

1. Which component is commonly used as the core element in an Astable Multivibrator circuit?

- a) Resistor
- b) Capacitor
- c) Inductor
- d) 555 Timer IC

Answer: d) 555 Timer IC

Explanation: The 555 Timer IC is frequently utilized as the core element in an Astable Multivibrator circuit due to its ability to generate continuous square wave oscillations.

2. What is the primary function of a Schmitt Trigger circuit?

- a) Voltage Regulation
- b) Frequency Modulation
- c) Signal Conditioning
- d) Current Amplification

Answer: c) Signal Conditioning

Explanation: A Schmitt Trigger circuit is primarily used for signal conditioning, specifically for converting noisy or erratic input signals into clean, digital output signals.

3. Which circuit is commonly employed to limit the maximum voltage level of a signal?

- a) Voltage Divider

- b) Voltage Limiter
- c) Voltage Regulator
- d) Voltage Amplifier

Answer: b) Voltage Limiter

Explanation: A Voltage Limiter circuit is commonly utilized to cap the maximum voltage level of a signal, protecting downstream components from excessive voltage.

4. What is the primary purpose of a Peak Detector circuit?

- a) Measure Voltage
- b) Measure Current
- c) Detect Maximum Signal Amplitude
- d) Generate Square Waves

Answer: c) Detect Maximum Signal Amplitude

Explanation: A Peak Detector circuit is designed to detect and hold the maximum amplitude of an input signal until it is reset, useful for various applications such as audio level meters.

5. Which circuit is used to convert a voltage signal into a proportional current output?

- a) Voltage Divider
- b) Voltage Limiter
- c) Voltage-to-Current Converter
- d) Current-to-Voltage Converter

Answer: c) Voltage-to-Current Converter

Explanation: A Voltage-to-Current Converter circuit is specifically designed to convert a voltage input into a proportional current output, often utilized in control systems and instrumentation.

6. What is the primary function of a Precision Rectifier circuit?

- a) Rectify AC Signal
- b) Amplify DC Signal
- c) Filter Noise
- d) Modulate Frequency

Answer: a) Rectify AC Signal

Explanation: A Precision Rectifier circuit is primarily used to rectify an AC signal into a clean DC signal with minimal voltage drop and distortion.

7. Which circuit is commonly used to hold the voltage of a signal at a constant level?

- a) Clipper
- b) Clamper
- c) Comparator
- d) Compressor

Answer: b) Clamper

Explanation: A Clamper circuit is commonly used to shift the DC level of a signal to a desired

level, effectively holding it at a constant voltage.

8. What is the main purpose of a Sample and Hold Circuit?

- a) Generate Random Signals
- b) Store and Maintain Voltage Levels
- c) Convert Analog to Digital Signals
- d) Generate Square Wave Oscillations

Answer: b) Store and Maintain Voltage Levels

Explanation: A Sample and Hold Circuit is primarily utilized to capture and maintain the voltage level of an input signal at a specific instant, allowing it to be sampled and held for further processing or analysis.

9. Which configuration of the 555 Timer IC is commonly used to generate a single output pulse of a specific duration?

- a) Astable
- b) Bistable
- c) Monostable
- d) Stable

Answer: c) Monostable

Explanation: The Monostable configuration of the 555 Timer IC is commonly used to generate a single output pulse of a specific duration, triggered by an external input pulse.

10. Which circuit is commonly employed to convert a current signal into a proportional voltage output?

- a) Voltage Divider
- b) Voltage Limiter
- c) Voltage-to-Current Converter
- d) Current-to-Voltage Converter

Answer: d) Current-to-Voltage Converter

Explanation: A Current-to-Voltage Converter circuit is specifically designed to convert a current input into a proportional voltage output, often used in sensor interfacing and measurement applications.