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A State Private University approved by Govt. of Karnataka vide Notification No. ED 144 URC 2016 dated 29-07-2017
Recognised by UGC under Section 2f vide No. F.8-29/2017 (CPP-I/PU), dated 20-12-2017 & AICTE, CoA, PCI New Delhi

FACULTY OF ENGINEERING AND TECHNOLOGY DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

WORKSHOP REPORT

Title: WORKSHOP ON DEVOPS

Dates: 07/06/2025 to 08/06/2025 (02 Days) 10 am to 5 pm

Venue: CISCO LAB COMPUTER CENTRE

Resource Person: 1.Dr. Veeranna Gatate, Senior Software Engineer,
Mercedes Benz Research and Development India, Bengaluru.

Convenor: Dr.Gajendran M Chairperson /AI & DS

Co-Ordinator: Dr. Shravankumar Arjunagi / AI & DS

Total Participants: 56 [M. Tech – CSE (Co-Ed and Women's), AI & DS, B. Tech AI & DS]

Mode: Offline

Objective:

This intensive two-day workshop provides participants with a solid foundation in DevOps, a cultural and technical movement aimed at unifying software development (Dev) and operations (Ops). Through a blend of theoretical concepts, practical exercises, and real-world case studies, attendees will learn how to implement DevOps practices to achieve faster release cycles, improved software quality, enhanced collaboration, and greater business value

DESCRIPTION OF THE PROGRAM:

A two-day workshop on “Devops” was conducted from **7th to 8th June 2025** at the **Department of Artificial Intelligence and Data Science, FET (Co-Ed), Sharnbasva University, Kalaburagi**. The workshop provided hands-on training and insights into devops for real-world implementations. A total of 56.



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participants, including students from **M. Tech AI&DS (Co-Ed), CSE, B. Tech 6th sem AI&DS students**, along with faculty members, actively participated in the program. The workshop covered, offer hands-on experience with popular DevOps tools (e.g., Git, Jenkins, Docker, Kubernetes, Ansible, Prometheus).

Day 1: 07/06/2025

Session 1: 10 am to 11.30 am

The first session focused on an **Introduction to DevOps: History, culture, and principles**. The resource person provided an overview of Devops and This foundational session is designed for individuals new to the world of DevOps, cloud computing, and Linux. We'll begin by demystifying DevOps, exploring its core principles, benefits, and how it transforms software delivery. We'll then introduce Amazon Web Services (AWS), the leading cloud platform, highlighting its relevance in a DevOps context. To equip participants with essential practical skills, the session will conclude with a hands-on introduction to fundamental Linux commands, crucial for navigating and managing cloud environments.



Fig 1. First session on introduction



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FACULTY OF ENGINEERING AND TECHNOLOGY DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Faculty of Engineering & Technology (Co-Ed), Kalaburagi
Department of Artificial Intelligence and Data Science
TWO DAY HANDS-ON WORKSHOP ON "DevOps"

ATTENDANCE SHEET

Time: 10:00am to 11:00am Session: 01 Date: 07/06/2025

SLNo	USN	Name	Department	Sign
01	SG22A1D052	Vikash H.R	AI & DS	
02	SG22A1D051	Shodah Shastri, Hiyemath	AI & DS	
03	SG22A1D038	Shodankurath, Nandyal	AI & DS	
04	SG22A1D001	Shilpi Koli	AI & DS	
05	SG22A1D009	Shalini, K. S.	AI & DS	
06	SG22A1D020	Narasimha, K.	AI & DS	
07	SG22A1D046	Sripada, S. J.	AI & DS	
08	SG22A1D002	Abhishek	AI & DS	
09	SG22A1D053	Shrinivas	AI & DS	
10	SG22A1D004	Dharmakumar, A. S.	AI & DS	
11	SG22A1D005	Samir S. G.	AI & DS	
12	SG22A1D039	Singamiah, Kumbhar	AI & DS	
13	SG22A1D059	Vishwa Jawalgi	AI & DS	
14	SG22A1D003	Ravandashidappa, G. I.	AI & DS	
15	SG22A1D008	Arun Kumar	AI & DS	
16	SG22A1D058	SUMERT, S. J.	AI & DS	
17	SG22A1D003	Shalini, K. S.	AI & DS	
18	SG22A1D050	Alankar, G. Holi	AI & DS	
19	SG22A1D058	Pragati, G. Raghavi	AI & DS	
20	SG22A1D059	V. Vaidhyanath	AI & DS	
21	SG22A1D059	Vishveshree	AI & DS	
22	SG22A1D013	Bindu	AI & DS	
23	SG22A1D037	Pratik	AI & DS	
24	SG22A1D052	Nagaveni, R. N.	AI & DS	

