**19EC22P1 – PULSE AND DIGITAL CIRCUITS LAB**

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| **Course Category:** | Program Core | **Credits:** | 1.5 |
| **Course Type:** | Practical | **Lecture-Tutorial- Practice:** | 0 - 0 – 3 |
| **Prerequisite:** | Electronic Devices and Circuits, Pulse and Analog Circuits, Switching Theory and Logic design. | **Sessional Evaluation:****External Evaluation :****Total Marks:** | 4060100 |

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| **Course****Objectives** | Students undergoing this course are expected to understand: |
| 1. The behaviour of various semiconductor devices.
2. The V-I characteristics of various semiconductor devices.
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| **Course Outcomes** | Upon successful completion of the course , the students will be able to: |
| CO1 | Understand function of logic gates and can implement logic circuits using gates. |
| CO2 | Implement the combinational logic circuits. |
| CO3 | Elucidate differences between synchronous and asynchronous circuits. |
| CO4 | Demonstrate linear and non-linear wave Shaping. |
| CO5 | Design Multivibrators. |
| CO6 | Design Schmitt Trigger |
| **Course****Content** | Minimum of **TEN** experiments to be completed out of the following:**LIST OF EXPERIMENTS**1. (a). Logic Gates

(b). Realization of logic gates using NAND and NOR Gates1. Full Adder
2. Decoder
3. Divide by N-Ripple Counter
4. Multiplexer
5. Divide by N-Synchronous Counter
6. RC Differentiator and Integrator
7. Diode Clippers & Clampers
8. Astable Multivibrator using BJT
9. Bistable Multivibrator using BJT
10. Schmitt Trigger using BJT
11. Bootstrap sweep circuit.
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| Contribution of Course Outcomes towards achievement of Program Outcomes  |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| CO1 |  3 | 3 | 2 | 2 | 1 | - | - | 1 | - | - | - | 2 |  3 | 3 |
| CO2 | 3 | 3 | 2 | 2 | 1 | - | - | 1 | - | - | - | 2 | 3 | 3 |
| CO3 | 3 | 3 | 3 |  1 |  1 |  - |  - |  - |  1 |  - |  - |  2 |  3 |  3 |
| CO4 | 3 | 3 | 2 | 2 | 1 | - | - | 1 |  - | - | - | 2 | 3 | 3 |
| CO5 | 3 | 3 | 2 | 2 | 1 | - | - | 1 | - | - | - | 2 | 3 | 3 |
| CO\6 | 3 | 3 | 2 | 2 | 1 | - | - | 1 | - | - | - | 2 | 3 | 3 |