

DEI's In-House AI Based Knowledge Assistant Revolutionizes University Admissions

Dayalbagh Educational Institute (DEI) has quietly yet profoundly transformed its admissions process with the launch of its indigenously developed Artificial Intelligence (AI) tool – DEI's Knowledge Assistant. This groundbreaking initiative has already responded to over 19,000 queries in its first few days.

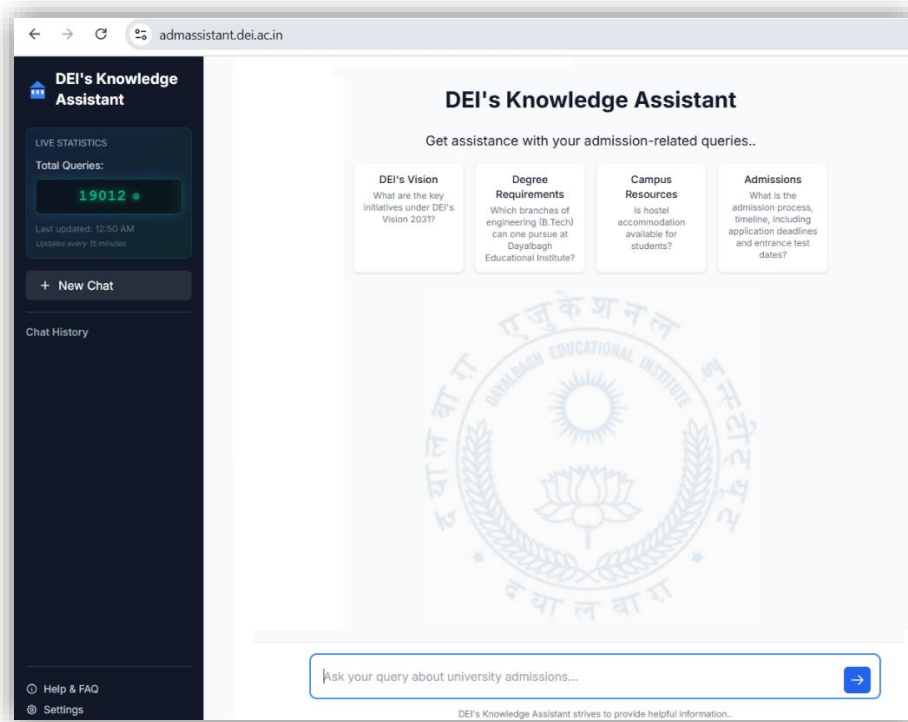


Figure 1: Home page for DEI's Knowledge Assistant Showing over 19,000 queries already answered.

The introduction of the AI assistant marks one of the most significant upgrades to DEI's admission procedures in recent years. The long queues and incessant telephone calls that once defined the Admission Office have virtually vanished. This AI based assistant handles thousands of queries around the clock—freeing staff for more complex tasks and also making the application journey smoother for prospective students.

Further, every one of the 19,000 questions answered so far is automatically logged and categorised, giving the admissions team a data-rich catalogue they can analyse to fine-tune next year's process. This evidence base will help identify recurring pain points, enabling timely adjustments to policy, communication, and the prospectus itself well before the next intake. In turn, a clearer and more targeted information ecosystem will reduce applicant anxiety and ease the office workload. The aim is to create a virtuous cycle of continual improvement in the years to come.

Developed entirely on campus, the new assistant offers round-the-clock availability, authoritative answers drawn from official sources, multilingual support, and strong data safeguards—all under DEI's direct stewardship. This report offers a deep dive into the assistant's capabilities, the methods used to build them, and the tangible impact this modernization has had on DEI's admission process.

How the Assistant Thinks?

At the heart of DEI's Knowledge Assistant lies a method called *Retrieval-Augmented Generation* (RAG), which blends rapid search with natural-language writing. Long before the tool went live, the developers divided the entire *Prospectus 2025-26* into hundreds of short excerpts and attached a "digital fingerprint" to each one—an invisible code that captures the meaning of that passage.

When an applicant now asks a question, the query receives its own fingerprint and is matched against the catalogue in a fraction of a second. The passages that align best are retrieved and handed to a compact language model, which rewrites them into a single, conversational reply. Because the model is limited to these retrieved excerpts, it cannot invent new facts; every deadline, fee, or eligibility rule it cites must already appear in the prospectus. A final safeguard verifies that dates and programme codes remain faithful to the source, and any uncertainty prompts the system either to request a clearer question or to redirect the user to DEI's official website.

