DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Value Added Course on "Django"

21.02.2022 to 26.02.2022

Django   42 HOURS

Objectives
- To understand the basic theory underlying web technologies
- To Install and Configure Python and Django in a development and production environment
- To make use of python data types for processing.
- To acquire knowledge about the the architecture of a Django-based web site in real time.
- To acquire knowledge about the utilization of Django Models to build an interface with powerful relational databases

UNIT 1: INTRODUCTION TO DJANGO   (7)
What is Web framework –The MVT Design Pattern-The MVT Design Pattern- Django's History. Installation of Django: Installing Python- Installing Django–Setting up a Database – Starting a Project- the Development Server- Django Commands Overview

UNIT 2: DYNAMIC WEB PAGES AND DJANGO TEMPLATE SYSTEM   (7)
Dynamic Content- Mapping URLs to Views- URL configurations and Loose Coupling-404 Errors- Dynamic URLs- Django Template System Basics- Creating Template Objects- Rendering a Template- Rendering a Template- Playing with Context Objects.

UNIT 3: DATABASE MODEL WITH DJANGO   (7)
The MVT Development Pattern- Configuring Django for Database Access - Understanding Django Apps - Defining Models in Python- Installing the Model -Understanding Model Fields & Options - Creating A Django Model -Adding Model String Representations-Making Changes to a Database Schema.

UNIT 4: DJANGO ADMIN INTERFACE & VIDEO CLASSIFICATION   (7)
Activating the Admin Interface- Using the Admin Interface - Users, Groups and Permissions-Customizing the Admin Interface's Look and Feel- Customizing the Admin Index Page- When and Why to Use the Admin Interface- Form Processing- Form Validation- Save Form Response

UNIT 5: ACCESS CONTROL WITH SESSION AND USERS   **(7)**

The Django Session Framework- Sessions in Views- Session Tuning-Installing Django User Authentication- Using Authentication in Views- Login and Logout-Building your Own Login/Logout Views- Adding & Deactivating Users- Asynchronous Messaging- Managing Permissions

UNIT 6: REAL TIME PROJECTS   **(7)**

Security in Django: Cross site request forgery (CSRF) protection - SQL injection protection.Real time projects in Django– Evaluation of projects – Doubts and discussions – Assessment.

OUTCOMES

At the end of the course, the students will be able to

CO1: Explain Installation and Configuration of Python and Django in a development and production environment.

CO2: Illustrate Install and Configure Python and Django in a development and production environment

CO3: Make use of Django Models to build an interface with powerful relational databases in real time.

CO4: Design and develop forms and automate the validation and verification of data in those forms

CO5: Implement user authentication and access control using Django sessions

CO6: Apply the Concept to a real-world problem to implement, maintain, and manage complete e-commerce, publishing, and other content-management systems using Django.