

Phaltan Education Society's  
**College of Engineering, Phaltan**  
Department of Mechanical Engineering (Diploma)  
Academic Year 2018-19

**KURUKSHETRA(Techfest)2018**

**EVENT :: CAD WAR (2D)**

**Software-** Auto Cad 2015

**No. of Participant-** 1 only

**Rounds-**

**Round -1-**

**Generating 2D Drawing**

**Time** – 30 minutes.

**Rules –**

1. This is a hand on round on 2D drawing software.
2. Problem statement consisting of generating a 3 orthographic view will be given.
3. Result based on accuracy & speed.
4. Some Questions will be asked based on modelling.

**Round-2-**

**Generating 2D Drawing**

**Time** – 1 hr.

**Rules-**

1. New models will be given & winner will be decided based on the same rule as earlier.

**Participation Fee:** Rs.- 50/-

**Prizes Worth:** Rs. 2500/-

**Contact Information**

**Co-ordinators:-**

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## EVENT :: Water Rocket Launcher

**Rules For Rocket launcher: -**

**A) The Challenge:**

You are required to construct a rocket (or rockets) and launching system to compete against other teams.

The aim is to launch a rocket powered by compressed air and land it in designated target zones, while trying to earn additional bonus points by time of flight. Your score will be your time in the air plus bonus points gained from landing in target zones.

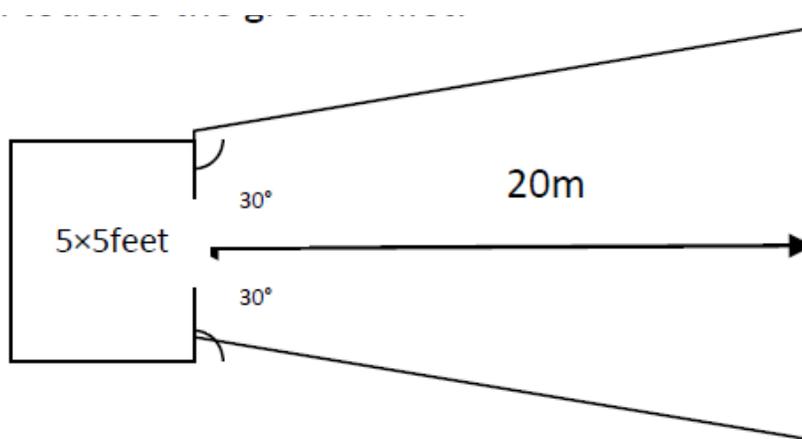
**B) Restriction:**

- 1) Volume of launcher is less than 6000CC, Height of rocket less than 60CM, Weight of rocket as per your design.**
- 2) Pressure provided in same quantity for all participants.**
- 3) Use two-wheeler valve to charge launcher**
- 4) Maximum TWO members allowed for one team**

There are three rounds in competition (Participant have two chance for Each rounds)

**ROUND 1:**

We should be providing you with firing zone as shown in figure. Inside that a 5 feet square block for Launcher will be given at Centre & from that square block an angle restriction of 30° will be on both side. So, your rocket must pass the qualifying line that is 20 meter from the launcher or else will be disqualified from the event. And there are no points for the qualifying round. Distance is measured from portion of rocket which touches the ground first.



## ROUND 2: -

For this round, there is no angle restriction. So, from center of line rocket will launch and points are 1Meter = 5 Points. Your rocket should fly in determined area

## ROUND 3: -

In this round load, should attached on the body of rocket (weight attached should be in the range of 50,100,150...gms).

**Total points = Point from Second round + (Points from Third round \*Load Factor)**

Where,

**Load factor = Weight of rocket with load / Weight of rocket without load**  
(Maximum load applied leads to maximum load factor)

