1. What is an API?

API (Application Programming Interface) allows communication between different software systems.

2. What is REST?

REST (Representational State Transfer) is an architectural style for building APIs using HTTP requests.

3. What is the difference between PUT and PATCH?

PUT replaces the entire resource, while PATCH updates specific fields.

4. What are the HTTP status codes?

Common ones are: 200 OK, 201 Created, 400 Bad Request, 401 Unauthorized, 404 Not Found, 500 Server Error.

5. What is Postman?

Postman is a popular tool used to test APIs manually and automate tests with scripts.

6. What are Headers in API?

Headers carry metadata for requests and responses, like content type, authorization tokens, etc.

7. What is a base URL?

It's the root address of the API (e.g., https://api.example.com). Endpoints are appended to it.

8. What is Authentication vs Authorization?

Authentication verifies identity, while authorization checks access rights.

9. How do you test secured APIs?

Use tokens (e.g., Bearer Token, API Key) in headers for authentication.

10. What are query parameters?

Query parameters are used to send data in the URL, e.g., /users?status=active

11. What is JSON?

JSON (JavaScript Object Notation) is a lightweight format for exchanging data between systems.

12. How do you validate API responses?

Check status code, response time, headers, and response body structure.

13. What are environment variables in Postman?

They store reusable values like base URLs, tokens, user IDs, etc.

14. What is the Collection in Postman?

A group of related API requests saved together for reuse and automation.

15. What is chaining requests in Postman?

Passing values from one API response as input to another request dynamically.

16. How do you automate API tests?

Use Postman Collection Runner or Newman CLI to execute and validate test cases.

17. What is REST Assured?

A Java library for testing REST APIs, often used with JUnit or TestNG.

18. What is a negative test case?

Testing how an API behaves with invalid or unexpected inputs.

19. What is rate limiting?

Restricting the number of API calls a user/system can make in a given time.

20. What is a mock server?

A simulated server that mimics the real API behavior for testing without backend.

21. How do you test file upload in API?

Use multipart/form-data in body and attach files using Postman or curl.

22. What is response time testing?

Measuring how long an API takes to return a response, typically < 2000ms.

23. What is pagination in API?

Splitting results into pages using limit and offset or page parameters.

24. How do you validate JSON Schema?

Use tools like Postman's built-in validator or libraries like Ajv in JS.

25. What is CORS?

Cross-Origin Resource Sharing allows/disallows cross-domain AJAX requests.

26. How do you report bugs found during API testing?

Document request, response, status code, and expected vs actual result.

27. What is SOAP and how is it different from REST?

SOAP is a protocol with strict rules, REST is flexible and uses HTTP.

28. What is 204 No Content?

A successful response that intentionally returns no content.

29. What tools can run Postman collections?

Newman CLI, Jenkins (CI/CD), or built-in Postman runner.

30. How do you debug failed API tests?

Use console logs, check headers/body, validate inputs, and retry with variations.