

Reg. No. \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**THIRD SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017**

**CS207: ELECTRONIC DEVICES AND CIRCUITS (CS)**

Max. Marks: 100

Duration : 3 Hours.

**PART A**

*Answer All questions.*

1. Explain the following waveforms: (3)
  - a) Ramp
  - b) Step
  - c) Square
2. Draw and explain the circuit diagram for RC differentiator. (3)
3. Compare BJT and FET. (3)
4. Explain Zener voltage regulators. (3)

**PART B**

*Answer any 2 questions.*

5. Explain the following with examples (9)
  - a) clipper circuits.
  - b) clamper circuits.
6. With the neat sketches and waveforms explain Enhancement type N channel MOSFET. (9)
7. With the neat sketch explain (9)
  - a) voltage doubler
  - b) voltage tripler

**PART C**

*Answer All questions.*

8. What is mean by operating point of a transistor? (3)
9. Explain about the effect of negative feedback on Bandwidth. (3)
10. What is the criterion for oscillation? (3)
11. Draw the circuit diagram for bistable multivibrator and give a simple explanation?(3)

**PART D**

*Answer any 2 questions.*

12. Explain voltage divider bias? (9)
13. With a neat circuit diagram and relevant waveforms and equations, Explain and analyze Hartley Oscillators. (9)
14. Explain Monostable multivibrators with circuit and waveforms and obtain design Equations. (9)

**PART E**

*Answer any 4 questions.*

15. Explain any 3 applications of an opamp. (10)
16. Explain Weinbridge oscillator using opamp. (10)
17. Explain Sample and hold circuit. (10)
18. Using 555 timer, Explain the operation of monostable multivibrator with necessary waveforms. (10)
19. Explain the following: (10)
- a) Flash type ADC
  - b) Successive approximation type ADC
20. Explain the concept of Binary weighted resistor DAC. What are its drawbacks? In a 10 bit DAC, Reference voltage is given as 15v. Find analog output for digital input of 1011011001. (10)

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