Module-7

Q.1 Explain what a RESTful API is and its importance in mobile applications.

Ans=>A RESTful API is a way for a mobile app and server to communicate using the internet through HTTP methods like GET, POST, PUT, DELETE.

It helps mobile apps:

- Fetch and send data easily (usually in JSON format)

- Work faster and lighter

- Stay platform-independent (Android/iOS)

- Keep data updated and secure

 Example:
GET /users → get all users
POST /login → user login

Q.2 Describe how JSON data is parsed and used in Flutter.

Ans=>In Flutter, JSON data is parsed using the dart:convert library.

- Use jsonDecode() to convert JSON string → Dart Map/List.

- Then, access values or create a model class to store data.

Used for showing API data like user info, products, etc., in widgets.

Q.3 . Explain the purpose of HTTP methods (GET, POST, PUT, DELETE) and when to use each.

Ans=>HTTP Methods Purpose:

- GET → Fetch data from the server (e.g., get user list).

- POST → Send new data to the server (e.g., add new user).

- PUT → Update existing data (e.g., edit user details).

- DELETE → Remove data from the server (e.g., delete user).

Used in REST APIs for communication between app and server.

Module-9

Q.1 Explain the difference between implicit and explicit animations in Flutter.

Ans=>Implicit animations – Flutter handles animation automatically when a value changes (simple and easy).
 Example: AnimatedContainer, AnimatedOpacity.

Explicit animations – You control the animation manually using controllers and tweens (for complex effects).
 Example: AnimationController, Tween, AnimatedBuilder.

Q.2 Describe the purpose of AnimationController and its usage.

Ans=>AnimationController controls an animation's timing and progress in Flutter.

- You define how long it runs and when it starts, stops, or repeats.
- Used with Tween to create smooth custom animations.

Q.3 Explain the concept of Hero animations in Flutter.

Ans=>Hero animation in Flutter creates a smooth transition of a widget between two screens.

- It uses the same Hero tag on both widgets.
- Flutter animates the widget's movement automatically.