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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year II Semester Regular & Supplementary Examinations May 2019
PULSE AND DIGITAL CIRCUITS
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 60

UNIT-I

1 a Show that a high pass circuit with a small time constant acts as differentiator.   6M
   b A 10v step is switched on to a 50kΩ resistor in series with a 500pf capacitor.calculate the rise time of the capacitor voltage,the time for the capacitor to charge 63.2% of its maximum voltage,and the time for the capacitor to be completely charged   6M

OR

2 a With the help of a neat circuit diagram, explain the working of a two-level diode clipper.   6M
   b Define clamper. With the help of neat circuit diagrams and output waveforms, explain the working of positive peak and negative peak clamping circuits   6M

UNIT-II

3 a Ellaborte about piece-wise linear approximation for a semiconductor diode Characteristics.   6M
   b Design the transistor as a switch and draw the output characteristics   6M

OR

4 Explain the operation of collector coupled astable multivibrator and draw its output waveforms   12M

UNIT-III

5 Explain the working of diode as a switch and draw the output characteristics.   12M

OR

6 a Explain the basic principles of Miller and Bootstrap time-base generators.   6M
   b Compare miller and bootstrap time base generators   6M

UNIT-IV

7 a Compare unidirectional and bidirectional sampling gates   6M
   b Why the sampling gates are called linear gates?   6M

OR

8 a With the help of neat diagram explain the working of a four diode sampling gate.   6M
   b Derive expressions for its gain (A) and Vmin of a four diode sampling gate.   6M

UNIT-V

   a Explain the synchronization of sweep circuit with symmetric signals.   6M
9 b How a sine wave frequency division is done with a sweep circuit?   6M

OR

10 With the help of neat circuit diagram and truth table explain the working of   12M
      (i) DTL NAND gate   (ii) RTL NAND gate.

*** END ***