

**Sub Code**

:

**06EC44**

**IA Marks**

:

**25**

**Hrs/ Week**

:

**04**

:

**Exam Hours**

# SIGNALS & SYSTEMS (Common to EC/TC/IT/BM/ML)

Written by Administrator  
Friday, 06 November 2009 14:32 -

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03

**Total Hrs.**

:

52

:

**Exam Marks**

:

100

**PART – A**

**UNIT 1:**

**Introduction:** Definitions of a signal and a system, classification of signals, basic Operations on signals, elementary signals, Systems viewed as Interconnections of operations, properties of systems.

**7 Hours**

**UNIT 2:**

**Time-domain representations for LTI systems – 1:** Convolution, impulse response representation, Convolution Sum and Convolution Integral.

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**6 Hours**

**UNIT 3:**

**Time-domain representations for LTI systems – 2:** properties of impulse response representation, Differential and difference equation Representations, Block diagram representations.

**7 Hours**

**UNIT 4:**

**Fourier representation for signals – 1:** Introduction, Discrete time and continuous time Fourier series (derivation of series excluded) and their properties .

**6 Hours**

**PART – B**

**UNIT 5:**

**Fourier representation for signals – 2:** Discrete and continuous Fourier transforms(derivations of transforms are excluded) and their properties.

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**REFERENCE BOOKS:**

1. **Alan V Oppenheim, Alan S, Willsky and A Hamid Nawab**, "Signals and Systems"  
Pearson Education Asia / PHI, 2<sup>nd</sup>  
edition, 1997. Indian Reprint 2002
  
2. **H. P Hsu, R. Ranjan**, "Signals and Systems", Scham's outlines, TMH, 2006
  
3. **B. P. Lathi**, "Linear Systems and Signals", Oxford University Press, 2005
  
4. **Ganesh Rao and Satish Tunga**, "Signals and Systems", Sanguine Technical Publishers, 2004

**Question Paper Pattern:** Student should answer FIVE full questions out of 8 questions to be set each carrying 20 marks, **selecting at least TWO questions from each part**

Coverage in the Text:

**UNIT 1:** 1.1, 1.2, 1.4 to 1.8

**UNIT 2:** 2.1, 2.2

**UNIT 3:** 2.3, 2.4, 2.5

**UNIT 4:** 3.1, 3.2, 3.3, 3.6

**UNIT 5:** 3.4, 3.5, 3.6

**UNIT 6:** 4.1, 4.2, 4.3, 4.5, 4.6.

**UNIT 7:** 7.1, 7.2, 7.3, 7.4, 7.5

**UNIT 8:** 7.6 (Excluding 'relating the transfer function and the State-Variable description, determining the frequency response from poles and zeros) and 7.8