Rajiv Gandhi University of Knowledge Technologies

Basar, Nirmal, Telangana State – 504107, India.

A.Y. 2025– 2026_Sem 2

Lecture Plan

Faculty Name: Laxmi Narayana P

Designation: Assistant Professor

Subject Name: DevOps

Subject Code: CS3201

Year: E3

Department: CSE

Lecture No.	Unit No	Topic Name	Reference Material Links	Reference Video Links(if any)
1	1	Introduction	**Text Books** 1. Joakim Verona, Practical DevOps, Packt Publishing, 2016. **Reference Books** 1. Deepak Gaikwad, Viral Thakkar. DevOps Tools from Practitioner's Viewpoint. Wiley publications. 2. Len Bass, Ingo Weber, Liming Zhu. DevOps: A Software Architect's Perspective. Addison Wesley	
2		Agile development model		
3		DevOps and ITIL		
4		DevOps process and Continuous Delivery		
5		Release management		
6		Scrum		
7		Kanban		
8		Delivery pipeline		
9		Identifying bottlenecks		
10	2	DevOps Lifecycle for Business Agility		
11		DevOps and Continuous Testing.		
12		DevOps influence on Architecture: Introducing software architecture.		
13		The monolithic scenario		
14		Architecture rules of thumb		
15		The separation of concerns		
16		Handling database migrations		
17		Micro services and the data tier		
18		DevOps, architecture, and resilience.		
19	3	The need for source code control		
20		The history of source code management		
21		Roles and code, source code management system and migrations, shared authentication		
22		Hosted Git servers		
23		Different Git server implementations		
24		Docker intermission		
25		Gerrit		
26		The pull request model		
27		GitLab		
28	4	Build systems, Jenkins build server		
29		Managing build dependencies		

30		Jenkins plugins, and the file system layout		
31		The host server build slaves.		
32		Software on the host, Triggers		
33		Job chaining and building pipelines, Build servers and infrastructure as code,		
34		Building by dependency order		
35		Build phases, Alternative build servers		
36		Collating quality measures		
37	5	Various types of testing, Automation of testing, Pros and cons		
38		Selenium - Introduction, Selenium features		
39		JavaScript testing, Testing backend integration points		
40		Test-driven development		
41		REPL-driven development		
42		Deployment of the system: Deployment systems		
43		Virtualization stacks, code execution at the client		
44		Puppet master and agents, Ansible		
45		Deployment tools: Chef, Salt Stack, and Docker		

Syllabus for MT-I: Lecture No. _**1**___ to ___**15**__
Syllabus for MT-II: Lecture No. __**16**__ to __**30**___
Syllabus for MT-III: Lecture No. __**31**__ to __**45**___