Venue: AI&DS Department, Faculty of Engineering and Technology (Co-Ed), Sharnbasva University, Kalaburagi

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25	SG22A1D005	Vishveshree	AI & DS	
26	SG22A1D009	Alankar, G. Holi	AI & DS	
27	SG22A1D012	Bhaskar, K. S.	AI & DS	
28	SG22A1D019	H. Vaidhyanath	AI & DS	
29	SG22A1D009	Ashwini	AI & DS	
30	SG22A1D059	Yashoda	AI & DS	
31	SG22A1D017	Dharmakumar	AI & DS	
32	SG22A1D001	Samir S. G.	AI & DS	
33	SG22A1D002	Anandh, T. K.	AI & DS	
34	SG22A1D002	Anupama S.	M. Tech. AI & DS	
35	SG22A1D008	Shruti Patel	M. Tech. AI & DS	
36	SG22A1D001	Shrinivas	M. Tech. AI & DS	
37	SG22A1D002	Shrinivas	AI & DS	
38	SG22A1D003	Ram, K. S.	AI & DS	
39	SG22A1D006	Soupar	AI & DS	
40	SG22A1D058	Sunil Kulkarni	AI & DS	
41	SG22A1D024	Mallikarjun, C. S.	AI & DS	
42	SG22A1D030	Vijay, R. P.	AI & DS	
43	SG22A1D034	Rajwal, K.	AI & DS	
44	SG22A1D032	Prabhu	AI & DS	
45	SG22A1D002	Sumeet, G. S.	AI & DS	

Venue: AI&DS Department, Faculty of Engineering and Technology (Co-Ed), Sharnbasva University, Kalaburagi

Fig 2. First session attendance

Session 2: 11:30 AM to 1:00 PM

The inaugural workshop began at 11:30 AM. The event was chaired by:

- **Dr. Shivakumar Jawalgi**, Dean FET,
- **Dr. Gajendran M**, Chairperson of the AI & DS Department

The inaugural song was performed by **Ms. Nagaveni**, All the guests lit the lamp, and **Dr. Laxmi Math.** welcomed the attendees. The Chief Guest, **Dr. Shivakumar Jawalgi** addressed the gathering, and **Prof. Preeti K** extended a vote of thanks to all. The entire event was hosted by **Ms. Bindu**.



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Fig3. Glimpses of Inaugural



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Session 3: 2:00 PM to 3:30 PM

Session 4: 3.45 pm to 5.15 pm

On Day 1, the third session and fourth session were conducted by the resource person, this session provides a comprehensive introduction to Docker, the industry-standard platform for containerization. We'll start by defining what containers are and the problems they solve in modern software development and deployment. Participants will gain a solid understanding of Docker's architecture, including images, containers, and registries. The core of the session will involve a hands-on exploration of essential Docker commands, enabling attendees to build, run, manage, and share containers effectively. By the end, you'll be equipped with the foundational knowledge to leverage Docker for consistent and efficient application deployment.

The fourth session dives deep into the world of Infrastructure as Code (IaC), a pivotal practice in modern DevOps that allows you to manage and provision your infrastructure using machine-readable definition files. We'll explore the fundamental principles of IaC, highlighting its benefits for consistency, scalability, and automation in cloud environments. The session will then focus on two leading IaC tools for AWS: HashiCorp Terraform and AWS CloudFormation. Participants will gain a practical understanding of how to define, deploy, update, and manage AWS resources using both tools, along with a comparative analysis to help them choose the right solution for their specific needs.

