

SUBMARINE

Objective-

To make a remotely controlled model submarine which performs the specified task below around a common arena for all the participating teams

Machine specifications-

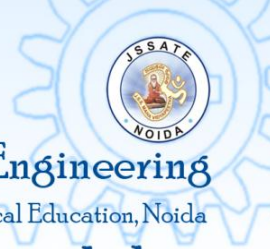
1. The submarine should be made around a standard soft drink bottle of maximum 2.25 liters of volume
2. All the equipments such as L-angle, hitch point ,radio control board, clay weights ,antennae, motor assembly , propeller etc. should be on board only not apart the bottle
3. Locomotion of the submarine that is Start and Stop should be done only by the radio control, apart the submarine action which is to be done with the help of the IV pipe.
4. Use of pulling or pushing mechanism for the propulsion is prohibited.
5. Fuel operated mechanism for propulsion are prohibited.
6. Submarine action is restricted to change of buoyancy principle only.

Materials required –

Stated in the separate list provided to the teams, material specifications are as per the stated in the list

Task -

1. Submarine has to start from the bottom of the arena tank
2. The submarine will be attached with some predefined weight which will be given by the coordinator as per the competitors wants the weight
3. Applying the submarine action the submarine has to come on the surface of the water
4. Being on the water surface the submarine has to propel to the other end of the tank with the weight hanging to the bottom of the submarine
5. On the other end of the tank the submarine has to move to the bottom of the tank with the hanging weight
6. The round will be considered complete as soon as the submarine touches the bottom of the tank
7. Now the team members are allowed touch the submarine to take it back to the initial start position for the next same round with another same or different weight
8. The whole task will be considered complete when all the weight given will be transferred to the other part of the tank or the time limit complete whichever comes first

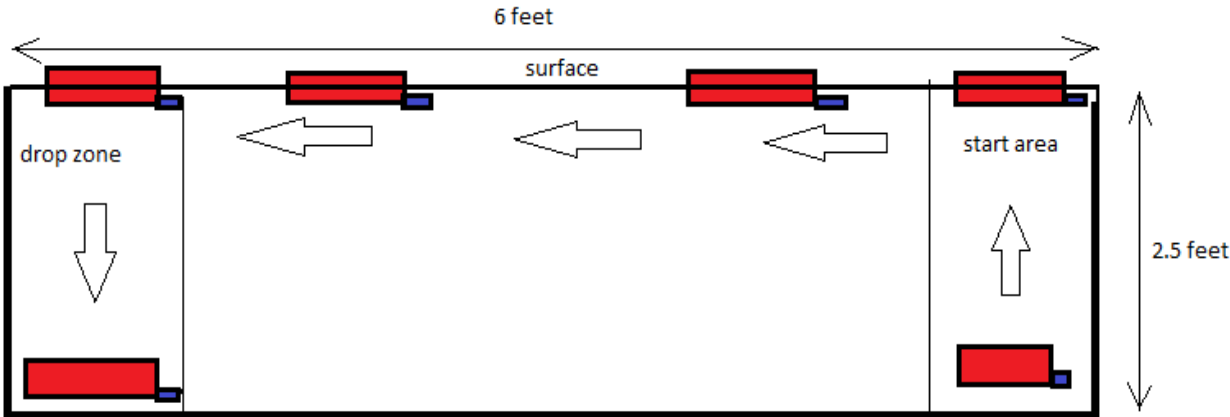
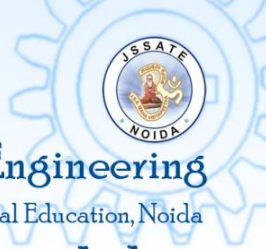


Rules-

1. Once going for the first round there is no limit for the weight to be chosen by the team as per their design , they can either choose all the weight at once or in sections
2. Weights provided is 300 grams in three parts each part weight will be a circular metallic block weighing 100 gm each. These weights are mandatory
3. Maximum allowed time for the task is 20 minutes
4. Maximum allowed team members in the arena are 2 , one for controlling of submarine other to help in repositioning at the initial start point
5. No points will be deducted for the touching of the submarine at the time of repositioning
6. Two time touching is allowed during the prescribed submarine action task for which no points will be deducted apart these touch points will be deducted
7. air pumps are not allowed for air variation in the submarine , air is blown only with mouth
8. the weights are to be dropped in a certain region only which is shown in the diagram attached of the top view of the arena
9. points are deducted if submarine gets submerged in a different area with the weight
10. in case of the failure of the mechanical parts the team will be given an extra attempt with all the parts working properly , in case they fail in the given extra attempt they will be disqualified

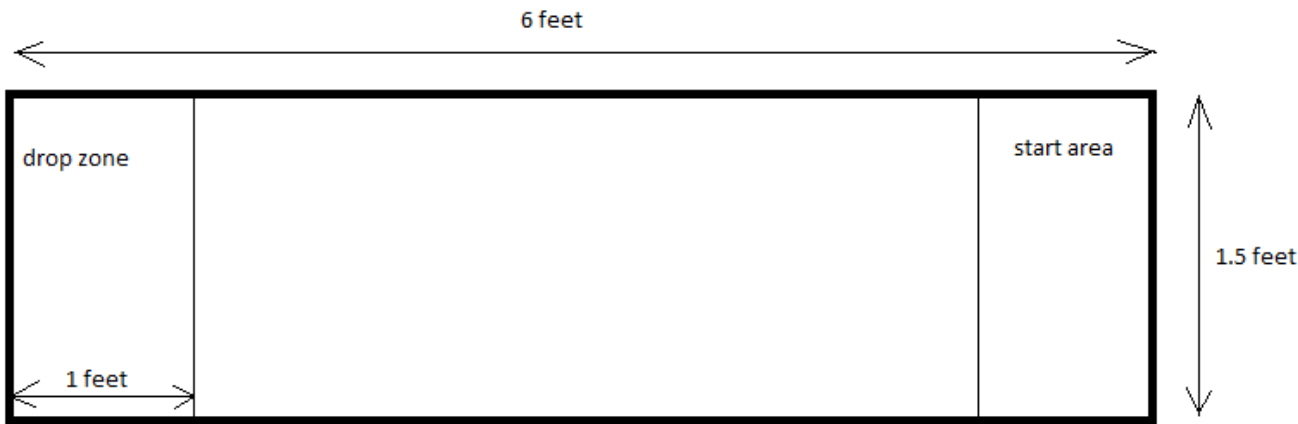
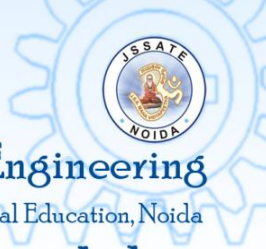
Point rules –

1. maximum points are 100 ,points tally is as follow
 - #. 20 point after each weight transferred to the other side, in case all weights at the same time 60 points
 - #. Max 10 points for the correct submarine action done in the whole task
 - #. Max 10 points for the correct propulsion action of the submarine
 - #. Max 10 points for whole task getting completed in time
 - #. Max 10 points for the esthetic of the submarine
2. negative 5 points for touching the submarine each time apart the mentioned times
3. negative 5 points for dropping of the weight on different site apart specified
4. negative 5 points for breaking the time limit



front view

tank



top view