

Module - 4

Navigator & Routing in Flutter

Ans - 1. Navigator Widget:

- Manages a stack of route pages.
- Navigator.push() adds a new screen; Navigator.pop() removes the current one.
- Enables screen transitions and back navigation.

Ans - 2. Named Routes:

- Define routes with string names in MaterialApp.
- Example: Navigator.pushNamed(context, '/home')
- **Advantages:** Cleaner, more scalable, especially for large apps.

Ans - 3. Passing Data via Route Arguments:

- Use arguments in Navigator.pushNamed():
- Navigator.pushNamed(context, '/details', arguments: 'Sample Data');
- Retrieve in the target screen using:

```
final data =  
ModalRoute.of(context)!.settings.arguments;
```

Module - 6

Forms in Flutter

Ans - 1. Structure & Purpose:

- Built using Form and TextFormField.
- Used for collecting and validating user input.
- Wrap fields inside a Form widget with a GlobalKey<FormState>.

Ans - 2. Controllers & Listeners:

- TextEditingController tracks input in fields.
- Example:
final controller = TextEditingController();
controller.addListener(() {
 print(controller.text);
});
- Used to get/set text and react to changes.

Ans - 3. Validation Techniques:

- Use validator in TextFormField.

- Common checks:
 - **Empty check:**
 - if (value == null || value.isEmpty)
return 'Required';
 - **Email format:**
 - if (!value.contains('@')) return 'Invalid email';
 - **Min length, regex patterns, etc.**