E-Learn Education Platform

Q1.

Ans1.  
Q2. What tech stack did you use for this project?

Ans2🡪MERN Stack (MongoDB,Express.js,React.js,Node.js),razorpay api for payments and clodinary for media storage.   
Q3. Why did you choose the mern stack?

Ans3🡪MERN stack allows full-stack J.S development ,easier integration ,faster prototyping and strong community support.

Q4.How do you implement and secure payments?

Ans4🡪Integrated RazorPayAPI with backend(Node.js) to create payment orders and verified transactions using razorpay’s signature on the server.

Q5. How do you store and manage and store course videos and images?

Ans5🡪I Used cloudinary for secure,scalable media storage and Frontend fetched media urls directly.

Q6How is authentication handled?

Ans6🡪I implemented JWT based authentication and on login/ signup, server issues a token stored in localstorage , which is verified in each request.

Q7.what was the biggest challenge you faced in this project?

Ans7🡪Handling secure payments and user authentication. I overcome it by Reading razorpay docs and implementing JWT middleware in Express.

Q8.Explain the role of context folder userContext and CourseContext?

Ans8🡪I Used context API to share data and course state globally without prop drilling. userContext manages authentication state , while course context manages and handles selected courses and progress.  
Q9.How do you handle authentication on frontend?

Ans9🡪when Users logs In , I store JWT token in local storage. Then on every API call ,I attach it in headers for backend validation.

Q10. How did payment success Page Works?

Ans10🡪After RazorPay payment , backend sends a success reponse and then frontend redirects It to paymentSuccess.jsx and in last user sees a confirmation.

Q11.Why did you use UseEffect in your components?

Ans11🡪To fetch data when components mounts.  
Q12.how did you implement protected routes in your project?

Ans12🡪updated route in a component that checks jwt token . If invalid it then redirects it to login.  
Q13.how do you handles API Calls in your project?

Ans13🡪Used fetch/axios inside useEffect and data is stored in useContext or componenet state.

Q14.How did you handle API errors ?

Ans14🡪I used Try/Catch inside axios call , displays toast notifications or error notification on UI.

Q15.what is CORS and did you face it?

Ans15🡪Cross-origin resource sharing issue occurs when frontend and backend runs on different domains. Solved by enabling CORS middleware in Express backend.

Q16. What is the role of controllers?

Ans16🡪User.js handles login/register.

Controller.js handles CRUD for courses/lectures.

Admin.js handles admin dashboard features.

Q17. How does middleware/isAuth.js works?

Ans17🡪Firstly it extracts JWT from request headers and then verifies it and attaches user details to req.user and in this way it protected routes from unauthorized access.

Q18.Explain multer.js?

Ans 18🡪Multer is used for handling file uploads(course thumbnail, lecture videos). It stores a file temporary before uploading it to cloudinary.

Q19How do you secure passwords?

Ans19🡪I used bcrypt.js to hash passwords before saving it to DB and also compared hashed during login.

Q20. How is Razorpay Integrated in backend?

Ans20. Backend calls the RazorpayAPI to create an order with amount and currency and then frontend opens razorpay checkout Page and on Success ,RazorPay sends payment signature and in last backend verifies signature and saves transaction in Payment.js.

Q21. How would you scale this project for 1M users?

Ans21🡪I will add Load balancers,use caching(redis),database indexing,CDN for static contents, microservices for courses/payment/users.

Q22.How did you implemented video streaming in Lectures.

Ans22🡪Instead of direct download I use cloudinary signed secured url to stream videos directly.

Q23. How did you track course Progress?

Ans23🡪 Each time user completes a lecture, I update progress.js with lecture ID and completion status.  
Q24.how do manage roles(Admin vs students)?

Ans24🡪Role is stored in JWT payload. Middleware checks role before granting access to admin routes.

Q25.Do You Write Error Handling Middleware?

Ans25. Yes ,I used TryCatch.js to wrap async Controllers and centralize error handling?

Q26. Which part of this project did you found hardest?

Ans26🡪Payment Integration and role based authentication.

Q27.What did you learn while working on this Project?

Ans27🡪End to End System design ,working with third-party API’s and secure authentication.