C 20557

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2006

EC 2K 603—DIGITAL COMMUNICATIONS

Time : Three Hours   Maximum : 100 Marks

*Answer **all** questions.*

I.   (a)   Explain the generation of PAM signal.

     (b)   Explain the basics of quantization.

     (c)   State Nyquist criterion for zero ISI and explain.

     (d)   What is meant by scrambling ? Explain.

     (e)   What is correlation receiver ? Explain.

     (f)   Explain about carrier synchronization.

     (g)   Explain about binary FSK scheme.

     (h)   Explain about coherent and non-coherent digital modulation scheme.

                                                              (8 × 5 = 40 marks)

II.   (a)   Explain the generation and detection PWM signal.

                                 Or

     (b)   Draw block diagram of adaptive delta modulation and explain.

III.   (a)   Explain duo-binary and modified duo-binary signaling scheme with block diagram.

                                 Or

     (b)   Explain about zero forcing equalizer with block diagram.

IV.   (a)   Explain about matched filter and derive an expression for error probability.

                                 Or

     (b)   Derive optimum receiver for detecting signal in the presence of coloured noise.

V.   (a)   Draw the block diagram of MSK systems and explain.

                                 Or

     (b)   Derive the error probability for binary PSK system.

                                                            (4 × 15 = 60 marks)