The assistant achieves its speed and capacity by taking advantage of parallel computing and caching. While the system is online and running, every prospectus excerpt is already stored in an in-memory index, ready for immediate comparison. The public interface itself is served by a lightweight web engine configured with multiple worker processes, so dozens of questions can be handled at once—much as sixteen help-desk windows would shorten a queue dramatically compared with just one. Because each worker fetches pre-computed fingerprints rather than searching the prospectus from scratch, most responses are assembled in few seconds even during peak traffic. This architecture allows the system to field thousands of queries daily utilizing the available inhouse servers.

Built In-House: A Testament to Frugal Innovation

Designed, engineered, and deployed entirely on the Dayalbagh campus under the guidance of Prof. Gursaran, the Knowledge Assistant epitomises DEI's ethos of frugal, in-house development. Its lean architecture proves that sophisticated AI systems can be delivered without costly licences. The solution embodies institute's commitment to self-sufficiency and its mission to foster information dissemination in service of "the last, the least, the lowest, and the lost." This philosophy, deeply rooted in the Dayalbagh Education Policy, significantly anticipated several tenets of the National Education Policy (NEP) 2020. Additionally, hosting the entire platform on local servers, provides the university full control over updates and can incorporate academic or regulatory changes at a moment's notice.

DEI's Knowledge Assistant is also strategically designed to capitalize on India's booming digital landscape. With internet penetration now reaching the vast majority of Indian households, DEI's Knowledge Assistant can serve applicants well beyond the Dayalbagh campus—bringing accurate, on-demand admission guidance to virtually anyone with an internet connected phone or computer. Crucially, the system offers multi-lingual support, thereby increasing accessibility not just across India but for applicants across the globe, fostering a more inclusive application process.

The tangible benefits have been immediate:

- **Reduced Congestion:** Peak-hour waiting times for general inquiries have considerably reduce.
- **Reliable Guidance:** Every response is drawn directly from the official prospectus, giving applicants uniform and accurate information each time they ask. If the chatbot is not aware of something, it redirects the users to the official website where they can find relevant information.
- **24/7 Availability:** Information is accessible anytime, anywhere, from any device.


This assistant marks only the first stage of DEI's broader move toward digital self-service, underscoring that Indian universities can match global standards of innovation while staying firmly frugal.


Prospective students may consult the Knowledge Assistant at <https://admsassistant.dei.ac.in> or send follow-up questions to admissions@dei.ac.in.

Whether the enquiry concerns deadlines, hostel fees, or the minimum marks for a specific programme, the assistant meets applicants where they are—any hour of the day—bringing clarity, consistency, and convenience to the admission journey.

A few examples from the chatbot are shown below:

1. Multi-Lingual Support:

 Mere pcm subjects me 75 percent h 10 me 71 % h mene JEE mains nhi diya h mujhe b tech ke interview me bulaya jayga kya

 नमस्ते! DEI के सहायक नॉलेज असिस्टेंट के तौर पर, मैं आपकी मदद कर सकता हूँ एडमिशन प्रक्रिया समझने में।
बी.टेक. प्रोग्राम में एडमिशन के लिए, मेरिट की गणना इन चीज़ों को वज़न देकर की जाती है:
हाई स्कूल (कक्षा 10) के अंक: 5%
इंटरमीडिएट (कक्षा 12) PCM के अंक: 60%
JEE Mains का स्कोर: 15%
इंटरव्यू और को-करिकुलर एक्टिविटीज (CCA) सर्टिफिकेट्स के अंक: 20% कुल योग 100% का होता है।
आपने बताया कि आपके PCM में 75% और 10वीं में 71% अंक हैं, और आपने JEE Mains नहीं दिया है।
अच्छी बात यह है कि DEI में उन आवेदकों पर भी विचार किया जाता है जिन्होंने JEE Mains नहीं दिया है। ऐसे मामलों में, JEE Mains स्कोर के लिए आवंटित 15% अंक शून्य (zero) माने जाएंगे।
आपको इंटरव्यू के लिए बुलाया जाएगा या नहीं, यह आपकी कुल मेरिट पर निर्भर करेगा। आपकी मेरिट की गणना आपके हाई स्कूल अंकों (5%), इंटरमीडिएट PCM अंकों (60%) और इंटरव्यू और CCA अंकों (20%) के आधार पर की जाएगी, जिसमें JEE Mains का वज़न शून्य होगा।
फाइनल सिलेक्शन आपकी मेरिट लिस्ट में स्थिति और उपलब्ध सीटों की संख्या पर आधारित होता है, जिसमें अकादमिक मेरिट, JEE (Mains) स्कोर (जो आपके केस में शून्य होगा), और इंटरव्यू व CCA के अंक शामिल होते हैं।
आपकी योग्यता (percentage wise) शर्तों को पूरा करती है, लेकिन इंटरव्यू के लिए बुलाए जाने का निर्णय कुल मेरिट पर निर्भर करता है।
आप DEI की आधिकारिक वेबसाइट पर एडमिशन पोर्टल नियमित रूप से देखते रहें। शॉर्टलिस्ट किए गए उम्मीदवारों की लिस्ट और आगे की जानकारी वहीं उपलब्ध होगी।

