The list of the events and their respective guidelines are as below:

1. BRIDGELT

INTRODUCTON

BRIDGELT is the most outstanding and astonishing event of IMPULSE 2.O. This event is of making suspension/truss or any load sustaining bridge using wood beats. The events calls for teamwork, judicial use of raw materials.

PROBLEM STATEMENT

Create a bridge using Popsicle sticks (ice cream sticks) satisfying the statedconstraints.

1 . Event Structure

1) **Round 1:** Teams should submit an abstract on or before 6th November. The abstract will be having the one sided truss design of the model and needs to be sent to **aksuimpulse22@gamil.com** along with their registration number.
2) **Round 2:** The structures made will be tested on the day of the event.

2 . Materials

1) Sticks can have the following maximum dimensions:
2) Length = 11 cm
3) Breadth = 1.2 cm
4) Width = 0.2 cm
5) Sticks can be altered physically by cutting or notching at any angle.
6) Only Fevicol can be used as adhesive, use of other adhesives may lead to disqualifications.
7) Use of threads is not allowed.

3 . Overall Dimensions

1) The Popsicle Bridge dimensions should be within the specified limits of:
2) Length = minimum 30cm.
3) Width = 11-12 cm (or less).
4) Height = 25-30 cm (or less).

4 . Weight

The bridge must weigh 350 (±50) grams.

5 . Configuration of Models

Clear distance: A minimum of 8cm height and 4cm width clearance must be provided along the entire length of the bridge.

6 . Testing the bridge

1) The load will be applied through a hook that connects a steel platform that will be laid upon the span of the bridge.
2) The platform will be stretched from each ends and will be connected through the hooks which will be continuously increased through the manual jack.

3) The platform will be same for every team and will be placed at the middle of the structure.
4) The bridge model will be loaded till failure. The maximum deflection at the point of yielding and the load at that moment will be used to evaluate the structure.
5) If it happens that the structure reaches the threshold deflection of 1.0 cms then the jack will be stopped and the evaluation will be made on the same load. In this case the structure will not be tested further.
6) Team Size: Minimum 2 to maximum 5 students per team.

7 .Open event: Any number of teams can participate in the event from different teams.

8 .Construction: Sticks can be stacked together length-wise to form stronger structural elements or to make long span elements. **Maximum number of sticks that can stack together is 3.**

2. ROTOLARE

INTRODUCTION

Rotolare is also called roller coaster. Roller Coaster is an astounding structure which provides stunning rides. Roller coasters are called “gravity rides” for a good reason once the coaster has been dragged to the top of the first hill and released, it is the force of gravity that keeps the coaster going all the way back to the stationed platform at the end of the ride. As the coaster goes through its twists, turns, rolls, and loops, it gains energy due to gravity and loses its initial energy due to friction. Roller Coaster geeks play with changes in gravitational potential and kinetic energy and thrive to make the most exciting ride. Teams shall design and build a “roller coaster” meeting the design requirements as specified below. The “roller coaster” shall mean the entire structure, including the roller coaster track and the base, but not the actual vehicle. The “COASTER” means the vehicle that travels on the Roller Coaster track.

PROBLEM STATEMENT

1.Roller coaster may be designed and built by a team comprising of minimum 2 and maximum 5 students.

2.There is no limitation on the materials list (just keep in mind you only have to carry it). Multiple mediums for the track are encouraged. You are not allowed to use Hot Wheels(tm) track, or any commercial devices used for building roller coaster like devices.

3. You may use a marble or other ball of your choice so long as it is equal to or less than 1" in diameter. You must supply the ball.

4. You must try to include at least vertical one loop on the track. Massive points will be given for successfully completing a loop. More loops, more points. If a ball travels around and around along the same track piece, then it still only counts as one loop. If you are not able to build with a loop, at least build the track! (You just won't get the maximum amount of points.)

5. Track must have at least one hill for the ball to go up. Massive points will be given for this hill. More hills, more points. Hills must be a minimum of 10 cm above the tracks lowest point prior to climbing the hill.

