Reg. No. : | | | | | | | | | | |

Question Paper Code: 44402

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fourth Semester

Electronics and Communication Engineering

14UEC402 - ANALOG CIRCUITS

(Regulation 2014)

Duration: 1:45 hour Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. What are the essential conditions for maintaining oscillations?
2. Draw the circuit of Armstrong oscillator and mention its application.
3. Compare clipper and clamper.
4. Draw the circuit diagram of diode clippers.
5. Give the ideal characteristics of op-amp.
6. Define slew rate.
7. List the applications of PLL.
8. Give the schematic of Op-Amp based sine wave to square wave converter.
9. Define time constant.
10. Define resolution of a converter.
11. The output voltage of a certain op-amp circuit changes by 20 V in 4 μs. Find its slew rate.
12. Draw the circuit of a voltage to current converter with floating load.
13. Define capture range, lock-in range and pull-in-time of a PLL.

14. List the various A/D conversion techniques.

15. What are the modes of operation of a timer?

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Explain the operation of RC phase shift oscillator with a neat circuit diagram and derive the expression of frequency of oscillation and the condition for sustained oscillation. (10)

17. Describe the response of low pass RC circuit for step and square wave input. Sketch the circuits and waveforms. (10)

18. Discuss the various ways to fabricate diodes. (10)

19. Explain the working of PLL with neat block diagram and derive the expression for lock in range and capture range. (10)

20. Draw and explain the functional block diagram of a 723 regulator. (10)