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RGPV B.Tech – ECE 7th Semester Syllabus

📚 Core Subject

EC-701: VLSI Design

> CMOS fabrication, layout design, MOSFET modeling, SPICE simulation, structured digital systems, and latch-up prevention techniques.

📖 Departmental Electives (EC-702)

EC-702A: Microwave Engineering

> Microwave tubes, waveguides, stripline/microstrip propagation, and millimeter wave circuits.

EC-702B: Information Theory & Coding

> Entropy, source coding, channel capacity, error detection/correction, and block/cyclic codes.

EC-702C: Nano Electronics

> Quantum effects, nanomaterials, carbon nanotubes, and nano-scale device modeling.

🌐 Open Electives (EC-703)

EC-703A: Cellular Mobile Communication

> Cellular concepts, frequency reuse, handoff, mobile system architecture, and channel assignment.

EC-703B: Internet of Things (IoT)

> IoT architecture, sensors, protocols, cloud integration, and real-world applications.

EC-703C: Probability Theory & Stochastic Processes

> Random variables, distributions, Markov chains, Poisson processes, and queuing theory.

🧪 Labs & Projects

EC-704: VLSI Design Lab

> Layout design, simulation, and HDL-based modeling using tools like Xilinx or Cadence.

EC-705: IoT Lab

> Sensor interfacing, microcontroller programming, cloud connectivity, and real-time data logging.

EC-706: Major Project Phase I

> Initial phase of final-year project: problem definition, literature review, and prototype planning.

📥 Download Official Syllabus

- Career Shiksha – ECE 7th Sem Breakdown
- RGPV Official PDF – ECE Sem 7