34071 –Digital Communication

1. Basics of Digital Communication

Part – A

1. What is unit impulse function?
2. Define serial data transmission.
3. What is digital communication?
4. What is parallel transmission?
5. What are the advantages of digital communication system?
6. Define sources.
7. Give examples for digital signal.
8. What is Shannon's limit for information capacity?

Part –B

1. Mention the channels used for digital communication.
2. Mention the classification of signals.
3. What is synchronous transmission?
4. What is asynchronous serial transmission?
5. Explain optical fiber channel.
6. Explain energy and power signals.

Part – C

1. Explain digital communication system with diagram.
2. Explain synchronous and asynchronous data transmission.
3. Explain the channels used for digital communication.
4. Explain briefly about serial and parallel data transmission.

2. Formatting And Baseband Modulation

Part – A

1. What is quantization noise?
2. Mention the PCM waveform types.
3. What is uniform quantization?
4. What is PCM?
5. Define formatting.
6. What is companding?

Part – B

1. What is aliasing?
2. Explain RZ PCM waveform.
3. Explain channel noise.
4. Write short note on sampling theorem.

Part – C

1. What is quantization? Explain the types of quantization.
2. Explain M-ary pulse modulation technique.
3. Draw the block diagram of formatting and transmission of base band signals.
4. Explain the types of PCM with diagrams.

3. Baseband Coding Techniques

Part – A

1. Mention the error control coding methods.
2. What are the types of errors?
3. Mention the types of error codes.
4. What is error control?
5. What is forward error correction?

Part – B

1. What is burst error?
2. What is the rationale for coding?
3. What is hamming code?
4. Explain random error.
5. What is retransmission?
6. State the advantages and disadvantages of binary cyclic code.

Part – C

1. Explain: (i)Discretememoryless channel (ii)CRC.
2. Describe convolution code with diagram.
3. What is error control? Explain forward error correction code.
4. Explain hamming code with example.

4. Digital Modulation Techniques

Part – A

1. Expand ASCII.
2. What is MSK?
3. Define FSK.
4. What is ASK?
5. What is QPSK?

Part – B

1. Mention the types of digital modulation techniques.
2. Explain T1 framing.

Part – C

1. Explain: (i)ASCII framing (ii)E1 framing.
2. Explain binary differential PSK system with diagram.
3. Drawthe block diagram of MSK transmitter/receiver and explain.
4. Explain TDM with neat diagram.

5. Spread Spectrum Techniques

Part – A

1. Define run property.
2. What is CDMA?
3. What do you mean by slow hopping?

Part – B

1. Explain about processing gain.
2. What is fast hopping?
3. Explain jamming. Mention its types.

Part – C

1. Explain frequency hopping system with diagram.
2. Explain about jamming consideration.
3. Draw and explain the block diagram of direct sequence spread system.
4. Explain CDMA digital cellular system with diagram.