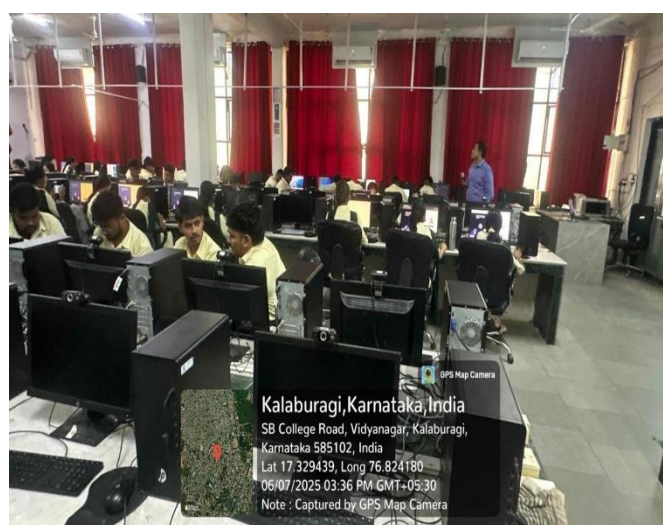


Fig 4. Afternoon sessions



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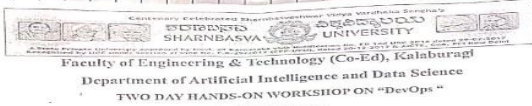
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Faculty of Engineering & Technology (Co-Ed), Kalaburagi
Department of Artificial Intelligence and Data Science
TWO DAY HANDS-ON WORKSHOP ON "DevOps"

Time: 2:00pm to 3:30pm Session: 02 Date: 07/06/25

SLNo	USN	Name	Department	Sign
1	SG22AI0015	DANAM SUPRITHREDDY	AI AND DS	
2	SG22AI0016	Chetan	AI & DS	
3	SG22AI0018	Aravind Kumar	AI & DS	
4	SG22AI0018	Sumeet S. J	AI - DS	
5	SG22AI0018	Vishnu	AI - DS	
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Day 2: 08/06/2025 Sessions: 4 [Each 1 hour 30 min] and Session:5 [Each 1 hour 30 min]

On the second day, four sessions were conducted, this session provides a fundamental understanding of Continuous Integration (CI) and Continuous Deployment (CD), two cornerstone practices of modern DevOps. We'll explore how CI/CD pipelines automate the process of building, testing, and deploying software, leading to faster release cycles, improved software quality, and enhanced team collaboration. Participants will learn the distinct roles of CI and CD, their interconnectedness, and the immense benefits they bring to any software development organization. The participants worked on the following:

Session Objectives: Upon completion of this session, participants will be able to:

- * Define Continuous Integration (CI) and explain its core principles and benefits.
- * Define Continuous Delivery (CD) and Continuous Deployment (CD), differentiating between the two.
- * Understand how CI and CD work together to form a seamless software delivery pipeline.
- * Identify the key stages and components within a typical CI/CD pipeline.
- * Appreciate the cultural and technical prerequisites for successful CI/CD adoption.
- * Recognize the value of automation, feedback loops, and quality gates in CI/CD.

The fifth session provides a practical introduction to Configuration Management and its pivotal role in modern IT operations and DevOps. We'll explore how Configuration Management tools address the challenges of managing diverse and dynamic IT environments, ensuring consistency, repeatability, and efficiency. The core of the session will focus on Ansible, a popular, agentless automation engine. Participants will learn Ansible's architecture, its declarative nature, and how to write basic Playbooks to automate common system administration tasks, from software installation to service management. By the end.



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Part 2: Introduction to Ansible - The Agentless Automator (Hands-on)

- **Why Ansible?**
 - Simplicity and ease of learning.
 - Agentless architecture (SSH for Linux, WinRM for Windows).
 - YAML-based Playbooks for human-readable automation.
 - Powerful and flexible for various automation needs.
- **Ansible Architecture and Core Concepts:**
 - **Control Node:** Where Ansible is run from.
 - **Managed Nodes:** The servers being configured.
 - **Inventory:** Defining your hosts (e.g., hosts file).
 - **Modules:** Pre-built units of code for specific tasks (e.g., apt, yum, service, copy).
 - **Playbooks:** YAML files defining automation workflows.
 - **Tasks:** Individual steps within a Playbook.
- **Getting Started with Ansible:**
 - Installation overview (brief).
 - Configuring an inventory file.
 - Connecting to remote hosts.



