

**III B. Tech I Semester Supplementary Examinations, May - 2016**  
**PULSE AND DIGITAL CIRCUITS**  
 (Common to ECE and EIE)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)  
 2. Answering the question in **Part-A** is compulsory  
 3. Answer any **THREE** Questions from **Part-B**

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**PART -A**

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|---|---|------|
| 1 | a) Describe about ringing circuit.  | [3M] |
|   | b) State clamping circuit theorem.  | [4M] |
|   | c) Explain piecewise linear characteristics of a diode.                       | [4M] |
|   | d) What are the types of triggering? Distinguish between them.                | [4M] |
|   | e) What are the applications of Time-base generator?                          | [3M] |
|   | f) What do you mean by sampling gate? Give the applications of sampling gate? | [4M] |

**PART -B**

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|---|--|------|
| 2 | a) Discuss about attenuators.  | [4M] |
|   | b) Analyze the low pass circuit for the exponential inputs, with help of waveforms.  | [8M] |
|   | c) Discuss the application of an attenuator in a CRO.  | [4M] |
| 3 | a) Draw the basic circuit diagram of positive peak clamper circuit and explain its operation.  | [8M] |
|   | b) Explain transfer characteristics of emitter coupled clipper and derive necessary equations.   | [8M] |
| 4 | a) Draw the circuits of 3-input OR-gate using diodes for:<br>(i) Positive logic, (ii) Negative logic and explain the operation of circuit. | [8M] |
|   | b) Give the comparison of different logic families.  | [8M] |
| 5 | a) What are different types of multivibrators? Explain the stable state of a multivibrator.  | [8M] |
|   | b) Sketch the circuit diagram of Schmitt trigger and explain its operation.  | [8M] |
| 6 | a) With the help of neat circuit diagram and waveforms explain transistor miller time base generator.                                      | [8M] |
|   | b) Discuss about the recovery time of a sweep circuit. How do you achieve short recovery time?   | [8M] |
| 7 | a) Explain the process of synchronization of a sweep circuit.  | [8M] |
|   | b) Write notes on:<br>i) Astable relaxation circuits ii) Monostable relaxation circuits  | [8M] |

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