

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**Diploma Engineering, Mid semester Examination**

**Semester:**  
**Subject Code: 03608355**  
**Subject Name: Signal & System**

**Date: 20/01/2023**  
**Time: (1hr: 30min)**  
**Total Marks: 40**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

Q.1	Answer any six out of Ten. (2 Marks Each)	(12)	Co/Po Name	Blooms Taxonomy Words
	1. Define : parabolic signal		CO1	Knowledge
	2. Define : Unit Step signal		CO1	Knowledge
	3. Define : Unit Impulse signal		CO1	Knowledge
	4. Define Unit Ramp signal.		CO1	Knowledge
	5. Define : Signal		CO1	Knowledge
	6. Define : System		CO1	Knowledge
	7. Define : LTI system		CO1	Knowledge
	8. Define : Convolution		CO1	Knowledge
	9. Write Classification of Signal		CO2	Understand
	10. List out Properties of Linear time invariant (LTI) system		CO3	
<b>Q.2</b>	A) Explain Energy and Power Signals	(03)	CO2	Understand
	<b>OR</b>			
	A) Explain Causal & Non-causal Systems	(03)	CO2	Understand
	B) What is Even & Odd Signal?	(03)	CO3	Apply
	<b>OR</b>			
	B) What is Periodic and Aperiodic Signal ?	(03)	CO3	Apply
	C) Describe any four properties of Linear time invariant (LTI) system.	(04)	CO2	Understand
	<b>OR</b>			
	C) Explain Convolution integral & properties of convolution integral	(04)	CO2	Understand
	D) Explain Impulse Response.	(04)	CO3	Apply
<b>Q.3</b>	A) Explain Signal Sampling	(03)	CO3	Apply
	<b>OR</b>			
	A) Write Short note on Quantization	(03)	CO4	Analyze
	B) Difference between Linear & Non Linear Systems	(03)	CO4	Analyze
	<b>OR</b>			
	B) Difference between Time Variant & Time-invariant system	(03)	CO4	Analyze
	C) Difference between continuous time and discrete time signals	(04)	CO4	Analyze
	<b>OR</b>			
	C) Explain Characterization of Linear Time Invariant (LTI) system	(04)	CO3	Apply
	D) Difference between Deterministic and non-deterministic / Random Signal	(04)	CO4	Analyze

