Code No: R1631024   (**R16**)   (SET - 1)

III B. Tech I Semester Supplementary Examinations, May - 2019
PULSE AND DIGITAL CIRCUITS
(Electrical and Electronics Engineering)

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**
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PART –A

1. a) What is meant by linear wave shaping?   [2M]
    b) Compare linear wave shaping with non-linear wave shaping.   [2M]
    c) Why diode is used as a switch? Draw the piece wise linear equivalent circuit model   [2M]
        of diode.
    d) Why a Monostable multivibrator is also called as delay circuit?   [3M]
    e) What is a linear time base generator? Why the time base generator is called sweep   [3M]
        circuit?
    f) Define logic gate and logic family.   [2M]

PART –B

2. a) Explain the response of high pass RC circuit for a step input signal.   [7M]
    b) Explain how a high-pass circuit acts as differentiator.   [7M]

3. a) Classify different types of clipper circuits. Given their circuit and explain their   [7M]
        operation with the aid of transfer characteristics.
    b) Explain the steps to analyze a clamping network with an example.   [7M]

4. a) Explain about diode forward recovery time and diode reverse recovery time.   [7M]
    b) Explain about the saturation parameters of a transistor.   [7M]

5. a) Explain the operation of collector coupled Monostable multivibrator.   [7M]
    b) Explain the triggering method of Monostable multivibrator.   [7M]

6. a) With reference to voltage sweeps explain the following terms: [7M]
         i) Linearity of sweeps. ii) Sweep stability.   iii) Recovery time.
    b) Differentiate between Miller time base circuit and bootstrap time base circuit.   [7M]

7. a) What are the basic logic gates which perform almost all the operations in digital   [7M]
        communication systems?
    b) Explain the operation of a two input TTL logic Gate with open collector   [7M]
        configuration. What are the applications of open collector gates?

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