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RGPV B.Tech – CSE 4th Semester Syllabus

📚 Core Subjects

BT-401: Mathematics-III

Topics include numerical methods, Laplace and Fourier transforms, probability distributions, and statistical techniques. Applications in engineering modeling.

CS-402: Analysis & Design of Algorithms

Covers algorithm design techniques—divide & conquer, greedy, dynamic programming, backtracking, and branch & bound. Includes complexity analysis and NP-completeness.

CS-403: Software Engineering

Software development lifecycle, requirement analysis, design models, testing strategies, and project management. Includes UML and agile methodologies.

CS-404: Computer Organization & Architecture

Covers CPU design, instruction sets, memory hierarchy, pipelining, parallelism, and I/O systems. Includes assembly-level programming concepts.

CS-405: Operating Systems

Topics include process management, scheduling, memory management, file systems, deadlocks, and concurrency. Includes case studies of Linux/Windows.

🎯 Elective (Choose One)

CS-406(A): Programming Practices – Java

Object-oriented programming in Java, GUI development, exception handling, multithreading, and JDBC. Includes mini-projects.

CS-406(B): Programming Practices – .NET Technologies

Covers C#, ASP.NET, ADO.NET, and web development using Visual Studio. Includes form-based applications and database connectivity.

CS-406(C): Programming Practices – Python

Python fundamentals, data structures, OOP, file handling, and libraries like NumPy and Pandas. Includes scripting and automation.

CS-406(D): Programming Practices – MATLAB

MATLAB programming, matrix operations, plotting, and simulation. Applications in engineering and signal processing.

🧪 Labs & Practicals

CS-407: Operating Systems Lab

Experiments on process scheduling, memory allocation, file systems, and shell scripting. Includes simulation of OS components.

CS-408: Software Engineering Lab

Case studies, requirement specs, UML diagrams, and project documentation. Includes team-based software modeling.

CS-409: Programming Practices Lab

Based on chosen elective (Java/.NET/Python/MATLAB). Includes hands-on coding, debugging, and mini-projects.

📥 Download Official Syllabus

- RGPV Official PDF – CSE 4th Sem
- Career Shiksha Breakdown