

**M. Tech.-II (Electronics V.L.S.I.) (CBCS – 2015 Course) : SUMMER  
- 2019**

**SUBJECT: ADVANCED DIGITAL SIGNAL PROCESSING**

Day : Monday  
Date : 03/06/2019

Time: 11.00 AM TO 02.00 PM  
Max. Marks: 60

**S-2019-3405**

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SAME** Answer book.

**SECTION – I**

- Q.1** What is linear prediction? Give the differences between forward and backward linear prediction. [10]

**OR**

Discuss Levinson-Durbin algorithm in brief.

- Q.2** With a neat diagram describe echo cancelling application of LMS algorithm in telephone circuits. [10]

**OR**

Obtain Widrow-Hoff LMS adaptation algorithm.

- Q.3** Explain power estimation using Barlett method. [10]

**OR**

What is the relation between autocorrelation and spectral density? Obtain the expression for mean and variance for the autocorrelation function of random signals.

**SECTION – II**

- Q.4** What are the addressing modes in P-DSPs? Explain in detail. [10]

**OR**

Write short notes on:

- i) Modified bus structure
- ii) multiple access memory

- Q.5** List the features of TMS 320C6X DSP processor. Explain in detail memory architecture in TMS 320C6X DSP processor. [10]

**OR**

Draw & explain the architecture of TMS 320C6X DSP processor.

- Q.6** Discuss in detail CWT and DWT wavelet. Explain polyphase decomposition for wavelet transform. [10]

**OR**

Explain the application of wavelet transform in image compression.

\* \* \* \*