

**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**

**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 of diode. [2M]
- 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 circuit? [3M]
- 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 operation with the aid of transfer characteristics. [7M]
- 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 communication systems? [7M]
- b) Explain the operation of a two input TTL logic Gate with open collector configuration. What are the applications of open collector gates? [7M]

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