



Please Attempt All Questions.

Open Notes (Hard Copies) Exam

Q.1: Differentiate each of the Following:

[5-Marks]

1. Analog signal, sampled signal, quantized signal, and digital signal.
2. Error detection and error correction.
3. Hamming code and Hamming distance.
4. Even parity and odd parity.
5. Jitter, End-to-End Delay, Mean opinion score, Throughput, Mean Square Error, Peak Signal to Noise Ratio.
6. Biometrics and Bioinformatics

Q.2: Draw a simplified Block Diagram of the Following:

[5-Marks]

1. General purpose data acquisition system.
2. General purpose medical processing system.
3. Huffman code of: AAAABBBBBBAAAACCD.

Q.3: Briefly explain the Following:

[5-Marks]

1. Discrete Fourier Transform.
2. Discrete Cosine Transform.
3. Discrete Sine Transform.
4. Discrete Haar Transform.
5. Short-Time Fourier Transform.

Q.4: Find Decision tree classifier.

[3-Marks]

| Days | Weather | Temp | Money | Decision |
|------|---------|------|-------|----------|
| 1 | Sunny | Hot | Rich | Cinema |
| 2 | Sunny | Hot | Rich | Football |
| 3 | Windy | Hot | Rich | Cinema |
| 4 | Rainy | Mild | Poor | Cinema |
| 5 | Rainy | Cool | Poor | Home |
| 6 | Rainy | Mild | Poor | Home |
| 7 | Windy | Cool | Poor | Football |
| 8 | Windy | Mild | Poor | Cinema |
| 9 | Windy | Cool | Poor | Football |
| 10 | Rainy | Hot | Rich | Home |
| 11 | Rainy | Cool | Poor | Cinema |
| 12 | Windy | Mild | Poor | Football |
| 13 | Rainy | Hot | Rich | Cinema |
| 14 | Sunny | Mild | Rich | Home |

Q.5:

[2-Marks]

1. What is the difference between
 - a. Linear and non-linear classifier?
 - b. Programming and machine learning?
2. What are the types of learning?

WITH ALL BEST WISHES

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