



ISRA UNIVERSITY
Islamabad Campus

School of Engineering & Applied Sciences

Spring Semester Examination 2018(B-Tech)

Course Code	ETSS-314	Course Name	Signal & Systems
Total Marks	50	Session	Evening
Time	2 hrs. 30 Minutes	Course Instructor	Engr. Sadaf Sufwan

(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: 20 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. 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

2. 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) ✓

3. A system is said to be defined as non-causal, when:
 - a) The output at the present depends on the input at an earlier time.
 - b) The output at the present does not depend on the factor of time at all.
 - c) The output at the present depends on the input at a time instant in the future. ✓
 - d) The output at the present depends on the input at the current time.

4. The unit impulse function is also known as:
 - a) Dirac Delta function. ✓
 - b) Step function.
 - c) Both (a) and (b).
 - d) None of the above.

5. The system $y(t) = x(t) + \frac{1}{3}x(t - 3)$ is:
 - a) Non-causal system.
 - b) Causal system. ✓
 - c) Partly A and partly B.
 - 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) $x(n) = x(n + N)$.
 - c) $x(t) = e^{-at}$.
 - d) None of the above.

7. Z-transform converts convolution of time-signals to:
 - a) Multiplication. ✓
 - b) Addition.
 - c) Division.
 - d) None of the above.

8. The unit step-response of a system with impulse response $h[n] = \delta[n] - \delta[n - 1]$ is:
- a) $\delta[n]$. ✓
 - b) $\delta[n - 1]$.
 - c) $u[n]$.
 - d) None of the above.
9. The Fourier transform of a rectangular pulse is:
- a) Sinc function. ✓
 - b) Another rectangular pulse.
 - c) Triangular pulse.
 - d) None of the above.
10. The z-transform of $\delta[n - m]$ is:
- a) z^{-m} . ✓
 - b) z^m .
 - c) $\frac{1}{z}$.
 - d) None of the above.