The Indian Institute of Technology Kharagpur (IIT Kharagpur or IIT KGP) is a public engineering institution established by the government of India in 1951. The first of the IITs to be established, it is recognized as an Institute of National Importance by the government of India. The institute was established to train scientists and engineers after India attained independence in 1947. It shares its organisational structure and undergraduate admission process with sister IITs. The students and alumni of IIT Kharagpur are informally referred to as KGPians. Among all IITs, IIT Kharagpur has the largest campus (2,100 acres), the most departments, and the highest student enrolment. IIT Kharagpur is known for its festivals: Spring Fest (Social and Cultural Festival) and Kshitij (Techno-Management Festival). With the help of Bidhan Chandra Roy (chief minister of West Bengal), Indian educationalists Humayun Kabir and Jogendra Singh formed a committee in 1946 to consider the creation of higher technical institutions "for post-war industrial development of India." This was followed by the creation of a 22-member committee headed by Nalini Ranjan Sarkar. In its interim report, the Sarkar Committee recommended the establishment of higher technical institutions in India, along the lines of the Massachusetts Institute of Technology and consulting from the University of Illinois at Urbana–Champaign along with affiliated secondary institutions. The report urged that work should start with the speedy establishment of major institutions in the four-quarters of the country with the ones in the east and the west to be set up immediately.

The main building of the institute during construction (1955). On the grounds that West Bengal had the highest concentration of industries at the time, Roy persuaded Jawaharlal Nehru (India's first prime minister) to establish the first institute in West Bengal. The first Indian Institute of Technology was thus established in May 1950 as the Eastern Higher Technical Institute. It was located in Esplanade East, Calcutta, and in September 1950 shifted to its permanent campus at Hijli, Kharagpur 120 kilometres south-west of Calcutta. It is the 3rd oldest technical institute in the state after IIEST Shibpur (1856) and Jadavpur University (established as Bengal technical institute in 1906). When the first session started in August 1951, there were 224 students and 42 teachers in the ten departments of the institute. The classrooms, laboratories, and the administrative office were housed in the historic building of the Hijli Detention Camp (now known as Shaheed Bhawan), where political revolutionaries were imprisoned during the British rule. The office building had served as the headquarters of the Bomber Command of the U.S. 20th Air Force during World War II. To honour Bidhan Chandra Roy, the area in front of the main building is named Bidhan Chowk. The name "Indian Institute of Technology" was adopted before the formal inauguration of the institute on 18 August 1951 by Maulana Abul Kalam Azad. On 15 September 1956, the Parliament of India passed the Indian Institute of Technology (Kharagpur) Act declaring it an Institute of National Importance.

Prime Minister Nehru, in the first convocation address of IIT Kharagpur in 1956, said:

"Here in the place of that Hijli Detention Camp stands the fine monument of India, representing India's urges, India's future in the making. This picture seems to me symbolical of the changes that are coming to India."