**DJANGO**  
**( Robust Web Application Framework )**

**Introduction**

1. What is Django?  
2. Scope of Django  
3. Architecture  
4. Models/Views/Templates  
5. questions

**Web Framework**

1. Software designed to develop web application  
2. Eq: CakePHP, Spring, Django  
3. Server Side: PHP/Java/Python/Ruby/….  
4. **Client Side:** HTML/HTML5/CSS/JavaScript/Jquery/…

**History**

1. 2003, Django Software Foundation   
2. 20% market share in silicon valley, Second place after ruby  
3. Developed with python

**Introduction to Web Framework**

1. What is a server, HTTP Request and HTTP Response?  
2. What is a web framework and web application?  
3. Challenges in developing web application.  
4. Django overview and installation

**Starting a Django Powered Project**

1. Django project architecture  
2. Understanding manage.py, Understanding settings.py, Understanding \_\_init\_\_.py and wsgi.py, Understanding urls.py and Python regular expression

**Starting your First Web Application**

1. Django project architecture  
2. Understanding admin.py, Understanding models.py, Understanding views.py,   
3. Running Django development server  
4. Working with JavaScript & CSS files.

**Templates**

**Developing Standard Web Template**

1. Template tags  
2. Filters in templates  
3. Template API

**Django Admin**

1. Activating the Admin interface  
2. Creating super user for Admin site  
3. Using the Admin site  
4. How to use the Admin site  
5. The django.contrib package

**Models**

1. The MVC Development Pattern  
2. Defining Models using Python classes  
3. Defining Model data fields  
4. Initializing model using makemigrations  
5. Running model initialization using migrate  
6. Registering models in settings.py  
7. Registering models with Admin site

**Views and URLconfs**

1. Understanding the view layer  
2. Requesting a web page via URL  
3. Rendering web page via view function  
4. Render HttpResponse to templates  
5. Understanding context data and Python dictionary type

**Forms**

1. Form basics  
2. GET and POST methods  
3. Form validation  
4. Rendering forms  
5. ModelForm

**Working with Static File**

1. Creating static repository  
2. Loading static files  
3. Adding image file to template

**Advance Models, Views, Forms and Admin**

1. Understanding model fields in depth, Database function, Model managers  
2. Django ORM  
3. Class based views  
4. File submission  
5. Making admin more robust

**Extending Templates**

**Creating a template library**

**Writing custom template filter**

**Writing custom templates tags**

**Registering the tags**

**Setting a variable in the context**

**Writing template loader**

**Testing in Django**

1. Testing DjangoProject/App  
2. Writing a unit test

**Deploying Web Application**

1. Deploying Django application on GitHub  
2. Deploying Django application on end host or Amazon Web Services