### **About IIT Tirupati Campus**

**Pros:**

1. **Sustainability Initiatives:** The campus integrates eco-friendly practices such as rooftop solar power plants, rainwater harvesting, and natural ventilation, promoting energy efficiency and reducing environmental impact.
2. **Innovative Construction Techniques:** The use of Fair Face Concrete in academic buildings and hostels, as well as Glass Fiber Reinforced Gypsum (GFRG) panels, promotes sustainability, reduces cost, and minimizes cement use by 30-40%. Polished concrete floors also provide low-maintenance and aesthetic advantages while avoiding the need for energy-intensive tiles.
3. **Student-Centric Design:** Hostels are designed for comfort and privacy with ample storage and study spaces. There are also recreational spaces like gymnasiums, common rooms, and sports facilities integrated into hostel blocks.
4. **Modern Infrastructure:** Buildings are designed with minimalistic architecture that aligns with natural surroundings.
5. **Technological Integration:** The use of HVLS fans in large spaces, the use of advanced concrete polishing techniques, and solar energy integration all highlight the campus’s focus on efficient resource usage.
6. **Pervious Concrete Technology**: Some sections of the campus use pervious concrete, allowing water to pass through and recharge the groundwater, which demonstrates sustainable and innovative construction practices.
7. **Local Material Optimization:** Adapt specifications to allow for the use of locally available stones in construction, reducing the need to transport materials like granite from far-off locations. Work with experts to test and demonstrate the viability of using on-site stones while adhering to structural safety standards.
8. **Centralized Cooling System:** Instead of individual AC units, the campus uses a district cooling system from a central plant, ensuring efficient and consistent air conditioning in classrooms and other buildings.

**Cons:**

1. **Water Leakage Issues:** There are water leaks due to the poor dome structure on top of the Lecture Hall Complex (LHC) building, which is an ongoing issue during the rains. During heavy rains, some of the campus buildings, particularly the hostels, experience leakage. This sometimes creates hazards, such as slips, due to wet floors.
2. **Inconsistent Hot Water System:** The campus faces challenges with the hot water system, as the water tanks are not thermostatic, leading to temperature inconsistency.
3. **Limited Natural Light in Shared Rooms:** The design of shared hostel rooms may block sunlight, making certain areas of the campus feel dark. This also contributes to a less vibrant campus atmosphere.
4. **Infrastructure Expansion:** Some essential facilities like advanced research centers, specialized labs, and larger auditoriums are still under development, limiting certain academic and extracurricular activities.
5. **Limited Residential Capacity:** Due to a growing student population, there might be overcrowding in hostels, leading to discomfort and less privacy.
6. **Transportation Accessibility:** The relatively remote location of the campus makes transportation a challenge, with limited public transit options available for students and visitors.
7. **Farmer Dispute on Land:** The 2.8-acre plot of land between the AB1 and Administrative building is still under dispute with a local farmer, delaying its acquisition and use.
8. **Wall Cracking:** Frequent Cracks on the Walls of the south campus hostels leads to inconvenience of the students staying inside.

**Future Suggestions:**

1. **Address Water Leakage:** Investigate the structural issues on the LHC building dome and implement better waterproofing or redesign solutions to prevent water leaks during the monsoon.
2. **Upgrade Hot Water System:** Installing thermostatic controls on the water tanks could help regulate water temperature, improving the campus’s hot water system efficiency and reliability.
3. **Improve Natural Light and Color Scheme:** Redesign shared hostel rooms to allow more sunlight in, and introduce more vibrant colors across campus buildings to create a more welcoming and lively environment.
4. **Resolve Farmer Dispute:** Expedite the legal process concerning the 2.8-acre plot to clear the land and avoid delays in campus development.
5. **Expand Facilities:** Focus on developing advanced research centers, a larger auditorium, and specialized labs to support the academic needs of an expanding student body.
6. **Increase Transportation Options:** Collaborate with local authorities to improve public transportation access to the campus or develop a campus shuttle service for easier commuting.
7. **Enhance Residential Capacity:** Expand the hostel facilities or explore off-campus housing options to manage the growing student population while maintaining comfort and privacy.
8. **Effective Use of 3D Printed Bus Stop**: Focus on usage of already existing 3D Printed Bus Stops in the campus and installing new Bus Stops wherever needed.