ASSIGNMENT NO.2

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SEM:- 5TH

An encoding format is a method used to convert data from one form to another for efficient storage, transmission, or processing. It ensures that the data can be interpreted correctly by different systems or devices. Encoding formats vary depending on the type of data being encoded, such as text, numbers, photos, audio, or video.

Encoding Formats for Different Types of Data

1. Text Encoding
   - ASCII: Basic English characters.
   - UTF-8: Unicode, compatible with ASCII.
   - Base64: Converts binary data to text.
   - ISO 8859-1: Latin-1, Western European languages.
2. Number Encoding
   - Binary: Base-2 (0, 1).
   - Hexadecimal: Base-16 (0-9, A-F).
   - IEEE 754: Floating-point numbers.
   - BCD: Binary-Coded Decimal.
3. Photo/Image Encoding
   - JPEG: Lossy compression for photos.
   - PNG: Lossless compression, supports transparency.
   - GIF: Supports animation, limited colors.
   - RAW: Unprocessed camera data.
4. Audio Encoding
   - MP3: Lossy compression for music.
   - WAV: Uncompressed, high-quality.
   - FLAC: Lossless audio.
   - AAC: Improved compression over MP3.
5. Video Encoding
   - MP4: Common video format, lossy.
   - AVI: High-quality video.
   - H.264: Standard for video compression.
   - MKV: Versatile, supports multiple tracks.

These formats ensure data can be stored, transmitted, and processed efficiently.