Reg. No. :

Question Paper Code: 44402

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Fourth Semester

Electronics and Communication Engineering

14UEC402 - ANALOG CIRCUITS

(Regulation 2014)

Duration: One hour   Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. For sustained oscillation the value of Aβ must be

    (a) = 1   (b) > 1   (c) <1   (d) ≠ 1

2. The resonant frequency of a crystal oscillator is ____ proportional to the thickness of the crystal

    (a) directly   (b) inversely   (c) not   (d) none of these

3. Speed up capacitor is used to improve

    (a) rise time   (b) delay   (c) switching time   (d) storage time

4. Monostable multivibrator has ___ quasi stable state.

    (a) One   (b) two   (c) three   (d) none of these

5. Monolithic IC consists of

    (a) Active components   (b) Passive components
    (c) Both a and b   (d) None of the above

6. _____means growing single crystal silicon structure upon a original silicon substrate.

    (a) Etching   (b) Epitaxy   (c) Ion implantation (d) Diffusion

7. _____ is a nonlinear application of operational amplifier.

      (a) Adder   (b) Subtractor   (c) Differentiator   (d) Comparator

8. Precision rectifier are used to rectify voltages in range of _____volts.

      (a) milli   (b) kilo   (c) mega   (d) giga

9. _____ diode is used for liner voltage regulation.

      (a) PN junction   (b) Avalanche   (c) Zener   (d) Schottky

10. What mode of operation of the timer IC is utilized for a frequency divider?

      (a) monostable   (b) Bistable   (c) Astable   (d) None of these

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11.   Explain the principle of operation of Colpitts Oscillator.   (8)

12.   What is the response of a low pass RC circuit for sinusoidal, step, square wave and ramp inputs.   (8)

13.   Write short notes on the following
    (a) slew rate
    (b) Virtual ground
    (c) Thermal
    (d) Power supply rejection ratio.   (8)

14.   Explain the working of PLL with neat block diagram and derive the expression for lock in range and capture range.   (8)

15   Draw and explain the functional block diagram of a 723 regulator.   (8)

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