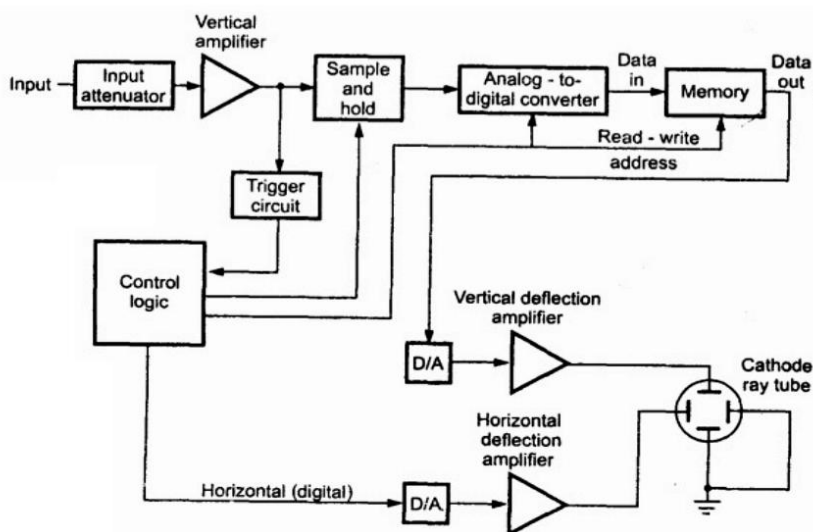# 4. Digital storage oscilloscope:

1. The input signal is applied to the amplifier and attenuator section.

2. The oscilloscope uses same type of amplifier and attenuator circuitry as used in the conventional oscilloscopes.

3. The attenuated signal is then applied to the vertical amplifier.

4. To digitize the analog signal, analog to digital (A/D) converter is used.

5. The output of the vertical amplifier is applied to the A/D converter section.

6. The successive approximation type of A/D converter is most oftenly used in the digital storage oscilloscopes.

7. The sampling rate and memory size are selected depending upon the duration & the waveform to be recorded.

8.Once the input signal is sampled, the A/D converter digitizes it.

9. The signal is then captured in the memory.

10. Once it is stored in the memory, many manipulations are possible as memory can be readout without being erased.

Applications:

- The DSO is used to give the visual representation for a target of radar such as aeroplane, ship etc.
- The DSO can be used to check the faulty components in various circuits.
- It can be used in medical field.
- The DSO can be used to measure ac as well as dc voltages and current.
- It can be used to analyze TV waveforms.
- The digital storage oscilloscope (DSO) is used to observe the radiation pattern generated by the transmitting antenna oscilloscope.
- The DSO used to save signals, so that it can be compared to or processed.
- The DSO can be used to measure the inductance, capacitor.
- It can be used to measure frequency, time period, time interval between signals etc.
- It can be used to observe the V-I characteristics of diodes, transistors.