### C) Rocket Launcher Equipment:

- Competitors bring their own rockets, launchers and team. Organizers provide no equipment
- All energy given to the rocket must only come from the compressed air. No other source of energy is allowed. You will get **compressor on spot**.
- No external metal parts are allowed on the rocket, but are allowed on the launch mechanism.
- You are only allowed to use plastic bottles/PVC pipes specifically designed for holding pressure, or that have been pressure tested (for example carbonated drink bottles). Please do not re-use bottles from previous competitions as they are likely to explode.
- Your launch apparatus must be secure and must be able to robustly control the rocket's flight direction.
- Particular care must be taken so that the rocket's launch direction is not changed when the launch mechanism is released. Launches guided by flexible wire ropes will not be allowed.
- You will need a launcher capable of launching a rocket at a variable vertical angle of up to 60° to the horizontal. The maximum launch angle will be decided on the day. You may launch at angles less than the maximum.
- If your rocket has fixed wings then a maximum variable launch angle of 30° to the horizontal is allowed. The maximum launch angle will be decided on the day.

### D) On the Competition Day

- No fewer than 6 are allowed in the launch arena.

- When you arrive, and have checked in at the registration tent, your launch apparatus and all rockets will be safety checked. Judges can disqualify any equipment considered unsafe.
- You must use all safety equipment provided on the day (eyewear and earplugs).
- There will be three rounds. Scores from each will be added together to give a total score. You may bring more than three rockets, but only the first rocket launched, which will be labeled on the day, each round will count towards your total score.
- Listen & follow the details given on the day of event. When you are ready to launch, alert the volunteers and they will tell you if it is safe and will time your flight. If you cannot fire within the time allocated for the round, your score for that round will be zero.
- Your team will be assigned a volunteer who will inform you the correct launching elevation angle and indicate permissible directions of flight. As soon as your rocket leaves the launcher the volunteer will start the stopwatch, and will stop the watch when the labeled part of the rocket touches the ground, a tree, a building or goes out of sight. You will not be disqualified if small parts of the rocket come off and land early inside or outside the landing zone, but it will be at the volunteer's discretion to decide which is the largest part of the rocket.
- Rockets shall be launched from the firing line towards the landing zone. For your safety please do not walk into this area unless it has been announced that it is safe to do so.
- Bring along more than one rocket, and/or means of carrying out running repairs – you may have to repair rockets between rounds if necessary.

#### **E) Tips**

- Do test your rocket out before you come to the event, there is nothing more disappointing than finding your rocket doesn't work on the day. You might want to have several designs to try out.
- You can use a different rocket for each round if you wish. Remember it could be windy, this might be an advantage, but remember you must fire away from the crowd and land in the landing zone.

#### **F) The judge's decisions are final.**

Participation Fee: Rs. 100 /- per group

**Prizes Worth:** Rs. 2500 /-

#### **Contact Information**

##### **Co-ordinators:-**

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# Technical Poster Presentation (TPP)

## A. Rules:-

1. Max. **Two** participants per Poster.
2. If possible make simple model which will represent the poster topic.
3. Judge committee's decision will be final.
4. Boards for display poster will be provided at the venue.
5. Poster size should be:  
**Min.- 1.5 X 2.0 feet**

## B. Topic:-

*'Recent trends in Automobile'*

**C. Participation Fee:** Rs. 100/- per poster

**D. Prizes Worth:** Rs. 2500/-

## E. Contact Information

### Co-ordinators:-

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# Robowar

## F. Rules:-

Your robot should complete the war with following conditions:

1. Max. Participant: 4 nos. per group
2. Every lay down will add +10 points in opponent team.
3. Team should be responsible for damage of robot.
4. If robot of any team damages during war then opponent team will be considered as winner.
5. Robot should not damage the competition area. Otherwise it will leads to disqualification.
6. Any kind of error in the robot will also lead to disqualified.

\*\* Rules are subjected to change according to circumstances.

\*\* COE, Phaltan reserve the rights to change the rule.

## B. Specification:-

1. Max. Dimensions: L×B×H=30×25×25cm
2. Max. Ground Clearance: 2.5cm
3. Max. Weight: 8 Kg
4. Max. Supply Voltage: 12V DC (will be provided by us)

**G. Participation Fee:** Rs. 200 /- per group

**H. Prizes Worth:** Rs. 3000 /-

## D. Judging Criteria:-

**Round 1:-** Top 10 teams will select for final round.

Robot which **secures more points** will be selected for next round.

**Round 2:-** Final round (Top 4 teams will select.)

## I. Contact Information

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