

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“Jnana Sangama” Belagavi – 590 010



PROJECT REPORT ON

**“ULTRA LOW POWER DESIGN AND HIGH SPEED
DESIGN OF DOMINO LOGIC CIRCUIT USING
CADENCE VIRTUOSO PLATFORM”**

Submitted in partial fulfillment of the requirements for the award of the degree

**BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING**

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225.

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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled “**ULTRA LOW POWER DESIGN AND HIGH SPEED DESIGN OF DOMINO LOGIC CIRCUIT USING CADENCE VIRTUOSO PLATFORM**” is a bonafide work carried out by

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in partial fulfillment for the award of BACHELOR of ENGINEERING in ELECTRONICS & COMMUNICATION ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2017–2018. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering degree.

by Dr. Praveen J
25/05/18

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ABSTRACT

In VLSI it is important to introduce low-power design techniques, which reduces the power dissipation of the circuit during normal mode of operation. More power consumption also reduces the battery life of the devices. Therefore, reducing power dissipation during normal operation has become a critical objective in today's VLSI circuit designs. Designers have different options to reduce the power dissipation in the various design stages. Power dissipation in CMOS circuits can be dynamic or static. Dynamic power dissipation takes place due to switching activities and Static power consumption is due to leakage.

The domino circuits are used in various circuits especially in memory, multiplexor, comparator and arithmetic circuit and also used in full adders that are most important part of a CPU. Additionally, domino circuits are important components in other applications such as Digital Signal Processing architectures and microprocessors, which rely on the efficient implementation of generic arithmetic logic and floating point units to execute dedicated algorithms. Various design approaches had been investigated for realizing domino CMOS. The Extensive use of high speed domino circuits attracts many researchers in this field. There are various issues related to domino circuits, such as power consumption, speed and noise immunity.