

**ELECTRONIC DEVICES AND CIRCUITS**  
**3<sup>rd</sup> Exam/ECE/5861/Nov'24**  
**(For Batch 2018 Onwards)**

**Duration: 3Hrs.**

**M.Marks:75**

**SECTION-A**

**Q1. Do as directed.**

**15x1=15**

- a. What is multistage amplifier?
- b. Which type of coupling is preferred for impedance matching?
- c. Heat sinks are used in power amplifiers to increase \_\_\_\_\_
- d. Negative feedback reduces \_\_\_\_\_ in amplifiers.
- e. Oscillators use \_\_\_\_\_ feedback.
- f. Barkhausen criterion for sustained oscillations is \_\_\_\_\_
- g. Phase shift oscillator does not use \_\_\_\_\_ circuit.
- h. Expand CMRR
- i. An Ideal operational amplifier has \_\_\_\_\_ bandwidth.
- j. PSRR means \_\_\_\_\_
- k. Define Slew rate.
- l. Amplifier amplifies the \_\_\_\_\_ signal.
- m. In IC 555 timer \_\_\_\_\_ pin is used for trigger pulses.
- n. To generate square wave \_\_\_\_\_ multivibrator is used.
- o. Integrator circuit is \_\_\_\_\_ filter and differentiator circuit is \_\_\_\_\_ filter.

**SECTION-B**

**Q2. Attempt any six questions.**

**6x5=30**

- i. Compare RC coupling, Transformer coupling and direct coupling.
- ii. Give characteristics of ideal Operational amplifier.
- iii. Explain VCO with its pin diagram.
- iv. Explain Hartley oscillator with diagram.
- v. Differentiate between voltage and power amplifiers.
- vi. Write a short note on Emitter follower amplifier
- vii. Discuss in brief idea of diode Clipping and clamping circuits.
- viii. Explain the working of Monostable Multivibrator.
- ix. Explain the working of transistor as a Switch.

**SECTION-C**

**Q3. Attempt any three questions.**

**3x10=30**

- a. Give comparison of class A, class B, class C and class AB amplifier.
- b. How operational amplifier can be used as a adder and sub tractor?
- c. Write a short note on any two: i) PLL ii) Single tuned voltage amplifier iii) Regulated power supply
- d. Derive the expression for gain of an amplifier employing feedback.
- e. Describe the working of RC coupled amplifier with the help of a neat diagram and explain its advantages also.