

Code No: **R1631024**

**R16**

SET - 1

**III B. Tech I Semester Supplementary Examinations, August - 2021**

**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**

**(14 Marks)**

1. a) What are the initial conditions? Why do you need them? [2M]
- b) Draw the circuit diagram of emitter coupled clipper. [2M]
- c) What is the Hysteresis of Schmitt Trigger? [2M]
- d) Draw the circuit diagram of astable multivibrator as voltage controlled oscillator. [3M]
- e) Derive the expression for sweep speed of transistorized Miller circuit. [3M]
- f) What is meant by sampling gate? [2M]

**PART -B**

**(56 Marks)**

2. a) Sketch the response of low pass RC circuit for step input and derive the expression for rise time. [7M]
- b) Discuss about the various types of attenuators. [7M]
3. a) With a neat circuit diagram explain the working of an emitter coupled clipper. [7M]
- b) Explain the effect of diode characteristics on clamping voltage. [7M]
4. a) Sketch neatly the waveform of current and voltage for a transistor switch with capacitive loading circuit. [7M]
- b) Explain different triggering methods of binary circuits. [7M]
5. a) Explain how Monostable multivibrator can be used as a voltage to time converter. [7M]
- b) Explain how astable multivibrator can be modified as voltage to frequency converter? [7M]
6. a) What is Miller sweep generator? And explain its basic principles. [7M]
- b) If the amplifier gain is different from Unity in a bootstrap circuit, what is the effect on the sweep voltage? Explain. [7M]
7. a) Discuss TTL logic with the help of circuits. [7M]
- b) How the pedestal effect the output of Sampling Gates? Explain. [7M]

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