6. You must be able to see the ball on the track for atleast 1/2 of the total trip. Looking through clear tubing does not count.

7.The roller coaster's height is limited to 1.80 m since is need to get through all the doors of the building and fit in room. **Hint:** The taller it is the more energy you get to start out with and more speed at the bottom!

8. The roller coaster is to have a base no larger than 1.5m by 1.5m. The more stiff the base, the more reliable the roller coaster's performance. (i.e., avoid thin poster board as a base.)

9. The roller coaster MUST be able to stand on its own i.e it wont get any wall’s support or any scu thing’s support while the ball rolls over its track. You may not touch it while it is working.

10. Timing will be done by stopwatch by the judges.

11. Timing will start when the student releases the ball.

12. Timing will stop when the ball reaches the end of the track at the diagonally opposite corner or when the ball falls off the track.

13. If the ball falls off of the track at an unintentional location, the timing will stop and not restart.

14. You may not touch the device at any time once the ball has begun to move.

15. The roller coaster's track length may be as long as you wish in length.

16. You must have at least one 180°+ curved turn. Other turns are ok: Drops (through a funnel), Zig zag sections, 90 degree angle turns, Spirals, etc.

17. The ball must only go through the track via the force of gravity.

18. You will get 3 tries to make it work.

19. The roller coaster's track MUST end at the diagonally opposite corner from where it began.

20. You may name your roller coaster and have a theme. Tunnels and scenery are a must. You will get points for decorations such as small signs, mountains, trees, random people, miniature models etc. Think about the Matterhorn or Thunder Mountain, or the Pirates of Caribbean at Disneyland.

MATERIAL

Students have to bring their own track and other materials required for making the roller coaster (IMPULSE-2.O Team will not provide any material). Commercially available roller coaster kits are not allowed to use.

SPECIFICATION

1. Size restrictions - the height should not be more than 1.8 m. in height. Both length and width should not be more than 1.5m.
2. The model should be designed for a regular size glass marble.(not more than 1 inch in diameter.)
3. The starting and stopping points must be clearly marked in the model.
4. The energy source for the ride can be gravitational pull only. Use of external energy sources like magnets, springs, electricity are not allowed. However these energy sources can be used for aesthetics and design (like background lightning).
5. Teams may use more than one marble in case one marble fails to complete the track.

JUDGING CRITERIA (OUT OF A TOTAL OF 100 POINTS)

1) **Time (30 Pts)**

Each model will be entitled to three runs. The longest time to go from the start position to the finish will be the official time for that model.
Calculation of Points for Time:- Points will be relative. Points = (Your time/max time) * 30
For example, if your time is 24 seconds and max time = 35 sec, then you will get marks = (24/35)*30

2) **Technical Points (45 Pts)**
   - i) **Loop Factor (15 Pts):**
     Points= (Sum of diameters of all the loops in the roller coaster/ Maximum sum of diameters)*15
   - ii) **Vertical Loop (15 pts)**
     Vertical loop is defined as, the loop of track where the "rider" is upside down. If the vertical loop is a portion of a corkscrew (helix), it counts as a vertical loop. Points: For, 1 loop= 10 pts, 2 or more loops= 15 pts.
   - iii) **Degree of Openness (10 pts)**
     Points will be awarded for degree of openness of track.Mostly closed- 0 pts Around 50% open - 5 pts More than75% open - 10 pts.

3) **Aesthetics (25 pts)**
   a) Creativity (15 pts)
      For, 90º turn of the trackPoints: for 1 turn= 2 pts,
      for 2 turns= 5 pts
      For, 180º turn of the trackPoints: for 1 turn= 4 pts,
      for 2 turn= 10 pts.
   b) Aesthetically Charming (5 pts) Whether the track is neatly designed and is having uniformity in color/design. Whether it is well-constructed or having any roadway obstruction.
   c) Theme (5 pts)

RULES & REGULATIONS

1. Teams are not allowed to touch their model once the ride begins.
2. Team must consist of minimum 2 or maximum 5 members.
3. Participants can form teams from different branches.
4. No two teams should have any common member.
5. The decision of the judges shall be final. Any coaster that violates the rule above or the spirit of the competition will be disqualified.

