
1	0	0	0	0	1	0	0	1
1	0	0	1	0	1	1	1	0
1	0	1	0	0	1	0	0	1
1	0	1	1	0	1	1	1	0
1	1	0	0	0	1	0	0	1
1	1	0	1	0	1	1	1	0
1	1	1	0	1	0	0	0	1
1	1	1	1	1	0	1	0	1



Q5) a) what .... of society?

### Role in society::

Computers are available now in every home and has developed the society a lot. Now people can order clothes online, food, gadgets. They can talk to people far away places in seconds.

They can play high resolution games on computer, Smartphones etc. It can also help if anyone losses something personal. We can find our way / path to any location by using applications.

b) what is impact ..... life, education and government.

### Impact on life::

Computers have changed our lives fully as we can shop, buy tickets, study online and do much more things with the help of computers, which are available everywhere and with everyone.

### Impact on education::

Computer really help a lot in education

as now can study apply and take online courses of best university around the world. Even in this pandemic of covid-19 we can Studying with the help of computers.

### Impact of government:-

Computer really impact government as they are the first users of it. They use it for tax collection, counting number of people working, files etc. It is widely used in government sector.