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GPS Map Camera

Kalaburagi, Karnataka, India
8rhf+q89, Vidya Nagar, Kalaburagi, Karnataka
585105, India
Lat 17.329304° Long 76.823945°
08/06/2025 10:40 AM GMT +05:30



GPS Map Camera

Kalaburagi, Karnataka, India
8rhf+q89, Vidya Nagar, Kalaburagi, Karnataka
585105, India
Lat 17.329304° Long 76.823925°
08/06/2025 10:28 AM GMT +05:30

Fig 6. Second day morning sessions



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Faculty of Engineering & Technology (Co-Ed), Kalaburagi
Department of Artificial Intelligence and Data Science

ATTENDANCE SHEET

Time: 10:00am to 11:30 Session: 04 Date: 08/06/25

SL.No	USN	Name	Department	Sign
1	SG24AD0008	Shruthi Patil	AI&DS	
2	SG24AD0002	Anupama	AI&DS	
3	SG24AD0011	Varshnavi Rawat	AI&DS	
4	SG22AID016	Sripad S. Suraj	AI&DS	
5	SG22AID020	Kamalakara	AI&DS	
6	SG22AID005	Chiranjeevi	AI&DS	
7	SG22AID024	Mallikarjun Zolpe	AI&DS	
8	SG22AID006	Amisha	AI&DS	
9	SG22AID011	Ashwini Swamy	AI&DS	
10	SG22AID002	Atanksha Saffan	AI&DS	
11	SG22AID007	Anushka	AI&DS	
12	SG22AID023	Malheer Sultana	AI&DS	
13	SG23AID038	Pragathi	AI&DS	
14	SG22AID009	Akanksha G. Holi	AI&DS	
15	SG22AID056	Vijayashree	AI&DS	
16	SG22AID017	V. Varshnavi	AI&DS	
17	SG22AID007	Ashwini	AI&DS	
18	SG22AID059	Vashoda	AI&DS	
19	SG22AID049	Sumita	AI&DS	
20	SG22AID017	Dhanashree	AI&DS	
21	SG22AID012	Banashankari	AI&DS	
22	SG22AID002	Abhishek	AI&DS	
23	SG22AID054	Udayakumar Aloor	AI&DS	
24	SG22AID005	Chiranjeevi	AI&DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi

25	SG22AID001	ABHISHEK	AI&DS	
26	SG22AID018	Ganesh Rathod	AI&DS	
27	SG22AID021	Kishan Mohan	AI&DS	
28	SG22AID001	Shadabkhan Hameed	AI&DS	
29	SG22AID007	Sharan Kumar Nandyal	AI&DS	
30	SG22AID007	Vikas M.D	AI&DS	
31	SG22AID016	Chiranjeevi	AI&DS	
32	SG22AID016	SURESH S. J	AI&DS	
33	SG22AID016	Anushka	AI&DS	
34	SG22AID008	Sandeep Y	AI&DS	
35	SG22AID023	Sandeep	AI&DS	
36	SG22AID003	Atanksha Saffan	AI&DS	
37	SG22AID056	Vijayashree	AI&DS	
38	SG22AID001	Amisha	AI&DS	
39	SG22AID002	Nagavani R.N	AI&DS	
40	SG22AID056	Vaishnavi A.K	AI&DS	
41	SG22AID035	Pratika	AI&DS	
42	SG22AID036	Primalata	AI&DS	
43	SG22AID013	Bindu	AI&DS	
44	SG22AID054	Udayakumar Aloor	AI&DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi



Faculty of Engineering & Technology (Co-Ed), Kalaburagi

Department of Artificial Intelligence and Data Science

TWO DAY HANDS-ON WORKSHOP ON "DevOps"

ATTENDANCE SHEET

Time: 11:45 AM to 1:00pm Session: 05 Date: 08/06/25

SL.No	USN	Name	Department	Sign
1	SG24AD0001	Amisha	AI&DS	
2	SG22AID057	Vikas M.D	AI&DS	
3	SG22AID043	Shrinivas Yadav	AI&DS	
4	SG22AID041	Shadabkhan Hameed	AI&DS	
5	SG22AID042	Sharan Kumar Nandyal	AI&DS	
6	SG22AID054	Udayakumar Aloor	AI&DS	
7	SG22AID001	Kishan P.M	AI&DS	
8	SG22AID001	Abhishek Patil	AI&DS	
9	SG22AID018	Ganesh Rathod	AI&DS	
10	SG22AID002	Abhishek K	AI&DS	
11	SG22AID050	Sandeep Yakkelli	AI&DS	
12	SG22AID005	Chiranjeevi	AI&DS	
13	SG22AID023	Prabhu	AI&DS	
14	SG22AID015	DANAN SUPRITHREDDY	AI&DS	
15	SG22AID030	Veeresh P.P	AI&DS	
16	SG22AID034	Pragathi K	AI&DS	
17	SG22AID003	Suraj K	AI&DS	
18	SG22AID047	Sureesh G	AI&DS	
19	SG22AID012	Banashankari	AI&DS	
20	SG22AID049	Sumita	AI&DS	
21	SG22AID017	Dhanashree	AI&DS	
22	SG22AID009	Ashwini	AI&DS	
23	SG22AID057	Vashoda	AI&DS	
24	SG22AID055	Varshnavi A.K	AI&DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi

