Understanding Radiology Systems

1. Often, the independent variable _____ is a physical dimension.
    a. f
    b. t
    c. x
    d. y
2. The output _____ of the signal is also called the dependent variable.
    a. t
    b. f
    c. y
    d. x
3. Signals can be further categorized into deterministic and _____ signals.
    a. Stochastic
    b. Randomized
    c. Noise
    d. Variable
4. True or False. Complex numbers are an extension to real numbers.
    a. True
    b. False
5. The Dirac function is also called _____.
    a. Delta function
    b. Impulse function
    c. Constant function
    d. A & B
6. Another basic operation to combine a signal and a system is _____.
    a. Correlation
    b. Convolution
    c. Delta function
    d. Constant function
7. What is used to represent a continuous signal using only discrete frequencies?
    a. Fourier series
    b. Fourier transformer
    c. Rectangular function
    d. Fourier coefficients
8. According to the Discrete System Theory all signals can only be stored and processed at discrete time instances in a _____.
    a. Transformer
    b. Digital computer
    c. Circuit
    d. Sampling station
9. The process of transforming a continuous-time signal into a discrete time signal is called _____.
    a. Sampling
    b. Convolution
    c. Impulse train
    d. None of the above

10. Which of the following are common noise sources?
    a. Quantization
    b. Thermal noise
    c. Acquisition noise
    d. A & B
11. What is a simple system that allows only slow changes of the signal called?
    a. Low-pass filter
    b. High-low filter
    c. Slow filter
    d. Signal filter