

Assessment Instructions

1. Choose any two projects - one low complexity and one high complexity from the given list.

Technical Stack

Frontend:

- Next.js
- React
- Angular
- Vue.js

Backend:

- FastAPI
- Node.js/Express
- Spring Boot
- Django
- Nest.js
- Laravel

Databases:

- MongoDB
- PostgreSQL
- MySQL
- Neo4j
- SQLite

Tools/Libraries:

- PyPDF2 (PDF processing)
- Pillow (Image processing)
- OpenAI API (Text/audio AI)
- Other similiar libraries are accepted

Note: The mentioned tools/libraries are Python-specific. Equivalent libraries in other languages are acceptable.

Project List & Complexity

Project	Complexity
PDF Splitter/Merger	Low
Image to PDF Converter	Low
Document Q&A Bot	High
Voice Note Transcriber	High

Key Notes

1. **Database Flexibility:** Use any listed database (e.g., MongoDB for unstructured data, Neo4j for graph-based relationships).
2. **No Cloud Dependency:** Use local storage for file-based projects.
3. **Stack Freedom:** Mix frontend/backend/database options (e.g., Angular + FastAPI + Neo4j).
4. **AI Projects:** Require prior familiarity with OpenAI/AI APIs (not recommended for 2-day timelines).

Project 1: PDF Splitter/Merger (Complexity: Low)

Description:

A tool to split a PDF into individual pages or merge multiple PDFs into one.

Acceptance Criteria:

- Users can upload a PDF file.
- **Split:** Select pages to extract → download new PDF.
- **Merge:** Upload multiple PDFs → combine into one → download.
- Error handling for invalid files.

Project 2: Image to PDF Converter (Complexity: Low)

Description:

Convert uploaded images (JPG/PNG) into a single PDF file.

Acceptance Criteria:

- Upload multiple images.
 - Adjust image order in the PDF.
 - Preview the PDF before downloading.
 - Support for common image formats (JPG, PNG).
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Project 3: Document Q&A Bot (Complexity: High)

Description:

Chat interface to ask questions about an uploaded text/PDF document.

Acceptance Criteria:

- Upload a document (PDF/txt).
 - Enter questions → get answers from document content.
 - Highlight relevant text in responses (if possible).
 - Limit document size to 10MB.
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Project 4: Voice Note Transcriber (Complexity: High)

Description:

Upload audio files (MP3/WAV) and convert them to text with summaries.

Acceptance Criteria:

- Upload audio files (max 5 minutes).
 - Display transcribed text.
 - Generate a bullet-point summary.
 - Export text to TXT/DOC.
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Example Repo Structure

```
pdf-splitter/  
  frontend/    # React/Next.js code  
  backend/     # FastAPI/Node.js code  
  docs/        # Screenshots, design docs  
  README.md    # Project documentation  
  .gitignore
```

Submission

- Create public repositories on [GitHub](#).
- Ensure repositories are public.
- Main branch should have final, working code.



GRADUATE APTITUDE TEST IN ENGINEERING 2025

अभियांत्रिकी स्नातक अभिक्षमता परीक्षा २०२५

ADMIT CARD

S2 (AN)



(Name)

VIDUSHI SHUKLA

(Registration No.)

CS25S25035051

(Paper Code/Name)

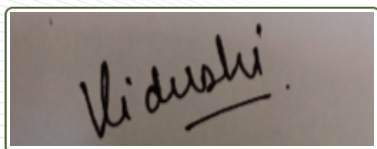
CS : Computer Science and Information Technology

(Date)

**1st February 2025
Saturday**

(Time)

2:30 PM to 5:30 PM



Examination Centre: 5035

Shambhunath Institute of Engineering and Technology -
Mac,
Near Rahimabad Chowki,
Jhalwa,
Prayagraj, Uttar Pradesh, PIN : 211012, India.

Photo Id:

762966087556
(Aadhaar ID)



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Organising Institute
IIT Roorkee

Prof. P. Arumugam

Organising Chairperson, GATE 2025
(on behalf of NCB-GATE, for MoE)

Important Instructions for the Candidate

1. An electronic copy of the Admit Card is NOT acceptable. A printed copy of the Admit Card must be presented for verification along with the original valid photo identification document submitted at the time of application. In case the quality of the photograph on the identification document is poor, the candidate must bring an additional recent valid photo ID (Passport, PAN Card, Voter ID, Aadhaar Card, and Driving License).
2. To facilitate the identity verification by the Examination Centre personnel, candidates must report to the examination venue at least 90 minutes before the scheduled commencement of the examination. Candidates will NOT BE ALLOWED to login 30 minutes after the start of the exam.
3. Candidates will be permitted to occupy their seats before the scheduled start of the examination. Candidates can login and start reading the instructions 20 minutes before the start of the examination.
4. During the examination, a virtual scientific calculator will be available on the candidate's computer.
5. Personal calculators, mobile phones, watches of any kind or any other electronic devices are prohibited inside the Examination Centre. Charts, tables, papers, books, sheets, heavy ornaments are also not allowed inside the Test Centre.
6. A scribble pad will be provided for rough work, Candidates must write their name and Registration number on the scribble pad before using it. A candidate can possess only one scribble pad at any point of time. If the scribble pad gets filled, candidates can ask for another scribble pad, after returning the previous one to the invigilator. A scribble pad once surrendered will not be returned to the candidate. At the end of the examination, the scribble pad in possession of the candidate must be returned to the invigilator.
7. Candidates must bring their own pen and pencil. Candidates are also allowed to bring a transparent water bottle.
8. Candidates are not allowed to bring any items other than those mentioned above. Examination Centre personnel are not responsible for the safety of the candidate's personal belongings. Candidates in possession of prohibited items will be deregistered, debarred from the examination, and may also be banned from appearing in future GATE examinations.
9. Candidates will not be allowed to leave the examination hall before the end of the examination.
10. Impersonation and violation of the above guidelines or the Code of Conduct as given in the **Information Brochure** will lead to a cancellation of candidature and attract penal action.
11. PwD candidates may bring their assistive devices, if any, and show them to the Examination Centre personnel for scrutiny.
12. PwD candidates who have been granted one-hour compensatory time in GATE 2025 examination are allowed to leave the examination hall after 12.30 PM in the forenoon session and after 5.30 PM in the afternoon session, by clicking the SUBMIT button only in the presence of the Invigilator. Once they click the SUBMIT button, the responses will be frozen, and the exam will end for them.