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1) A periodic signal is

a. May be represented by $g(t) = g(t + T_0)$
b. Value may be determined at any point
c. Repeats itself at regular intervals
d. All of the above

ANSWER: (d) All of the above

2) Sine wave is a

a. Periodic signal
b. Aperiodic signal
c. Deterministic signal
d. Both a and c

ANSWER: (a) Periodic signal

3) An even function f(x) for all values of x and x holds

a. f(x) = f(-x)
b. f(x) = -f(x)
c. f(x) = f(x)f(-x)
d. None of the above

ANSWER: (a) f(x) = f(-x)

4) Random signals is

a. May be specified in time
b. Occurrence is random
c. Repeat over a period
d. None of the above

ANSWER: (b) Occurrence is random

5) Unit step function is

a. Exists only for positive side
b. Is zero for negative side

c. Discontinuous at time t=0
d. All of the above

ANSWER: (d) All of the above

6) In Unit impulse function

a. Pulse width is zero
b. Area of pulse curve is unity
c. Height of pulse goes to infinity
d. All of the above

ANSWER: (d) All of the above

7) For a Unit ramp function area of pulse curve is unity

a. Discontinuous at time t=0
b. Starts at time t=0 and linearly increases with t
c. Both a and b
d. None of the above

ANSWER: (b) Starts at time t=0 and linearly increases with t

8) The spectrum of the sampled signal may be obtained without overlapping only if

a. $f_s \geq 2f_m$
b. $f_s < 2f_m$
c. $f_s > f_m$
d. $f_s < f_m$

ANSWER: (a) $f_s \geq 2f_m$

9) The desired signal of maximum frequency w_m centered at frequency w=0 may be recovered if

a. The sampled signal is passed through low pass filter
b. Filter has the cut off frequency wm
c. Both a and b
d. None of the above

ANSWER: (c) Both a and b

10) A distorted signal of frequency f_m is recovered from a sampled signal if the sampling frequency f_s is

a. $f_s > 2f_m$
b. $f_s < 2f_m$
c. $f_s = 2f_m$
d. $f_s \geq 2f_m$

ANSWER: (b) $f_s < 2f_m$