3. MODEL EXHIBITION

INTRODUCTON

The initial move in creation of any wonder in construction is the fabrication of its miniature representation which is a model. Engineering is a field which is directly linked with practical experiences and models are requisite for analysis of structures in demonstration of many basic engineering concepts.

PROBLEM STATEMENT

The model should be related to new innovations in engineering. Teams have to present the detailed idea behind all features of the model within 10 minutes and there will be query session of 5 minutes at the end of the presentation.

Format:

Round 1:
Participant teams are required to send a detailed abstract of the model they are planning to build at **aksuimpulse22@gamil.com** along with their registration number on or before 6th November.
The abstract should consist of

1. Brief description of the model.
2. Materials needed for the model.
3. Plan of the model (including dimensions)

A confirmation mail will be sent to the teams for the further proceedings.

Round 2:
In this round, participants have to present their model in front of the judge during IMPULSE 2.0.

RULES & REGULATIONS

1. The event is open to all.
2. Team must consist of minimum 2 to maximum 5 members.
3. Readymade or factory model will not be accepted.
4. The model should be handmade with household and stationary items.
5. Participants can form teams from different branches.
6. No two teams should have any common member.
7. The decisions of judge will be final and binding.

4. TERRAMIND

INTRODUCTON

Terramind is a form of technical quiz or mind sport, in which the participants (as individuals or in teams) attempt to answer questions correctly. In some places, a quiz is also a brief assessment used in education and similar fields to measure growth in knowledge, abilities and skills.

Terramind is the best opportunity for the intellect and the quizzing genius to test their knowledge and challenge their quick thinking.

PROBLEM STATEMENT

1. This is an on spot event.
2. Quiz will be conducted from 1st to 4th sem. Subjects.

MATERIAL

Each team will need an android phone for buzzer app.

FORMAT (This is a event comprising of 4 rounds)

Round 1: General Round – Each team - quota of 4 questions

In this round each team has its own quota of 4 questions and other questions passed to it from the previous team that did not answer.
A team gets 30 seconds to answer the question intended for it, and is awarded 20 points for answering it. If the team, the question intended for gives a wrong answer, the quiz master will give the correct answer.
If a team cannot answer a question they can pass it or after 30 seconds it gets automatically passed to the next team
If the team that the question intended for passes it. The next team/s get 15 seconds to answer it and is awarded 10 points for the right answer.
The team members can discuss before giving the answer.
If a team is answering a question and the time passes, then the team gets to complete the answer and is awarded points for the right answer. There is no negative marking for wrong answer.
No buzzer is used in this round
Questions in this round will be based on general awareness and basic engineering concepts.

Round 2: Rapid Fire Round – Each team - quota of 10 questions. In this round each team will be asked 10 questions one after another.
On the immediate completion of a question, each team gets 5 seconds to answer it. If a team is not able to answer a question, they can pass it for the next question.
There is **no team discussion in this round**. 10 points is awarded for the correct answer. No negative points for the wrong answer.
Once a question is passed the team cannot give an answer later. No buzzer is used in this round.
Questions in this round will be based on basic civil engineering concepts.

Round 3: Buzzer round - A total of 10 questions
10 questions will be fired at all the teams one after another.

The teams can discuss among themselves and then press the buzzer/bell to answer thequestion first. **No discussion is allowed after pressing the buzzer.**

The team that presses the buzzer/bell first gets a chance to answer it.
10 points for the correct answer and minus 5 points for the wrong answer.
If a team doesn"t answer or gives a wrong answers after they press buzzer they also lose 5 points.
If a team presses the buzzer before the question is over they will be asked to answer it without the question being completed.
The question has to be answered in 5 seconds.
If a question is not answered by the first team who pressed the bell. The team that pressed the bell next gets to answer.
If two teams press the buzzer/bell together there will be a pull of cards to decide who gets the chance to answer if. If the first team answers it correctly they get a point. If they give a wrong answer they lose 5 points and the next team that pressed the buzzer gets to answer.

