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**ROLL NO - ECP19108**

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**LABORATORY- VLSI LAB (Software: TCAD Sentaurus, LTspice )**

**AREA OF RESEARCH – ELECTRONIC DEVICES**

**TITLE/TOPIC – Modeling and Simulation of Junctionless Transistor**

**SUMMARY –** All existing transistors are based on the use of semiconductor junctions. Because of the laws of diffusion and the statistical nature of the distribution of the doping atoms in the semiconductor, the formation of ultrashallow junctions with high doping concentration gradients has become an increasingly difficult challenge for the semiconductor industry. Junctionless transistors (also called gated resistor) have no junctions and no doping concentration gradients. These devices have full CMOS functionality and are made using silicon nanowires.