

INU

Pg #1

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Exam Mid

Submitted to

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Q 1)

Write a characteristic of computer -
Explain each in detail.

(Ans) 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), nanosecond (10^9) and Picosecond (10^{12})

(3) Accuracy: Accuracy of the computer is consistently high and the degree of its accuracy depends upon its design. Computer errors caused due to incorrect input data or unreliable programs are often referred to as bugs.

(4) Dillgence: Computer is free from monotony, tiredness, and lack of concentration. It can work for hours without any error without grumbling.

(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 to do a task.

(7) No I.Q.: A computer does only what it is programmed to do. It cannot take its own decisions in this regard.

(8) No feelings: computers are devoid of emotions. Their judgment is based on instructions given to them. in form of programs that are written by us. (Human being)

(Q2) write a note each of the following?

(a) Machine Learning

Machine learning is an application of artificial intelligence (AI) that provide systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves.

(b) 5G Technology:- is the next generation of wireless communication. It is expected to provide internet connections that are least 40 times faster than 4G LTE. 5G technology may use a variety of spectrum bands including millimeter wave (mmwave) radio spectrum which can carry very large amount of data a short distance.

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(C) Central Processing Unit (CPU)

The CPU performs basic arithmetic logic controlling and input/output (I/O) operations specified by the instructions in the programmed. The computer industry used the term central processing unit
=> It is the brain of a computer system.

(C) 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 or no relation to its value. The value of each symbol is fixed.

=> The roman number system is good example of a non positional number.

(Q3) Solve the following

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

(Ans)

$$(110101010)_2 = (426)_{10}$$

(b) Multiply binary number.

10001010 and 10101101 .

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

$$\begin{array}{r} 10001010 \\ 00000000 \\ 10001010 \\ 10001010 \\ 00000000 \\ 0001010 \\ \hline \end{array}$$

$$1001101110010$$

1001101110010, Ans.)