25	SG22AID008	Nagavani R.N	AI&DS	
26	SG24AD0008	Shruthi Patil	AI&DS	
27	SG24AD0011	Varshnavi Rawat	AI&DS	
28	SG24AD0002	Anupama	AI&DS	
29	SG22AID024	Mallikarjun Zolpe	AI&DS	
30	SG22AID016	Sripad S. Suraj	AI&DS	
31	SG22AID020	Kamalakara	AI&DS	
32	SG22AID016	Chiranjeevi	AI&DS	
33	SG22AID008	Anushka	AI&DS	
34	SG22AID006	Anushka	AI&DS	
35	SG22AID007	Anushka	AI&DS	
36	SG22AID003	Akanksha	AI&DS	
37	SG22AID023	Malheer Sultana	AI&DS	
38	SG22AID016	Deepti	AI&DS	
39	SG22AID011	Ashwini Swamy	AI&DS	
40	SG22AID039	Pratika G. Katti	AI&DS	
41	SG22AID036	Primalata	AI&DS	
42	SG22AID013	Bindu	AI&DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi

Fig 7. Day 2 attendances



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Sessions: 6[Each 1 hour 30 min] and Sessions: 7[Each 1 hour 30 min]

This session highlights about as applications grows in complexity and scale, managing individual Docker containers becomes challenging. This session introduces Kubernetes, the de-facto standard for container orchestration, and demonstrates how it solves the complexities of deploying, scaling, and managing containerized applications at production scale. We'll start by understanding the challenges of managing multiple containers, then dive into Kubernetes' core concepts, architecture, and key objects. Participants will gain practical insights into how Kubernetes interacts with Docker containers, enabling advanced features like automated deployments, scaling, load balancing, and self-healing. This session is crucial for anyone looking to move beyond single-container deployments to resilient, scalable, and manageable microservices architectures.

Part 1: The Need for Orchestration: Beyond Single Containers

- **Recap: Docker and Containerization:**

- Benefits of containers (portability, isolation, consistency).
- Limitations of running single Docker containers in production:
 - Manual scaling and load balancing.
 - Lack of self-healing for failed containers.
 - Complex networking between multiple containers.
 - Manual updates and rollbacks.
 - Storage management.

- **What is Container Orchestration?**

- The role of an orchestrator in managing container lifecycles.
- Key features: Deployment automation, scaling, service discovery, load balancing, self-healing, rolling updates.

- **Why Kubernetes?**

- Industry standard, open-source, powerful.
- Google's experience in managing large-scale systems.
- Rich ecosystem and vast community support.



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Part 2: Kubernetes Architecture and Core Concepts

- **Kubernetes Cluster Architecture:**

- **Control Plane (Master Node components):**

- Kube-APIServer: The front-end for the cluster.
- etcd: Distributed key-value store for cluster state.
- Kube-Scheduler: Assigns Pods to nodes.
- Kube-Controller-Manager: Runs controller processes (Node Controller, Replication Controller, etc.).

- **Worker Nodes (Minion components):**

- Kubelet: Agent that runs on each node, ensures containers are running in a Pod.
- Kube-Proxy: Network proxy for Pod networking.
- Container Runtime (e.g., Docker): Runs the container



