THE TECHNOCRACY
STUDENTS' TECHNICAL COMMITTEE, NIT RAIPUR

AAVARTAN'22-23

VIGYAAN

DEPARTMENT OF CIVIL ENGINEERING

PROBLEM STATEMENTS

CIV01. Safe transportation route for indian army

The Indian army needs to transit in one of the most hostile conditions for the world (the himalayan region). Design routes and roads for such hostile conditions where moving tanks and supplies trucks through the roads become relatively easier.

CIV02. Bridge construction in emergency (connecting 2 mountains, suspension bridge)

When the army requires to travel from one mountain to another. Design an optimum type of bridge such that the army can transfer heavy loads through the bridges with minimum time required to place that bridge.

CIV03. Modern technology for Load control in bridges

Control the damage when a particular load is applied on a bridge - how to detect overloaded cars before entering the bridges.

CIV04. Detachable passenger cabin during accident situation of trains

Passenger rescue system in railways - if one of the cabins gets damaged during the travel of the train, other cabins must get detached from that damaged cabin so that rest of the cabins do not get damaged due to that damaged cabin.

CIV05. Modern technology of roads

Use of some alternative resources for construction of roads - participants have to create cross section of roads - natural resources are getting extinct since they are limited and there is a need for new alternative

CIV06. Smart Drainage system for airports

Takeoff and landing is difficult is very difficult during rainy season and damp environments - participants have to suggest a optimal runway for such situation and also a runway along with best drainage runway

CIV07. Earthquake resistant buildings

Models for buildings which can prevent earthquakes at best - participants have to create models which can resist a shaking plate at the base.

CIV08. Climate change impact and adaptation on water resources

Dealing with the certain circumstances and the impact like scarcity and flood conditions is essential to safeguard water resources. The problem proposed is to design a model of how it can be effectively managed and prevent water resources.

CIV09. Smart green buildings in India

Less pollution and effective - climate change has been a topic of concern in modern days. The aim of this project is to model the process through which India can apply such smart green buildings with low cost expenditure and high throughput.