

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST SEMESTER M. TECH DEGREE EXAMINATION
Electronics & Communication Engineering
(Telecommunication Engineering)
04EC6807—Advanced Digital Signal Processing

PART A

Answer All Questions

Each question carries 3 marks

1. What is interpolation? Give one example?
2. What is sub band decomposition?
3. What is whitening filter?
4. What is meant by periodogram averaging?
5. Draw and explain harr wavelet in detail?
6. List out the disadvantages of non parametric methods?
7. What is adaptive noise cancellation?
8. What is meant by linear prediction?

PART B

Each question carries 6 marks

9. What is multi rate signal processing? Discuss about the sampling rate conversion by a factor of I/D. ?

OR

10. Explain the Encoder and decoder operation of sub band coding technique.

11. Explain the realization of an FIR filter based on Type I and Type II poly phase decomposition?

OR

12. Give an account of wavelet based image compression standard?

13. Explain how multiresolution achieved through analysis?

OR

14. Give an account of adaptive filters and explain adaptive channel equalization in detail?

15. Explain the power spectrum estimation of ARMA process?

OR

16. State and explain wiener -khinchine relation and its properties

17. Explain various stochastic process in detail?

OR

18. Explain filter bank interpretation of periodogram ?

19. Explain Linear prediction and how Levinson-Durbin Algorithm used for linear prediction

OR

20. Explain LMS adaptive algorithm in detail?