

**M. TECH.-II (ELECTRONICS V.L.S.I.) (CBCS – 2015 COURSE)
: SUMMER - 2018**

SUBJECT: ADVANCED DIGITAL SIGNAL PROCESSING

Day : **Monday**
Date : **11/06/2018**

S-2018-3002

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

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the **RIGHT** indicate full marks.
 - 3) Both the sections should be written in **SEPARATE** answer books.
 - 4) Assume suitable data, if necessary.
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SECTION-I

Q.1 What is meant by backward linear prediction? Explain in detail. (10)

OR

Write in detail how you will find the optimum reflection coefficient for lattice forward prediction.

Q.2 With the help of flow chart, explain LMS adaptive algorithm. List the practical (10) limitation of basic LMS algorithm.

OR

How is the effect of echo minimized in a telephonic communication? Also explain how noise in the system can be minimized.

Q.3 Define periodogram. Obtain expression for mean and variance for autocorrelation (10) function of random signals.

OR

Explain how DFT and FFT are useful in power spectral estimation.

SECTION-II

Q.4 What is parallel processing? Explain how the clock rate is increased due to parallel (10) processing.

OR

What is circular buffer? State the parameters needed to handle the circular buffer.

Q.5 List and features of TMS3206X processor. (10)

OR

What is MAC? Explain in detail the operation of MAC.

Q.6 Explain any one application of DWT using sub-band decomposition in detail. (10)

OR

What is the need for time-frequency analysis? Discuss the concept of time frequency analysis with suitable diagram.

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