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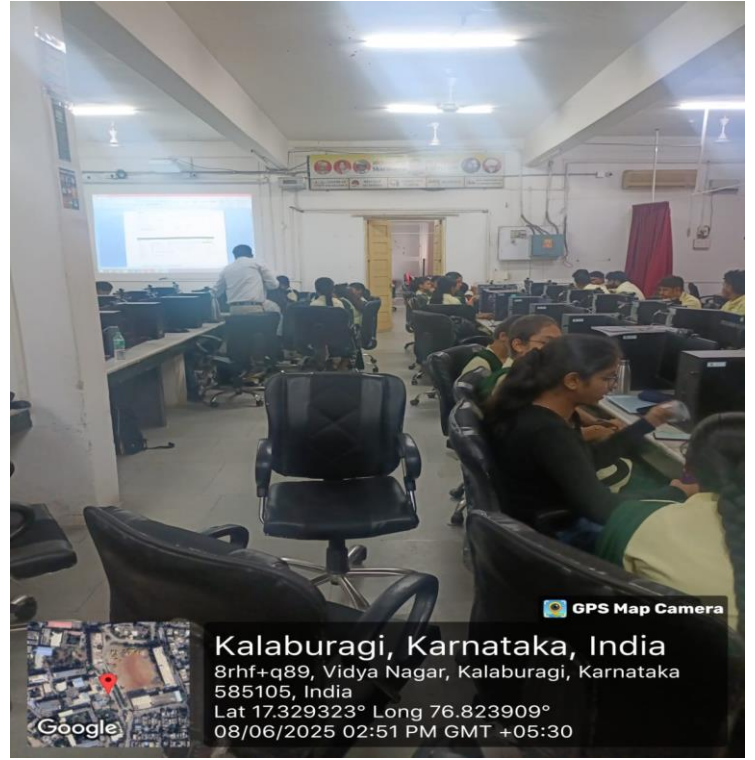


Fig 8 . Day 2 afternoon sessions images



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Centenary Celebrated Sharnbasveshwar Vidya Vardhaka Sangha's
SHARNBASVA UNIVERSITY
Faculty of Engineering & Technology (Co-Ed), Kalaburagi
Department of Artificial Intelligence and Data Science
TWO DAY HANDS-ON WORKSHOP ON "DevOps"

ATTENDANCE SHEET

Time: 2:00 - 3:30 Session: 06 Date: 08/06/25

Sl.No	USN	Name	Department	Sign
1	SG22AID014	Chetan	AI & DS	
2	SG22AID048	SUMEET S.J	AI & DS	
3	SG22AID001	Anand J.K	AI & DS	
4	SG22AID008	Anurag Kumar	AI & DS	
5	SG22AID071	Chirag	AI & DS	
6	SG22AID020	Kamalak	AI & DS	
7	SG22AID004	MAHAKARJUN C.ZULPE	AI & DS	
8	SG22AID042	Sharan Kumar M.N	AI & DS	
9	SG22AID041	Shadkhan H	AI & DS	
10	SG22AID021	Kishan P.M	AI & DS	
11	SG22AID001	Abhishek Patel	AI & DS	
12	SG22AID057	Vikas M.D	AI & DS	
13	SG22AID054	Vijay Kumar A	AI & DS	
14	SG22AID003	Suraj K	AI & DS	
15	SG22AID002	Abhishek K	AI & DS	
16	SG22AID005	Anil	AI & DS	
17	SG22AID015	DANAM SUPRITHREDDY	AI AND DS	
18	SG22AID034	Prajwal Kori	AI & DS	
19	SG22AID030	Veeresh P	AI & DS	
20	SG22AID047	Sumesh Guttedar	AI & DS	
21	SG22AID033	Prabhakar	AI & DS	
22	SG22AID004	Chinivas	AI & DS	
23	SG22AID004	Akanasha G.Holi	AI & DS	
24	SG22AID038	Pragati	AI & DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi

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Faculty of Engineering & Technology (Co-Ed), Kalaburagi
Department of Artificial Intelligence and Data Science
TWO DAY HANDS-ON WORKSHOP ON "DevOps"

ATTENDANCE SHEET

Time: 3:45pm to 5:00 Session: 07 Date: 08/06/25

Sl.No	USN	Name	Department	Sign
25	SG22AID056	Nityashree	AI & DS	
26	SG22AID019	H. Vaishnavi	AI & DS	
27	SG22AID056	Anusha	AI & DS	
28	SG22AID003	Anusha	AI & DS	
29	SG22AID007	Anusha	AI & DS	
30	SG22AID008	Anusha	AI & DS	
31	SG22AID011	Vaishnavi Prasad	AI & DS	
32	SG22AID002	Anupama	AI & DS	
33	SG22AID035	Primalata	AI & DS	
34	SG22AID026	Pratiba	AI & DS	
35	SG22AID052	Nagavani S.N	AI & DS	
36	SG22AID055	Vaishnavi A.K	AI & DS	
37	SG22AID059	Vaishnavi A.K	AI & DS	
38	SG22AID017	Dhanashree	AI & DS	
39	SG22AID012	Banashankari	AI & DS	
40	SG22AID016	Reeti	AI & DS	
41	SG22AID011	Anusha Swamy	AI & DS	
42	SG22AID013	Brinda	AI & DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi

