

**ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES  
(AUTONOMOUS)  
M.Tech II-Semester Regular Examinations, May 2016  
SIGNAL ANALYSIS AND CONDITION MONITORING  
(MACHINE DESIGN)**

**Date:**

**Time: 3 hours**

**Max Marks: 60**

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**Answer ONE Question from each unit**

**All questions carry equal marks**

**All parts of the question must be answered at one place only**

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**UNIT-1**

1. a) Explain complex notation for a two dimensional vector with a sketch. (6M)
- b) Explain in detail about Detectors. (6M)

**OR**

2. a) Explain Stationary Deterministic Signals. (6M)
- b) Explain in detail about any two different types of Analog Analyzers. (6M)

**UNIT-2**

3. Explain Stepped filter analysis for stationary signals. (12M)

**OR**

4. Explain Swept filter analysis for stationary signals. (12M)

**UNIT-3**

5. a) Explain how Scaling of results is done for Non-stationary signals. (6M)
- b) What is Windowing? How do you choose window length? (6M)

**OR**

6. What are the different types of windows? Explain about Hanning window type. (12M)

**UNIT-4**

7. Explain about the analysis of transient signals by repeated playback with variable bandwidth. (12M)

**OR**

8. How would you analyze transient signal as a periodic signal? Explain. (12M)

**UNIT-5**

9. a) Discuss about ISO Standards on vibrations in detail. (6M)

b) Explain condition monitoring of Air Separator. (6M)

**OR**

10. a) What are the various Diagnostic tools in condition monitoring? Explain. (6M)

b) Explain the condition monitoring of Cement mill foundation. (6M)

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