**DIGITAL LOGIC DESIGN: 23CSE204**

**Schedule**

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| **#** | **Date & Day** | **Morning Session** | **Afternoon session** | **Lab session in afternoon** |
| 1 | 24/04/2025 Thursday | 1. Number Systems, operations and Codes- Number System 2. Digital Design Fundamentals- Logic Gates | 1. Boolean Algebra and Logic Simplification 2. Karnaugh Map | 1. Verification and interpretation of truth table for all gates. 2. Implementation of the given Boolean function using logic gates in both SOP. |
| 2 | 25/04/2025 Friday | 1. Combinational Circuits 2. Combinational Circuits | 1. Sequential Circuits | 1. To Study & Verify Half and Full subtractor 2. Implementation of 4x1 multiplexer and 1x4 Demultiplexer using logic gates. 3. Verify the truth table of one bit and two-bit comparator using logic gates. 4. Verify the truth table of RS, JK, T and D flip-flops using NAND & NOR gates. |
| 3 | 26/04/2025 Saturday | 1. Sequential Circuits 2. Sequential Machine Design | Experiments: 6,7,8,9& 10 | Feedback & Conclusion |

Requirements

1. Theory session: Projector & internet.
2. Lab session: Computer Labs with internet connected.
3. Students can bring their own laptop for all theory session as in between theory classes some practical can also be taught.
4. Student need to bring a notebook, pen, pencil and necessary stationary.
5. PPT & experiment lab manual will be shared once after the session gets over.

**Brief Profile**

Name: Pradeep Kumar K, +91 91482 71559, [pradeepkumar.k-aiml@dsu.edu.in](mailto:pradeepkumar.k-aiml@dsu.edu.in)

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Googe Scholar: <https://scholar.google.com/citations?user=JdMYAfAAAAAJ&hl=en>

Prof. Pradeep Kumar K is an accomplished academician with over **16 years of teaching experience**, **3 years of research experience**, and **1 year of Industrial experience**. He is currently pursuing his research in **Wireless Sensor Networks** at **REVA University**. He holds a **Bachelor of Engineering** in **Electronics and Communication Engineering** from **SJMIT Chitradurga**, and a **Master of Technology** in **Computer Science and Engineering** from **BIET College, Davangere**, Karnataka, India.

Throughout his career, Prof. Pradeep has worked across various regions of Karnataka, gaining expertise in **Electronics & Communication Engineering**, **Computer Science & Engineering**, and its allied branches, particularly **Artificial Intelligence and Machine Learning (AI & ML)**. His research interests include **Internet of Things (IoT)**, **Embedded Systems**, **AI Applications across Domains**, **Micro Electro Mechanical Systems (MEMS)**, and **Ansys Simulations**.

He has an impressive record of publishing over **25 papers** in **SCI/Scopus-indexed** international journals and has contributed to nearly **11 national projects** and **2 funded projects**. In addition, he has filed several patents demonstrating his commitment to innovation.

Prof. Pradeep also serves as an **Advisor for the Student Council** at **Indian Aviation Trade**, an **Indo-French company**. His guidance and mentorship have inspired numerous students to excel in academic and research domains.

Currently, he is actively engaged in various projects, including:

* LoRa-based Satellite Applications.
* Design & Development of Rover for Space applications.
* IoMT Integration with Genomics for Personalized Treatment Recommendations.
* ECG Prediction and Analysis using Digital Stethoscope and ECG Signal Reconstructions.
* Battery Monitoring System in Electric vehicles.
* EV Range Estimator
* Smart Parking Assistant using IoT for Ev’s
* EV Charging Station Locator App

His dedication to advancing knowledge is further evident through his participation in international conferences, where he has presented papers and collaborated on interdisciplinary research. Prof. Pradeep Kumar K continues to make significant contributions to the academic and technological landscape, fostering innovation and excellence in AI and its applications.

**Welcome Speech**

Good morning to one and all present here!

It gives me immense pleasure to welcome you all to this enlightening three-day session on **Digital Logic Design**. We are honored to have with us a distinguished academician and mentor, **Prof. Pradeep Kumar K**, Assistant Professor from Dayananda Sagar University, Karnataka. With over 16 years of teaching experience, his vast expertise in Artificial Intelligence, IoT, Embedded Systems, and Wireless Sensor Networks is sure to provide us with valuable insights and hands-on learning.

This workshop is designed not only to strengthen your theoretical foundation in digital design concepts such as logic gates, Boolean algebra, combinational and sequential circuits, but also to equip you with practical skills through engaging lab sessions and project-based applications.

We look forward to an interactive and enriching learning experience. Let us make the most of this opportunity to explore, experiment, and excel in the field of digital logic design.

Thank you, and once again, a warm welcome to all!