Ask your query about university admissions...

DEI's Knowledge Assistant strives to provide helpful information..

2. Concise and Accurate Responses



What is the admission process, timeline, including application deadlines and entrance test dates for B.Com?



Hello there! I can certainly help you with information regarding the admission process and timeline for the B.Com program at Dayalbagh Educational Institute for the 2025-26 session.

Here's the information based on the details available:

Admission Process: Admission to the B.Com program is determined based on a combination of factors:

Your Academic Merit.

Your performance in the Written Objective Test.

Your Interview.

Your CCA (Co-Curricular Activities) marks. Appearing in the written objective test is mandatory. Generally, candidates who score at least 30% in the test are eligible to be called for the interview. However, all SC/ST candidates who meet the eligibility criteria and appear for the written test will be called for the interview regardless of their score.

Application Deadline: The last date for submitting the complete online application for Undergraduate courses, including B.Com, is **May 31, 2025**.

Entrance Test Date: The specific schedule for the Entrance Tests for the 2025-26 session, including the date for the B.Com test, will be notified separately on the Institute's official website.

Interview Dates: The dates for interviews will also be notified on the DEI Website.

You can find the prospectus and syllabus for the Admission Test on the Institute's website. Remember, applications must be submitted online through the website only.

I hope this helps you with your application plans! Good luck!

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3. Scenario based questions



I have completed my 12th with a Science background. I have a strong interest in Mathematics and I want to pursue research after my Graduation. What suitable courses does DEI have to offer for my case? Please help me with a pathway till PhD?



That's great that you have a clear interest in Mathematics and are thinking about research! Dayalbagh Educational Institute offers some excellent options for you.

For your background (12th with Science) and interest in Mathematics, a suitable starting point would be the **Bachelor of Science (Honours) in Mathematics** offered by the Faculty of Science.

Under the NEP 2020, the Bachelor (Honours) programmes at DEI also include the option of a **Bachelor (Honours with Research)** degree. This seems perfectly aligned with your goal of pursuing research after graduation.

To be eligible for the B.Sc. (Honours) in Mathematics, you would need to have completed your Intermediate (10+2) from DEI or any other recognized Board of Secondary Education with Physics, Chemistry, and Mathematics. This program is open for both male and female candidates.

The admission merit for the undergraduate programmes is based on a cumulative score considering Academic Merit, Admission Test, and Interview & CCA. The weightage is 5% for High School, 15% for Intermediate, 60% for the Admission Test, and 20% for the Interview and CCA.

Now, let's look at the pathway towards a PhD in Mathematics:

Bachelor's Degree: Start with the **B.Sc. (Honours) or B.Sc. (Honours with Research) in Mathematics**.

Master's Degree: After completing your Bachelor's, you would typically pursue a **Master of Science (M.Sc.) in Mathematics**. The context mentions that M.Sc. programmes are available, and for progression within the same discipline like Mathematics from B.Sc., it's a standard path.

Doctoral Degree (PhD): DEI offers PhD programmes in all postgraduate departments, which would include Mathematics. Admissions to the PhD programme are based on merit through a Research Entrance Test (RET), Interview, and Academic Merit. If you join the PhD program without an M.Phil. degree, you would need to complete one semester of coursework.

So, the general pathway for you at DEI, given your interest in Mathematics and research, would be: **B.Sc. (Honours/Honours with Research) in Mathematics → M.Sc. in Mathematics → PhD in Mathematics**.

Hope this gives you a clear idea of the opportunities available at DEI for your academic journey!

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