Sampling and Quantization

In real world, a physical signal, e.g. temperature, pressure, flow rate, density, is analog by nature and can be described by a function in continuous time. To process the analog signal digitally, an entire procedure of sampling, quantization and coding is needed. This is cumulatively defined as analog-to-digital (A/D) conversion.

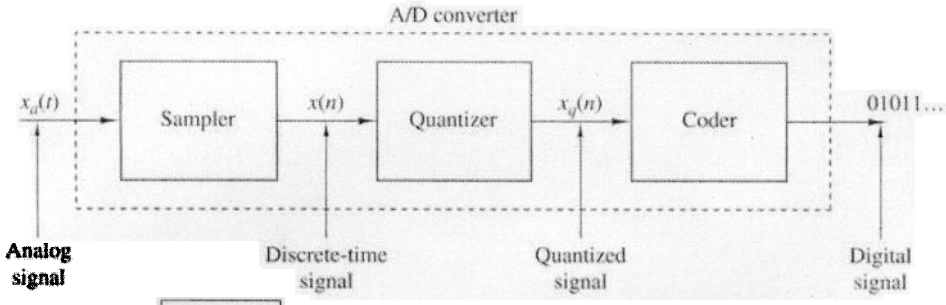

Fig. 3.1 **Basic parts of an analog-to-digital (A/D) converter.**

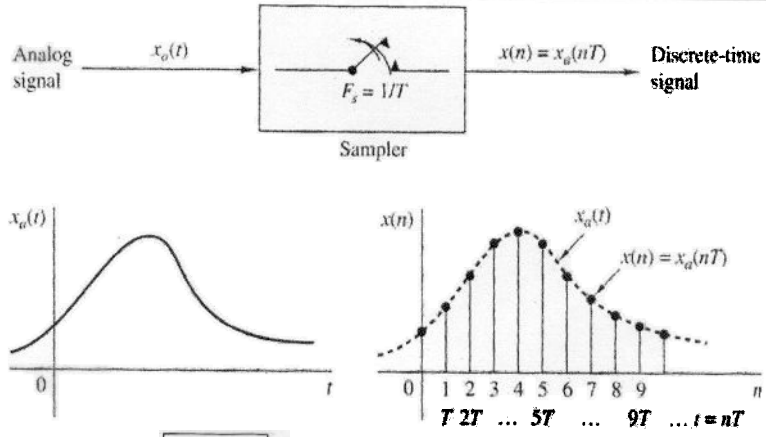

Fig. 3.3 **Periodic sampling of an analog signal.**

Illustration of quantization: