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| **Course – 54 Title: Digital Electronics and Pulse Techniques Sessional** |  |
| **Course No.: EEE 322 Credit : 3 Contact Hours: 3** | **Total Marks: 100** |

**11.1 Rationale:**

To be an engineer for advanced electronics application, one needs to experimentally design circuits of gates, memory with diode, transistor, OP-AMPs and multivibrators.

**11.2 Objectives:**

* To create logic gate circuits with resistor, diode and transistor experimentally.
* To design electronic circuit for memory, A/D and D/A converter, oscillator with simulation
* To design electronic circuits with operational amplifiers and multivibrator.
* To create clipping, clamping and comparator circuit after simulation.

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| **11.3**  **Learning Outcomes** | **11.4**  **Course Content** | **11.5**  **Teaching learninf Strategy** | **11.6 Assessment Strategy** |
| * Create logic gate circuit including RTL, DTL and TTL | Circuits of diode logic gates and transistor gates. | Exercise | Exercise |
| * Perform memory relevant circuit | Electronic circuits for flip-flop, counters and register.. | Exercise | Exercise |
| * Design A/D and D/A converter | Simulation of A/D., D/A converters, S/H circuits. | Exercise | Group Exercise |
| * Design different circuits using OP-AMPs | Electronics circuits design using operational Amplifiers (OP AMPs). | Exercise | Assignments |
| * Create clipping and clamping circuits | Design of clipping and clamping circuits. comparator circuits, switching circuits. | Exercise | Practical exam |
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**RECOMMENDED BOOKS AND PERIODICALS**

**Text Books**:

1. R.P. Jain : Modern Digital Electronics
2. J. Millman :Pulse, Digital and Switching Waveforms
3. F. Coughlin and F. Driscoll : Operational Amplifiers and Linear Integrated Circuits