**Django Coding Interview Questions List**

**1. Django Basics & Setup**

* How do you create a new Django project and app?
* What files are generated when you create a new Django app?
* What is manage.py and what are its common commands?
* Explain the role of settings.py in Django.

**2. Models and ORM**

* How do you define a Django model? Show an example.
* What are common field types in Django models? (CharField, IntegerField, DateTimeField, etc.)
* What is a primary key? How does Django handle primary keys by default?
* How to create relationships between models (OneToOneField, ForeignKey, ManyToManyField)?
* Explain the difference between makemigrations and migrate.
* How do you perform CRUD operations using Django ORM? (Create, Read, Update, Delete)
* What is a QuerySet? How do you filter/query data?
* How to use aggregation and annotation in Django ORM?
* How to write raw SQL queries in Django?

**3. Views and URL Routing**

* What is a Django view? Difference between function-based view (FBV) and class-based view (CBV)?
* How to create a simple view that returns an HTTP response?
* How do you map a URL to a view in Django?
* What are URL converters/path parameters? Give examples.
* Explain Django URL dispatcher process.

**4. Templates**

* What is the Django template system?
* How do you pass data from a view to a template?
* How to use template tags and filters?
* Explain template inheritance in Django.
* How to include static files (CSS, JS, images) in templates?

**5. Forms and Validation**

* How to create a Django form (using forms.Form and forms.ModelForm)?
* How do you validate form data?
* Explain how to handle form submission in views.
* How to show form errors in templates?

**6. Authentication and Authorization**

* How does Django’s built-in authentication system work?
* How do you create user login and logout views?
* Explain how to protect views with login required decorators or mixins.
* How to manage user permissions and groups?
* How to customize the user model?

**7. Middleware**

* What is middleware in Django?
* How do you write a custom middleware?
* Give examples of built-in middleware and their purpose.

**8. Django REST Framework (if applicable)**

* How to create an API view using DRF?
* What is a serializer and how do you create one?
* Difference between APIView, GenericAPIView, and ViewSet?
* How to implement pagination, filtering, and authentication in DRF?

**9. Deployment and Settings**

* How do you configure settings for different environments (development, production)?
* What is DEBUG mode? Why should it be off in production?
* How to serve static and media files in production?
* How to deploy a Django project on a web server (e.g., Gunicorn + Nginx)?

**10. Miscellaneous**

* What are signals in Django? Give an example use case.
* Explain the concept of caching in Django.
* What is CSRF protection and how does Django implement it?
* How to handle file uploads in Django?
* How to use Django’s logging framework?
* How to test Django applications? (Unit tests for views, models)

**Coding Task Examples (Practice these)**

* Create a model representing a blog post with title, body, author, and timestamps.
* Write a view to display a list of blog posts ordered by date.
* Implement a form to create a new blog post, with validation.
* Write a URL pattern to access a blog post detail by slug.
* Write a custom middleware that logs the time taken by each request.
* Implement user registration and login functionality using Django’s auth system.
* Create an API endpoint that returns a JSON list of blog posts using Django REST Framework.