QB

Q1	Explain QPSK modulator with the help of modulator circuit diagram and with waveforms.
Q2	Explain DPSK (Differential PSK System) with the help of circuit diagram and waveforms for bit sequence 101010011010.
Q3	Compare BPSK and QPSK based on following parameters - bandwidth requirement, noise Immunity, trasinission rate, efficiency & applications
Q4	What is spread spectrum modulation? Explain DSSS with appropriate diagrams. Write advantages of Spread spectrum.
Q5	What is speed spectrum modulation? Explain FHSS with appropriate diagrams
Q6	Design the encoder for (7,4) cyclic code generator polynomial is $G(p) = p3 + p + 1$ and verify its operation for any message vector 1100.
Q7	Write short note on cyclic codes and explain cyclic properties.
Q8	The parity check matrix of a binary linear block code is given as $$H = \begin{pmatrix} 1 & 1 & 0 & 0 & 1 & 1 & 0 & 0 \\ 1 & 0 & 1 & 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 1 & 0 & 0 & 1 \end{pmatrix}$$ (a) Is this a Hamming code? Give your reason. (b) Write down its generator matrix. (c) Which one of the two vectors is a valid information vector: $m_1 = (010)$, or $m_2 = (01010)$? For the valid one, compute the corresponding codeword.
Q9	Explain with neat diagram working of Integrate and Dump filter
Q10	Discuss causes of ISI and ways to overcome it. Also state and explain nyquist condition for zero ISI.
Q11	Explain Inter Symbol Inerference (ISI) and Inter Channel Inerference.
Q12	Write notes on source coding and Channel coding

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