ISRA UNIVERSITY
Islamabad Campus
Solution

MID SEMESTER EXAMINATION - FALL 2018
Program: BSC & MSC (Electrical)

Course Title: Signal & Systems   **Course Code:** EE-314
Total Marks: 30   **Duration:** 1 Hour 30 Min
Day & Date: Thu, December 6, 2018   **Start Time:** 1800 PST

(Use CAPITAL letters)

Student Name:	Invigilator's Name:
Student Signature:	Invigilator's Signature:
Student Regd. No:	Date:

Section-I
Multiple Choice Questions

Marks: 10   **Time Allowed: 15 Minutes**

Each statement is followed by four answers, marked A, B, C & D; only one of them is the best answer. Encircle the best answer. Each correctly circled best answer carries one mark. There is no negative marking for incorrect answer. No mark will be given for over writing, cutting or more than one encircled answers.

PLEASE DO NOT OPEN THE PAPER UNTIL ASKED TO DO SO

***************Good Luck***************

1. Signal is defined as:
   a) A quantitative description of a physical phenomenon, event or the process.
   b) A function represents a physical quantity or variable containing the information about the behavior and nature of the phenomenon.
   c) A device or a set of rules defining the functional relation between the input and output.
   d) Both (a) and (b) ✔

2. A system which is linear is said to obey the rules of:
   a) Scaling
   b) Additivity
   c) Both scaling and additivity ✔
   d) None of the above

3. All causal systems must have the component of:
   a) Memory ✔
   b) Time invariance
   c) Stability
   d) Linearity

4. The period of the signal $x(t) = 8 \sin\left(0.8\pi t + \frac{\pi}{4}\right)$ is:
   a) 0.4π s.
   b) 0.8π s.
   c) 2.5 s ✔
   d) None of the above.

5. A signal x (t) is said to be power signal if:
   a) $0 < P < \infty$ and $E = \infty$ ✔
   b) $0 < P < E$ and $E = 0$
   c) $0 < P < \infty$ and $E = 0$
   d) None of the above

6. Which mathematical notation specifies the condition of periodicity for a continuous time signal?
   a) $x(t) = x(t + T_0)$ ✔
   b) $x(t) = x(-t)$
   c) $x(n) = x(t + T_0)$
   d) None of the above.

7. _____ data have discrete states and take discrete values?
   a) Analog
   b) Digital ✔
   c) Both (a) & (b)
   d) None of the above.

8. _____ is the arte of change with respect to time.
   a) Time
   b) Amplitude
   c) Frequency ✔
   d) None of the above.

9. If the output of the signal is double to that of the input signal, then it is called:
   a) Time Scaling
   b) Amplitude Scaling ✔
   c) Time Shifting
   d) None of the above.

10. Frequency and period are _____.
    a) The same
    b) Proportional to each other
    c) Inverse of each other ✔
    d) None of the above.