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2	SG22AID048	SUMEET S.J	AI & DS	
3	SG22AID001	Anand J.K	AI & DS	
4	SG22AID008	Anurag Kumar	AI & DS	
5	SG22AID024	MAHAKARJUN C.ZULPE	AI & DS	
6	SG22AID020	Kamalak	AI & DS	
7	SG22AID071	Chirag	AI & DS	
8	SG22AID042	Sharan Kumar M.N	AI & DS	
9	SG22AID041	Shadkhan H	AI & DS	
10	SG22AID021	Kishan P.M	AI & DS	
11	SG22AID001	Abhishek Patel	AI & DS	
12	SG22AID057	Vikas M.D	AI & DS	
13	SG22AID054	Vijay Kumar A	AI & DS	
14	SG22AID003	Suraj K	AI & DS	
15	SG22AID002	Abhishek K	AI & DS	
16	SG22AID005	Anil	AI & DS	
17	SG22AID015	DANAM SUPRITHREDDY	AI AND DS	
18	SG22AID034	Prajwal Kori	AI & DS	
19	SG22AID030	Veeresh P	AI & DS	
20	SG22AID047	Sumesh Guttedar	AI & DS	
21	SG22AID033	Prabhakar	AI & DS	
22	SG22AID004	Chinivas	AI & DS	
23	SG22AID004	Akanasha G.H	AI & DS	
24	SG22AID038	Pragati	AI & DS	

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25	SG22AID056	Nityashree	AI & DS	
26	SG22AID019	H. Vaishnavi	AI & DS	
27	SG22AID056	Anusha	AI & DS	
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29	SG22AID007	Anusha	AI & DS	
30	SG22AID008	Anusha	AI & DS	
31	SG22AID011	Vaishnavi Prasad	AI & DS	
32	SG22AID002	Anupama	AI & DS	
33	SG22AID035	Primalata	AI & DS	
34	SG22AID026	Pratiba	AI & DS	
35	SG22AID052	Nagavani S.N	AI & DS	
36	SG22AID055	Vaishnavi A.K	AI & DS	
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39	SG22AID012	Banashankari	AI & DS	
40	SG22AID016	Reeti	AI & DS	
41	SG22AID011	Anusha Swamy	AI & DS	
42	SG22AID013	Brinda	AI & DS	

Venue: AI&DS Department, Faculty of Engineering and Technology [Co-Ed], Sharnbasva University, Kalaburagi



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Course Outcome:

By the end of the program, participants will gain hands-on experience in devops, A comprehensive DevOps course typically aims to equip learners with the knowledge, skills, and mindset necessary to implement and manage DevOps practices effectively in real-world scenarios. The specific course outcomes can vary slightly depending on the program's focus and depth.

Program Outcome (PO) Alignment:

- Engineering Knowledge (PO1):** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. (Applies to the core technical understanding of DevOps tools and systems).
- Problem Analysis (PO2):** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. (Relevant to troubleshooting, optimizing pipelines, and designing robust systems in DevOps).
- Design/Development of Solutions (PO3):** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. (Directly applicable to designing scalable, reliable, and secure DevOps pipelines and infrastructure).
- Conduct Investigations of Complex Problems (PO4):** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. (Important for performance tuning, root cause analysis in production environments).
- Modern Tool Usage (PO5):** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. (Crucial for DevOps, as it heavily relies on various modern tools like CI/CD platforms, containerization, IaC tools, monitoring systems).
- The Engineer and Society (PO6):** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. (Relevant to security, data privacy, and ethical considerations in



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deploying software).

7. **Environment and Sustainability (PO7):** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. (Considering efficient resource usage in cloud, energy consumption of data centers).
8. **Ethics (PO8):** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. (Ensuring data integrity, secure practices, and responsible automation).
9. **Individual and Team Work (PO9):** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. (Core to DevOps, promoting collaboration between Dev, Ops, and other teams).
10. **Communication (PO10):** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. (Essential for documentation, incident reports, and team communication in DevOps).
11. **Project Management and Finance (PO11):** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. (Managing DevOps projects, estimating resources, understanding cost implications of cloud infrastructure).
12. **Life-long Learning (PO12):** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. (Particularly vital in DevOps due to the rapid evolution of tools and technologies).

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Devops	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PSO2	PSO3
CO1	3	2	1			1	1			3	2	2	3		

Sample Certificate

