

MID TERM ASSIGNMENT 2020

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SUBJECT: ICT

SUBMITTED TO: ATIF ISHTIAQ SIR

DATED: 21/08/2020.

Question No # 01

Write a characteristics of computer. Explain each in detail?

ANS:

1

AUTOMATIC:

A computer is an automatic machine because once started on a job they carry on until the job is finished with no human help the user is required to give the data and utilize the result but the process is automatically.

2

SPEED: Computer can perform data processing job very fast. Computers are much faster to perform mathematical calculation than human. The computer is capable of performing millions of tasks per second.

- The same calculation or work to a computer do in microseconds or nano-seconds.

3 ACCURACY: A computer is very accurate. It does not make any kind of mistake in calculating. Sometimes we get some error but these are because of the mistakes performed by us.

- The accuracy of the computer is constantly high and it can perform hundred of operations with the carry-out calculation and analysis accurately and speedily.

4 DILIGENCE: A person gets tired of doing some work in a few hours and a computer has the ability to do any work continuously for many hours, days, months.

Even after the computer has worked for such a long time, there is no decrease in its ability to work and the accuracy of the result.

The computer does work without any discrimination. A computer is free from monetary and tiredness.

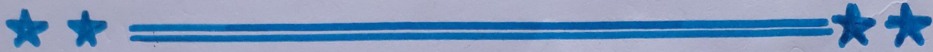
5 VERSATILITY: Computer is capable of performing almost any task.
• Today are being used almost everywhere like schools, colleges, hospitals, offices, railway stations, hotels and airports etc.
A computer system is multitasking so that you can do two task very easy at the same time.

6 No IQ: A computer system is completely depended on us humans how to work. A computer does only what it is programmed to do. it cannot take it's own decision in this regard.

7 POWER OF REMEMBERING: Computer can restore and recalls any amount of information because of its secondary storage capability. It forgets or looses certain informations only when it is asked to do so.

8 No FEELINGS: In Computers, like humans

there is no feeling and emotion, nor does the computer have any knowledge and experience, because a computer is a machine which work continuously on the instruction of humans without any selfishness and without tiredness.



Question No # 02

Write note on each of the following .?

ANS:

(A) MACHINE LEARNING:

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed.

Explanations:

The process of learning begins with observations or data, such as direct experience or instruction, in order to look for patterns in data and make better decision in the future based on the examples that we provide. The primary aim is to allow the computer learn automatically without human intervention or assistance and adjust actions accordingly.

(B): 5G TECHNOLOGY: When it comes to whom triumphed in the multi-billion dollar global race to launch the world's first 5G next generation wireless network.

The United States and China as the site of the world's first commercial launch of a fifth generation telecoms network.

This new communication technology brings new capabilities that will create opportunities for people, businesses and society.

5G is the 5th generation mobile network. It is a new global wireless standard after 1G, 2G, 3G and 4G networks. 5G enable a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.

They made their assertion on the basis that the new network connected to an actual 5G phone. US carries disputed South Korea's claims to be first.

The technology, which can provide data speeds at least 20 times faster than 4G, will also underpin the great advances of the next era, from self-driving cars and augmented reality to smart cities and artificial intelligence.

"I want 5G, and even 6G, technology in the United States as soon as possible. It is far more powerful, faster and smaller than the current standard. American companies must step up their efforts, or get left behind," he tweeted. The White House did not immediately respond to a request for comment.

(c): CENTRAL PROCESSING UNIT (CPU):

A central processing unit (CPU) also called a central processor or main processor, is the electronics circuitry within a computer that executes instructions that make up a computer program..... The computer industry used the term "Central

Processing unit", as early as 1955.

CPU is the "brain" of computer system. It is responsible for controlling the operations of all other units of a computer system.

The CPU is a critical part that manages all instructions and calculations that are sent to it from other computer components and peripherals.

Even the speed at which software program runs depends very much on how powerful the CPU is functioning.

TYPES OF CPU:

The CPU has three types that is given below.

- (1) Single Core CPU.
- (2) Dual Core CPU.
- (3) Quad Core CPU.

COMPONENTS OF CPU: CPU has the

following three components.

- Memory or storage unit.
- Control Unit.
- Arithmetic logic Unit (ALU).

(D): Non-Positional Number System:

A non-positional number system uses a limited number of symbols bears no relations to its value. The value of each symbol is fixed.

The roman number system is a good example of a non-positional number system. This number system has a set of symbols $S = \{I, V, X, L, C, D, M\}$.

Value of Symbol in the Roman number System.

Symbol	I	V	X	L	C	D	M
Value	1	5	10	50	100	500	1000

To find the value of a number, we need to add the value of symbols subject to specific rules.

(1): When a symbol with a smaller value is placed before a symbol having an equal or larger values are added.

(2): When a symbol with a smaller value

is placed before a symbol having larger value, the smaller value is subtracted from the larger one.

(3): A symbol S_1 cannot come before another symbol S_2 if $S_1 \leq 10 \times S_2$. For example I or V cannot be before C.

(4): For a large number a bar is placed above any of the six symbols (all symbols except I) to express multiplication by 1000.

(5): Although Roman used the word nulla (nothing) to convey the concept of zero, the Roman numbers lack a zero digit in their system.

The following shows some Roman numbers and their values.

III	$\rightarrow 1+1+1$	= 3
IV	$\rightarrow 5-1$	= 4
VIII	$\rightarrow 5+1+1+1$	= 8
XVIII	$\rightarrow 10+5+1+1+1$	= 18
XIX	$\rightarrow 10 + (10-1)$	= 19
LXXII	$\rightarrow 50+10+10+1+1$	= 72
CI	$\rightarrow 100 + 1$	= 101
MMVII	$\rightarrow 1000+1000+5+1+1$	= 2007
MDC	$\rightarrow 1000 + 500 + 100$	= 1600

Question No # 03:

Solve the following questions:

ANS:

(A) Convert $(110101010)_2$ into $()_{10}$.

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

$$(1 \times 2)^8 + (1 \times 2)^7 + (0 \times 2)^6 + (1 \times 2)^5 + (0 \times 2)^4 + (1 \times 2)^3 + (0 \times 2)^2 + (1 \times 2)^1 + (0 \times 2)^0$$

$$\Rightarrow 2^8 + 2^7 + 0 + 2^5 + 0 + 2^3 + 0 + 2^1$$

$$\Rightarrow 128 + 256 + 32 + 8 + 2$$

$$\Rightarrow (426)_{10}$$

$$(110101010)_2 = (426)_{10} \text{ Ans}$$

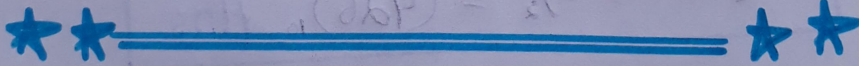
(B)

Multiply Binary numbers 10001010 and 10101101.

Ans, multiply binary number 10001010 and 10101101.

$$\begin{array}{r} 10001010 \\ \times 10101101 \\ \hline 10001010 \\ 00000000x \\ 10001010xx \\ 10001010xxx \\ 00000000xxx \\ 10001010xxxx \\ 00000000xxxx \\ 10001010xxxx \\ \hline 101110101000010 \end{array}$$

101110101000010 Ans



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