PYQ Question Store - Project Documentation

Project Title:

PYQ Question Store

Objective:

To build a full-stack MERN web application where:

- Admins can directly upload Previous Year Question (PYQ) papers as images and categorize them by course, branch, semester, and MST type.

- Users can fill out a basic form and browse categorized question papers, with the option to download selected images as a PDF.

Tech Stack:

- Frontend: React.js

- Backend: Node.js, Express.js

- Database: MongoDB

- File Storage: Multer for image uploads, Cloudinary/Firebase/AWS S3

- PDF Generation: jsPDF or pdf-lib

Features - Admin Panel:

- Secure Admin Authentication

- Upload PYQ questions directly as image files

- Form fields: Course, Branch, Semester, Exam Type, Subject, Year

- View/Edit/Delete uploaded PYQs

- Store image in cloud and metadata in MongoDB

Features - User Interface:

Step 1: Fill Form

- Fields: Name, Course, Branch, Semester

Step 2: Browse Question Categories

- Filters: Course, Branch, Semester, Exam Type, Subject

Step 3: Download as PDF

- Select multiple question images

- Generate and download PDF

Data Flow:

1. Admin uploads image + metadata

2. Backend stores image and saves data in MongoDB

3. User filters and views question papers

4. User selects images and downloads them as PDF

MongoDB Collections:

Admin:

{

  _id, name, email, password (hashed)

}

PYQ:

{

  _id, course, branch, semester, examType,

  subject, year, imageUrl, uploadedAt

}

UserQuery (optional):

{

  _id, name, course, branch, semester, queryDate

}

Key Libraries & Packages:

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Functionality          | Package
-----------------------|-------------------------
File Upload (Backend)  | multer
Cloud Storage          | cloudinary / aws-sdk / firebase-admin
PDF Generation (User)  | jspdf, html2canvas, pdf-lib
Frontend UI            | React + Tailwind / Bootstrap
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Routing | react-router-dom, express

Database | mongoose

Security/Auth | jsonwebtoken, bcryptjs

Future Enhancements:

- Full admin dashboard with stats

- User login to bookmark or save papers

- OCR for extracting text

- Pagination & lazy loading

- Option to view answers for PYQs