

قوانین

شایبتي 3

1. Frequency = $1/\text{Time}$
2. Units of period and frequency

<i>Unit</i>	<i>Equivalent</i>	<i>Unit</i>	<i>Equivalent</i>
Seconds (s)	1 s	Hertz (Hz)	1 Hz
Milliseconds (ms)	10^{-3} s	Kilohertz (kHz)	10^3 Hz
Microseconds (μ s)	10^{-6} s	Megahertz (MHz)	10^6 Hz
Nanoseconds (ns)	10^{-9} s	Gigahertz (GHz)	10^9 Hz
Picoseconds (ps)	10^{-12} s	Terahertz (THz)	10^{12} Hz

3. Phase (degree) $\gg 360 * \text{offset}$
Phase (radian) $\gg \text{phase (degree)} * (2\pi/360)$
4. # of bits per level = $\log_2(\text{\#of levels})$ or $2^{\text{bits}} = \text{levels}$
5. $\text{dB}_m = 10 \log_{10} P_m$, where P_m is the power in milliwatts
6. SNR = power of signal/power of noise
7. $\text{SNR}_{\text{db}} = 10 \log_{10} \text{SNR}$
8. BitRate = $2 * \text{Bandwidth} * \log_2 \text{no of level}$
9. $C = B \log_2(1+\text{SNR}) \gg C = \text{capacity}, B = \text{Bandwidth}, \text{SNR} = \text{Signal to Noise Ratio}$
10. Throughput = bandwidth * average of frames

شایستگی 4

12. no of Bits per sec = signal elements * $\frac{\text{signal rate}}{\text{نوع الإشارة}}$

شایستگی 10

13. $2^n - 2^k = r$
14. Hamming distance \gg XOR then count no of 1s

شایستگی 11

15. Full capacity for channel = bandwidth * delay
16. Link utilization = $\frac{\text{قدريش مەركەز ايعت}}{\text{قدريش انبعت اصلا}}$



شابتی 15

17. The number of addresses in the block can be found by using the formula 2^{32-n} .

شابتی 20

18. Length of data = total length - header length