

S. B. Roll. No.....

**ELECTRONIC DEVICE AND CIRCUIT**  
**3<sup>rd</sup> Exam/ECE/5861/Jun'2022**  
**(For 2018 Batch Onwards)**

**Duration: 3Hrs.**

**M.Marks:75**

**SECTION-A**

**Q1. Give answer in one line.**

**15x1=15**

- a. What do you mean by direct coupling?
- b. Define voltage gain.
- c. What is collector efficiency?
- d. What is the use of Heat sinks in power amplifiers?
- e. Write the maximum efficiency for class C power amplifier.
- f. Define distortion.
- g. What is negative feedback?
- h. The gain of emitter follower circuit is?
- i. What are tuned voltage amplifiers?
- j. Write the effect of negative feedback on bandwidth.
- k. Give the frequency range of Wein bridge oscillator.
- l. For high value of Q, the selectivity of circuit will be?
- m. Integrator circuit behaves as which filter?
- n. In 555 timers which pin is used for trigger pulse.
- o. SVRR means?

**SECTION-B**

**Q2. Attempt any six questions.**

**6x5=30**

- i. Discuss the importance of impedance matching in amplifier.
- ii. What do you mean by class A amplifier? Explain.
- iii. Explain emitter follower circuit.
- iv. Explain Barkhausen criterion for oscillations.
- v. Explain double tuned voltage amplifier and their frequency response characteristics.
- vi. Explain the operation of clipper circuit.
- vii. Describe the working principle of transistor as switch.
- viii. Define slew rate and input offset current.
- ix. What is Line and load regulation?

**SECTION-C**

**Q3. Attempt any three questions.**

**3x10=30**

- a. Compare R-C coupling and transformer coupling.
- b. Discuss with the help of circuit diagram complementary symmetry push pull amplifier.
- c. Derive the expression for gain of an amplifier employing feedback.
- d. Explain with neat diagram, the operation of colpitt oscillator.
- e. Explain Operational amplifier as an adder circuit.