Round 4 : In case of a tie
In case of a tie after the 4th round, the tied teams get into a buzzer/bell round.
Rules are similar to buzzer round If a team answer right they get 25 points. If they answer wrong they get minus 25 points**.**

RULES & REGULATIONS

1. Use of mobile phone and internet is not allowed (apart from buzzer mobile).
2. Team must consist of minimum 2 or maximum 4 members.
3. Each team is recommended to have atleast one member of civil engineering department since the questions may include some civil engineering concepts.
4. Participants can form teams from different branches.
5. No two teams should have any common member.
6. The decisions of judge will be final and binding.
7. Participants are not allowed to use any resources available over internet and are expected to be honest.

5. ARTISTRY

INTRODUCTON

Artistry is an event to make poster of any engineering topic. Artistry is an event to develop students poster preparation and presentation skill. A poster is a graphically based approach to presenting research. In presenting your research with a poster, you should aim to use the poster as a means for generating active discussion of the research.

PROBLEM STATEMENT

Format: **Round 1:**

Participant teams are required to send a detailed abstract of the poster they are planning to present to the mail id:- **aksuimpulse22@gamil.com** along with their registration ID on or before 6th November. The abstract should consist of

1. Brief description of the poster (research topic).
2. Researches done in the field in past.
3. Future scope of the work.

A confirmation mail will be sent to the teams for the further proceedings.

Round 2:

1. Participants have to present their poster.
2. Poster should be handmade.
3. The topic should be clearly mentioned in poster.
4. The topic should be based on any engineering topic.

SPECIFICATION

1. Time duration: Presentation = 10 minutes; Question/Answer = 5 minutes
2. Content must be readable.
3. SIMPLICITY IS THE KEY. Keep to the point, and don't try to cover too many things. Present only enough data to support your conclusions. On the other hand, make sure that you present sufficient data to support your conclusions.

JUDGING CRITERIA

1. Poster design.
2. Presentation.
3. Justification of topic.
4. Utility and Novelty of the topic.
5. Question/answer response.
6. Text should be clear and to the point.

RULES & REGULATIONS

1. Participants can form teams from different branches.
2. Each Team must consist of minimum 2 and a maximum of 4 members.
3. Each team must consist of at least one member of civil engineering department.
4. No two teams should have any common member.
5. The decision of the judges shall be final.

6. PHOTO PHACTORY

INTRODUCTON

Photo phactory is on the spot competition which encourages the participants to showcase their photographic skills that help them to capture cherishing moments. IMPULSE 2.O through this competition tries to uplift the creative and imaginative skills of participants.

GUIDELINES

1. Individual Event.
2. Theme will be given on-spot.
3. The photographs should be relevant to the theme of the fest.
4. 3 best photographs for each should be given. (i)Street photography (ii)Emotions photography (iii)Nature photography.
5. The student must submit soft copies of the photographs in JPEG/JPG format. Soft copies of thephotographs can be sent on the mail id:- **aksuimpulse22@gmail.com**
6. A maximum of 3 photographs can be submitted per student.
7. The photographs that are submitted should be as captured within the university campus
8. No edits, no filters.
9. Provide technical details of the image to retain the originality.
10. The photographs may be used by AKS University for display or publication purposes, but when used so, credits to the photographer shall be given.
11. DSLR and mobile phones both are allowed.

RULES & REGULATIONS

1. The competition is open to all students of all departments.
2. Images should only be of AKS university & IMPULSE2.O , images of any other colleges will not be acceptable.
3. The decisions of judge will be final and binding.

7. EXPLORE & BUILD

INTRODUCTON

Explore and build is a treasure hunt. Team will be given a clue which leads to outher clue and so on. At every clue you will find a next material name which you have touse at last to given task.

PROBLEM STATEMENT

Problem statement of the event will be released on the spot.

MATERIAL

All material will be provided by IMPULSE 2.O team.

