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Ayesha Mehmood

ID # 6832

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Subject # Introduction to  
ICT

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Q1) Write a characteristics of  
Computer? Explain each  
in details?

Characteristics of

Computers:-

1) Automatic:

Given a job, computer  
can work on it automatically



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without human interventions.

## 2) Speed :-

As you know computer can work very fast. It takes only few seconds for calculations that we takes hours to complete. You will be surprised to know that computer can perform millions (1,00,000) of instructions and even more per second.

Therefore, we determine the speed of computer in terms of microsecond ( $10^{-6}$  part of second) or nanosecond ( $10^{-9}$  part of a second). From this you can imagine how fast your computer perform work.



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### 3) Accuracy:-

The degree of accuracy of computer is very high and every calculation is performed with the same accuracy. The accuracy level is 7.

### 4) Diligence :-

A computer is free from tiredness, lack of concentration, fatigue, etc. It can work for hours without creating any error. If millions of calculations are to be performed, a computer will perform every calculation with the same accuracy. Due to this capability it overpowers human being in routine type of work.



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## 5) Versatility:-

It means the capacity to perform completely different type of work. You may have use your computer to prepare payroll slips. Next moment you may use it for inventory management or to prepare electric bills.

## 6) Power of Remembering:-

Computer has the power of storing any amount of information or data. Any information can be stored and recalled as long as you require, it for any numbers of years, it depends entirely upon how much data you want to store in a computer and when to lose or retrieve these data.



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## 7) NO IQ:-

Computer is a dumb machine. And it cannot do any work without instruction from the user. It performs the instructions at tremendous speed and with accuracy. It is you to decide what you want to do and in what sequence. So a computer cannot take its own decision as you can.

## 8) NO feeling:-

It does not have feelings, or emotions, taste, knowledge and experience. Thus it does not get tired even after long hours of work. It does not distinguish between users. The roman numeral system is good example of a non-positional system.



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## 9) Storage:-

The Computer has an in-built memory where it can store a large amount of data. You can also store data in Secondary Storage devices such as floppies, which can be kept outside. You can be carried to other computers.

Q2) write a note on each of the following.

## a) Machine learning:-

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



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development of computer programs that can access data and use it learn for themselves.

## b) 5G technology:-

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

5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra low latency more reliability, massive network capacity, increased availability, and a more uniform user experience to more users.



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### c) Central Processing unit:-

The Central Processing unit or processor, is the unit which performs most of the processing inside a computer. It processes all instructions received by software running on the PC and by other hardware components, and act as a powerful calculator.

### d) Non-Positional Number:-

A non-positional number system uses a limited number of symbols in which each symbol has a value. However, the position a symbol occupies in the number normally bears no relation to its value. The value of each symbol is fixed.



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Q3) Solve the following questions.

a) Convert  $(110101010)_2$  in to  $( )_{10}$ .

Ans)

$$\begin{aligned} & 1 \cdot 2^8 + 1 \cdot 2^7 + 0 \cdot 2^6 + 1 \cdot 2^5 + 0 \cdot 2^4 \\ & + 1 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 0 \cdot 2^0 = \\ & 1 \cdot 256 + 1 \cdot 128 + 0 \cdot 64 + 1 \cdot 32 + 0 \cdot 16 \\ & + 1 \cdot 8 + 0 \cdot 4 + 1 \cdot 2 + 0 \cdot 1 = 256 + \\ & 128 + 0 + 32 + 0 + 8 + 0 + 2 + 0 = 426_{10} \end{aligned}$$

b) Multiply binary numbers

10001010 and 10101101

Ans) Binary value:-



10

$$10001010 \times 10101101 =$$

$$01011101000010$$

Decimal value::

$$138 \times 173$$

$$= 23874$$