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Subject :- INTRODUCTION TO  
ICT

Section :- "A"

Program :- Bs (SE)

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Q. 1

write a characteristic of Computer. Explain each in details. ?

### Characteristics of Computer:-

(1) Automatic :-

Given a job, Computer can work on it automatically without human interventions.

(2) Speed :-

Computer can perform data processing jobs very fast, usually measured in microseconds ( $10^{-6}$ ), nanoseconds ( $10^{-9}$ ) and picoseconds ( $10^{-12}$ ).

P.T.O

(3) Accuracy :-

Accuracy of a computer is consistently high and degree of its accuracy depends upon its design. Computer errors caused due to incorrect input data or unreliable programs are often referred to as Garbage in - Garbage-out (GIGO).

(4) Diligence :-

Computer is free from monotony, tiredness and lack of concentration. It can continuously work for hours without creating any error and without gawmbiling.



(5) Versatility :-

Computer is Capable of performing almost any task; if the task can be reduced to a finite series of logical steps.

(6) power of Remembering :-

Computer can store and recall any amount of information because of its Secondary Storage Capability. It forgets or loses certain information only when it is asked to do so.

(7) No IQ :-

A Computer does only what is programmed to do. It cannot take its own decision in this regard.

(8)

No Feelings :-

Computers are devoid of emotions. Their judgement is based on the instructions given to them in the form of programs that are written by us (human beings).

\* ~ \* ~ \* ~ \* ~ \*

Q 2 :-

write a note on each of the following

- (a) Machine learning
- (b) 5G technology
- (c) Central processing unit
- (d) Non-positional Number System.

(a) Machine learning :-

Machine learning is the study of computer algorithms that improve automatically through experience [1][2] it is seen as a subset of artificial intelligence. Machine learning algorithms build a mathematically model based on sample data. known as "training data" in order to make production or decisions.



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Without being explicitly programmed to do so [3] machine learning algorithms are used in wide variety of applications, such as email filtering and Computer Vision. Where it is difficult or infeasible to develop conventional algorithms to perform the needed tasks.

## (\*) Supervised Machine Learning Algorithms :-

Can apply what has been learned in the past to new data using labeled example to predict events starting from the analysis of a known training dataset, the learning algorithm produces an inferred function to make prediction about the output values. The system is able to provide targets for any new input after sufficient. The learning algorithm can also compare its output with the correct intended output and find error in order to modify the model accordingly.



\* Un-supervised Machine learning algorithms.

\* Semi-supervised Machine learning algorithms.

\* Reinforcement machine learning algorithms.

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Part ..B..

## 5G technology

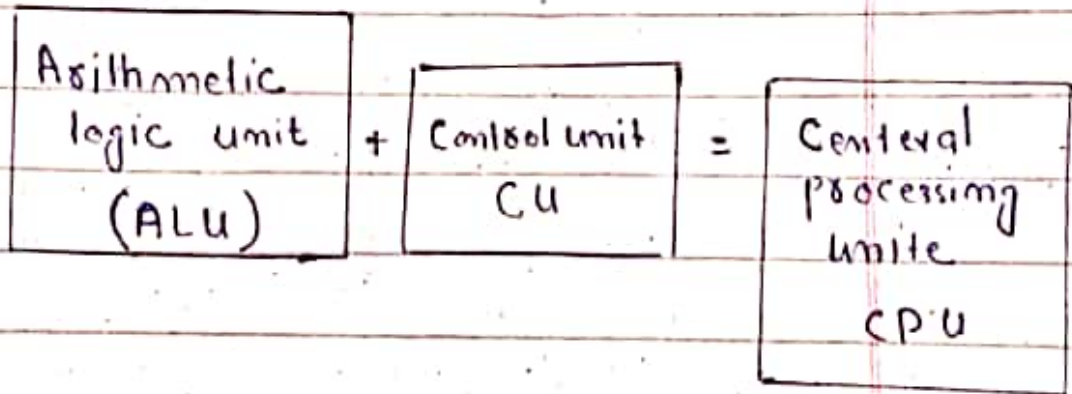
- ★ high Speed, High Capacity
- ★ 5G technology providing large broadcasting of data in Gbps.
- ★ Multi-Media Newspapers, Watch T.V
- ★ as to that of an HD Quality faster data transmission that of
- ★ The previous generations. large phone memory, Dilling Speed,

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- \* lastly in Audio/Vedio Support interactiv Multimedia, Voice,
- \* Streaming vedio internet and other 5G is more effective and more Attractive.
- \* 5G technology refer to short name of Generation which was started from late 2010s.
- \* Complete wireless Communication with almost no limitations.
- \* It is highly supportible to www (wireless world wide web)



"C"

Central processing  
unit (CPU)

- It is the brain of a Computer system.

- \* It is responsible for controlling the operation of all other units of a Computer system.

"D"

## Non - positional Number System.

\* Characteristics :-

\* use symbols such as I for 1, II for 2, III for 3, IIII for 4, V for 5 etc.

\* each symbol represent the same value regardless of its position in the number.

\* the symbols are simply added to find out the value of a particular number.

Q3

Solve the following question

(a) Convert  $(110101010)_2$  into  $( )_{10}$

(b) Multiply binary numbers  
 $1001010$  and  $10101101$

(a)

$(110101010)_2$  into  $( )_{10}$

$$\begin{aligned} \rightarrow & (1 \times 2^8) + (1 \times 2^7) + (0 \times 2^6) + (1 \times 2^5) + (1 \times 2^4) \\ & (1 \times 2^3) + (0 \times 2^2) + (1 \times 2^1) + (0 \times 2^0) \end{aligned}$$

$$256 + 128 + 0 + 32 + 8 + 0 + 2 + 0$$

$$= 426$$

P.T.O



(b)

Multiply binary  
number

$10001010$  and  
 $10101101$

Solution

Rules

$$0 \times 0 = 0$$

$$1 \times 0 = 0$$

$$0 \times 1 = 0$$

$$1 \times 1 = 1$$

Answer

Now

$$\begin{array}{r} 10001010 \\ \times 10101101 \\ \hline \end{array}$$

$$\begin{array}{r} \phantom{000} 0000 \\ \phantom{00} 10001010 \\ \phantom{0} 00000000 \\ \phantom{0} 10001010 \\ \textcircled{1} 10001010 \\ \textcircled{1} 10001010 \\ \phantom{0} 00000000 \\ \phantom{0} 10001010 \\ \phantom{0} 00000000 \\ \phantom{0} 00000000 \\ \phantom{0} 10001010 \\ \phantom{0} 00000000 \\ \phantom{0} 00000000 \\ \phantom{0} 10001010 \\ \hline 10111010000100 \end{array}$$

10111010000100

Ans