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Ist SEMESTER **M.Tech (EC-SPDD)**

SUPPLIMENTARY EXAMINATION **Feb 2019**

EC-572 ADAPTIVE SIGNAL PROCESSING

Time: 3 Hrs **Max. Marks: 100**

Note: Answer all questions. Assume missing data if any

Q.1(a) Discuss about the design of a resonator. Comment on the importance of r(z-plane). 10

(b) Given a three stage lattice filter with coefficients k1= ¼, k2= ¼ ,K3=1/3 ,

Determine the FIR coefficients for the direct form structure. 10

Q.2(a) Design a notch filter that rejects a specific frequency. Show the b/w of the notch and comment on the phase characteristics of the filter. 10

2(b) Explain comb filter. Discuss with design examples the techniques to improve the quality of notching. 10

Q.3(a) Explain levinson durbin technique.

Or

Compare levinson durbin algorithm with schur algorithm. 10

3(b) Discuss in brief about extended kalman filter. 10

Q.4(a) Explain in brief about Linear predictive coding. 8

4(b) Adaptive noise cancellation. 5

4(c) Compare LMS with RLS 7

Q.5(a) Explain sampling rate conversion method in digital domain. 9

5(b) Polyphasefilter structure. 3

5(c) Applications of multirate signal processing (any two) 8

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