

# DJANGO SYLLABUS

## Module 1: Introduction to Django

- What is Django and its features
- MVC vs MVT architecture
- Installing Python and Django
- Setting up development environment
- Creating first Django project
- Project structure overview

## Module 2: Django Basics

- Django project and app structure
- Running development server
- Understanding settings.py
- URL routing basics
- Creating views

## Module 3: Templates

- Django template engine
- Template syntax
- Passing data to templates
- Template inheritance
- Static files (CSS, JS, images)

## Module 4: Models & Database

- Introduction to ORM
- Creating models
- Database migrations
- CRUD operations

- Admin panel basics

## **Module 5: Forms & Validation**

- Django forms
- Model forms
- Form validation
- Handling user input
- Error handling

## **Module 6: Authentication & Authorization**

- User registration and login
- Django authentication system
- Permissions and roles
- Password management

## **Module 7: Class-Based Views**

- Function-based vs class-based views
- Generic views
- ListView, DetailView
- Create, Update, Delete views

## **Module 8: REST API Development**

- Introduction to APIs
- Django REST Framework (DRF)
- Serializers
- API views
- CRUD APIs

## **Module 9: Static & Media Files**

- Managing static files

- Uploading media files
- File handling
- Serving files

## **Module 10: Middleware**

- What is middleware
- Built-in middleware
- Creating custom middleware

## **Module 11: Sessions & Cookies**

- Session management
- Cookies handling
- User tracking

## **Module 12: Security Best Practices**

- CSRF protection
- XSS prevention
- SQL injection prevention
- Secure authentication

## **Module 13: Testing**

- Writing tests
- Unit testing
- Testing views and models

## **Module 14: Performance Optimization**

- Query optimization
- Caching
- Improving response time

## Module 15: Deployment

- Preparing Django app for production
- Hosting on server
- Using Gunicorn / Nginx
- Environment variables

## Module 16: Real-World Projects

- Blog application
- User authentication system
- REST API project
- E-commerce backend