1. Modelling and Animation

The concept: Modelling and animating an assembly or mechanism through a solid modelling software.

Alignment with curriculum:

- Converting an idea into a shape
- Physical linkages
- Materials and their properties
- Function analysis of parts

Expectations:

Tier-I	Tier-II	Tier-III
Conceive solid models and their relative movements prediction of area, volume and mass	Explain the function through animation	Define and explain the math model behind the animation

Topics:

Engine and subsystems
Suspension system and components
Transmission (gear box, clutch, rear axle etc)
BIW System
Seating and door systems
Braking system and components
Steering system and components

Kits and aids: Software available in the Institution.

Competition Rules:

- Actual modelling done off line
- Maximum Time 3 hrs.
- 10 Min Presentation at the competition
- Models can be done using 'PRO E/CATIA/Solid Works' software. Suggesting Open source modelling software.

- Three-hour duration.

Teams:

- Team size: 2 students
- Number of teams for Tier-I: as many as possible
- One team from each college moves to Tier-II
- Two teams from each zone moves to Tier-III

Judging criteria:

Tier-I	**Tier-II**	**Tier-III**
Quality of solid models -40% Prediction of area, volume and mass-30% Choice of materials and their properties-30%	Quality of solid models-30% Prediction of area, volume and mass-20% Choice of materials and their properties-20% Explanation relative motion and function-30%	Quality of solid models-20% Prediction of area, volume and mass-10% Choice of materials and their properties-10% Explanation relative motion and function-30% Animation math model in relation to product function-30%