

# **ELECTRICAL MEASUREMENT & MEASURING INSTRUMENTS**

# UNIT 5 Part (i)

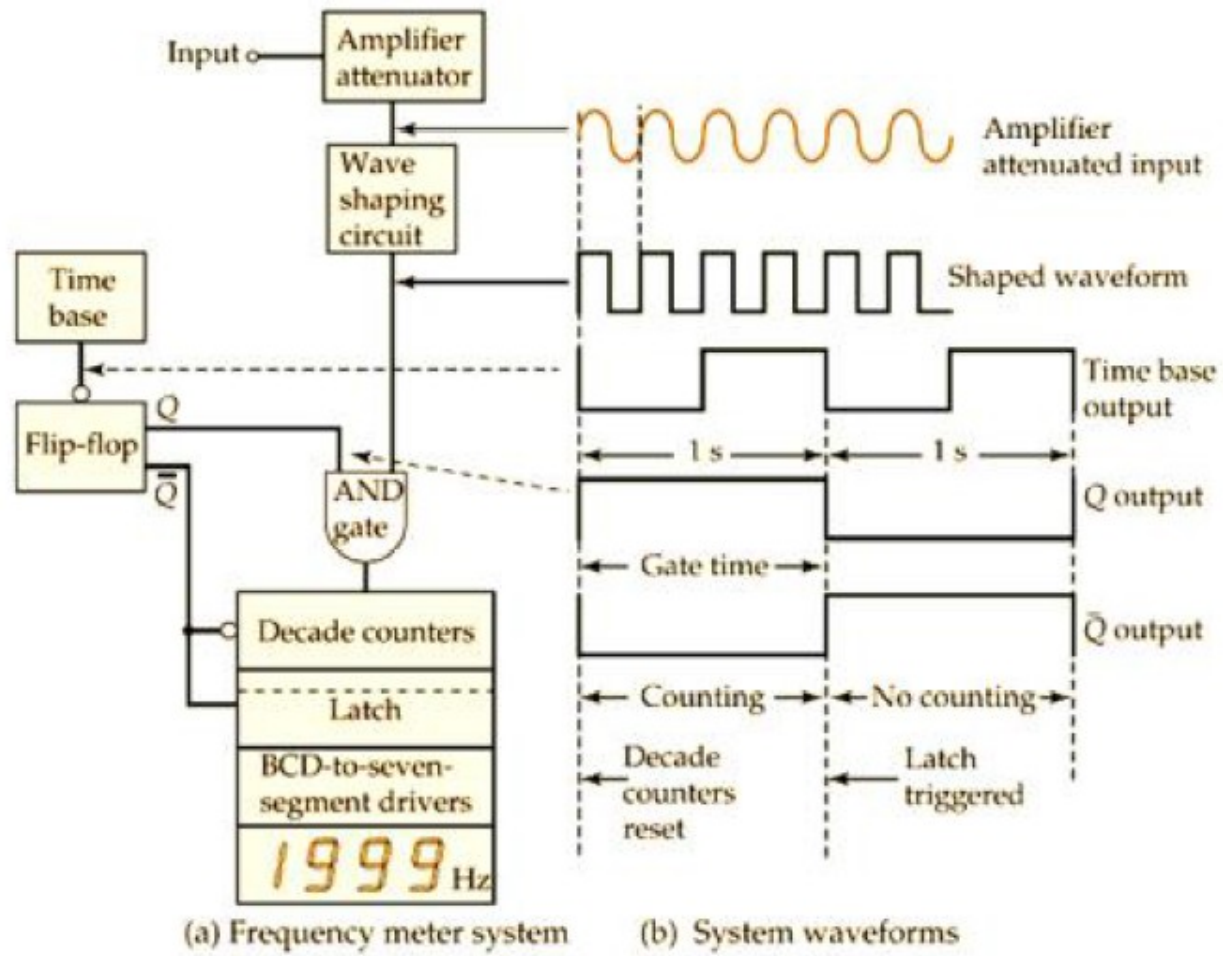
## **Digital measurement of Electrical Quantities**

# Digital Frequency Meter

- Measure the frequency
- It consists of an accurate timing source (time-base), digital counting circuits
- Circuitry for shaping the input waveform, and a circuit for gating the shaped waveform to the counter.
- The input is first amplified or attenuated, as necessary, and then fed to the wave shaping circuit,
- which converts it into a square or pulse waveform with the same frequency as the input.
- The presence of this wave shaping circuit means that the input waveform can be sinusoidal, square, triangular, or can have any other repetitive

waveform

# Block Diagram



# Power Analyzer

- The power analyzer can be used in either single phase circuit or three phase circuit
- The three phase circuit can use three wires or four wire power supply.
- When power analyzer is used in a.c. circuits, the most commonly used current and voltage sensors are potential transformers and current transformers respectively.
- The current transformers are commonly used with 5A rating. But by using multiple turns at primary side, the current transformers with lower primary current values can be used.
- According to the requirement, the nominal voltages of 110V, 220V or 440V can be used in different application areas.

# Block Diagram

