

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**Value Added Course**

**on**

**Flask**

**31.07.2023 to 05.08.2023**

**FLASK**

**45 Hours**

**Course Objectives:**

- To Learn and build a Web Site
- To Learn python, Flask, MySQL and MongoDB
- To Understand the essentials of Web Framework
- To Use the Python with Flask Framework

<b>UNIT I</b>	<b>FLASK FUNDAMENTALS</b>	<b>9</b>
Micro frameworks – URLs – Routes - Dynamic Routes - Jinja2 - Template Rendering - Template Variables - Control Structures – Bootstrap - Error Handling – Forms - GET and POST requests – Redirects – Sessions and Message Flashing.		
<b>UNIT II</b>	<b>DATA MODELS AND DATABASES</b>	<b>9</b>
Database Management - Relational Databases – SQL Alchemy vs. Flask-SQL Alchemy - Defining Models and Relationships - Interacting With Models - Database Operations - Database Migration with Flask – Migrate.		
<b>UNIT III</b>	<b>ADVANCED FLASK</b>	<b>9</b>
Separation of Responsibilities - Application Factory – Blueprints - Unit Testing - Email Verification - User Authentication and Permissions - Password Hashing - User Profiles – Paginating.		
<b>UNIT IV</b>	<b>RESTFUL APIS</b>	<b>9</b>
Build and Deploy API: Installation and Setup – Serializers - URLs - API Blueprint, Status Codes – Authentication.		
<b>UNIT V</b>	<b>DEPLOYMENT AND ERROR HANDLING</b>	<b>9</b>
Heroku Configuration & Deployment, Setting Config Vars - Heroku Dashboard – Preparing App for Deployment – Pushing – Upgrading - Subdomain in Flask - Handling 404 Error in Flask.		

**Course Outcomes:**

- Understand How Real world Environment Works for Web Development
- Perform Basic Python with Flask framework
- Understand and Use Web development with Frontend and Backend
- Prepare a Client Ready Web Developer

*John*

*Manal*