4. We are using predictive coding for the gray-level sequence {30, 29, 29, 28, 20, 15, 12, 10, 9, 8, 9, 10, 11, 11, 11, 11, 11}. (i) Draw the block diagram of the Delta Modulation (DM) encoder-decoder pair. (ii) Form the delta modulation code when the prediction coefficient is $\alpha = 1$ and the prediction error is quantized in values ± 2. (iii) Form the gray-level sequence formed by the decoder and plot it together with the original sequence. (iv) What are the drawbacks of Delta modulation? (v) Compare the number of bits needed in Delta modulation with that of the original sequence when each gray-level value was originally expressed with five bits. (vi) Compare the number of bits needed with that of otherwise equivalent but lossless predictive coding. How could the lossless predictive coding be made more efficient? 6p.