JUDGING CRITERIA

- Most of the clues you will have to find.
- The team uses all the materials of clue.
- Who complete the task first will be the winner.

RULES & REGULATIONS

1. If any member of team destroy or temper the clue of other team, then his/her team will be disqualified.
2. All the clues will be in relation to the common technical terms used in basic and civil engineering.
3. Team must consist of minimum 3 to maximum 5 members.
4. Its recommended that each team should consist of at least one member of civil engineering department(since some of the clues may consist of basic civil engineering concepts).
5. Participants can form teams from different branches.
6. No two teams should have any common member.
7. The decision of the judges shall be final. Any coaster that violates the rule above or the spirit of the competition will be disqualified.

8. BOB-THE-BUILDER

Team event

Rules for the event

1. All the teams will be given some construction material with which they will be asked to construct a structure relating to civil engineering.
2. The type and size of structure they need to build will be instructed directly to them at the time of event.
3. A team can have a minimum of 2 members and a maximum of 4 members.

Disqualification will result from any of the following

a. Damaging any property
b. Interfering with other teams or their members in any way
c. Copying from other teams.
d. Stealing from other teams

9. TWIN HEIGHTS

Team event

Rules for the event

1. All the teams will be given a stretch of a strip of land.
2. Teams will be asked to calculate the amount of cutting and filling required if a road is to be built at that location.
3. The length of the strip of land will be introduced directly to them at the time of event.
4. All the instruments and tools required during the survey work will be provided by the organizing committee of IMPULSE 2.O.
5. The judging criteria will be based on two key points: Accuracy and speed.
6. The team which calculates the data most accurately will be awarded the maximum number of points.
7. In case the data of two teams comes out to be same at the end, then the team which would have calculated the data in least time will get more points.
8. A team can have a minimum of 2 members and a maximum of 4 members.
9. Minimum 1 member should from the civil engineering department.

Disqualification will result from any of the following

a. Damaging any property
b. Interfering with other teams or their members in any way
c. Copying from other teams.
d. Stealing from other teams

10. NATURE CANVAS

Team event

Rules for the event

1. All the teams will be provided a small piece of road or any such cemented surface.
2. Teams will be asked to make a painting in that given of land.
3. The area provided for the surface will be 4 feet by 4 feet (approx. 15 ft^2)
4. The piece of land will be shown directly to them at the time of event.
5. No material will be provided for the event by the organizing committee.
6. The teams are asked to bring their own paint and brushes **(keep it in mind that the canvas will be made on road surface)**. So choose quality of colours, amount of colours and type of brush accordingly.
7. The theme for the painting will be same as the theme for the IMPULSE 2.O i.e. SUSTAINABLE DEVELOPMENT IN CIVIL ENGINEERING or you may also choose to paint some latest innovations in various engineering fields.

JUDGING CRITERIA

1. Points will be awarded based on the neatness of the painting.
2. More points will be given to the team whose painting resembles closest to the theme of the event.
3. Members of the team are required to explain the key points of their canvas in front to the judges at the time of inspection properly i.e. teams need to present their canvas in brief.
4. Better the presentation , more will be points awarded to the team.

Disqualification will result from any of the following

a. Damaging any property
b. Interfering with other teams or their members in any way
c. Copying from other teams.
d. Stealing from other teams.

11. BOX CRICKET

Team event

Rules for the event

1. This is a sporting event.
2. Event is open for all (boys and girls)
3. Each team is entitled to have only 2 members.
4. The event will be organized in a closed hall.
5. The members of the same team are required to bat and bowl at each other in whatever manner as they want (i.e. anyone cat bat and anyone can bowl).
6. Some spots with certain number marking will be marked on the walls at different corners of the hall.
7. All the teams will be given a maximum of 12 balls (2overs) to play.
8. The team which scores maximum number of runs will be declared as the winner.
9. Bat and ball will be provided by the organizing committee of IMPULSE 2.O.

Disqualification will result from any of the following

a. Damaging any property
b. Interfering with other teams or their members in any way
c. In case of any sort of misbehaviour.