# ROBOCLUB

THEME:

The Sci-Tech city has been invaded by aliens in the year 2050 which is the central hub for research and defence department. The walls of Sci-Tech city have been crumbled thus earth's defence system is at risk. Thus in order to protect our Earth from these outer species we need to rebuild our Sci-tech city. The city is inaccessible to humans so robots will repair the city. This is a quite critical time and you can save the world by helping in the reconstruction of the city.

The Mission:

You have a chance to save the world from aliens by making a robot inTakneek. The mission is to make a mechanical design which could hold cubical boxes and place it in the space provided. You would have to cross bridges and trenches created due to the bombardment by alien space fighter.Bot will know about the places where repairment has to be done by identifying the black and white stripsand glowing the LED's accordingly.
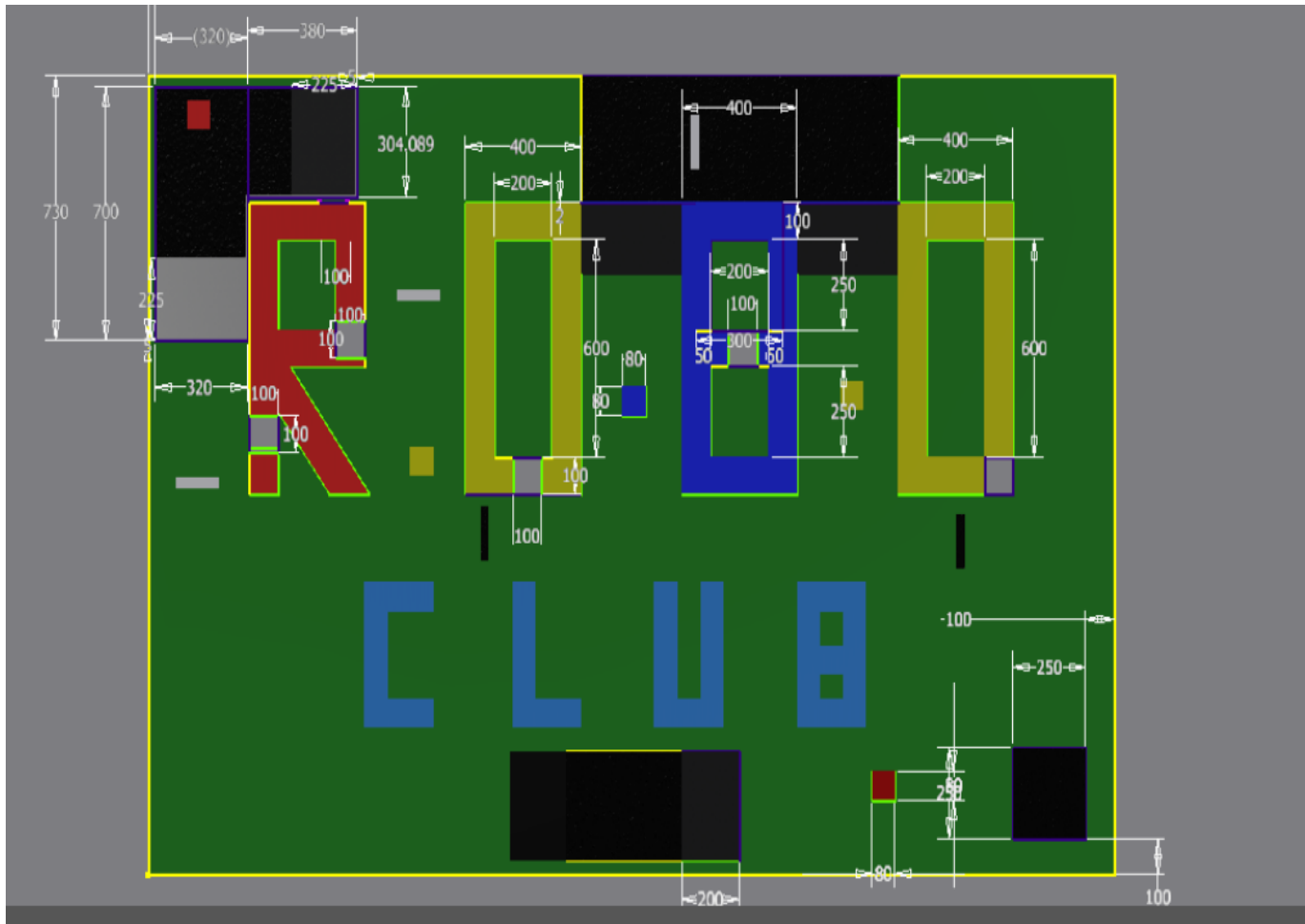
Arena:

TOP VIEW OF ARENA
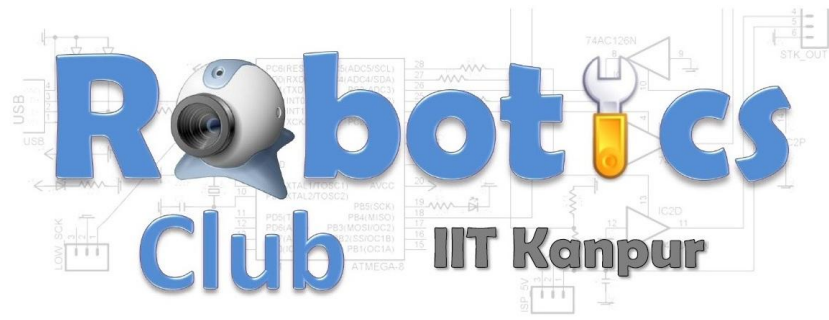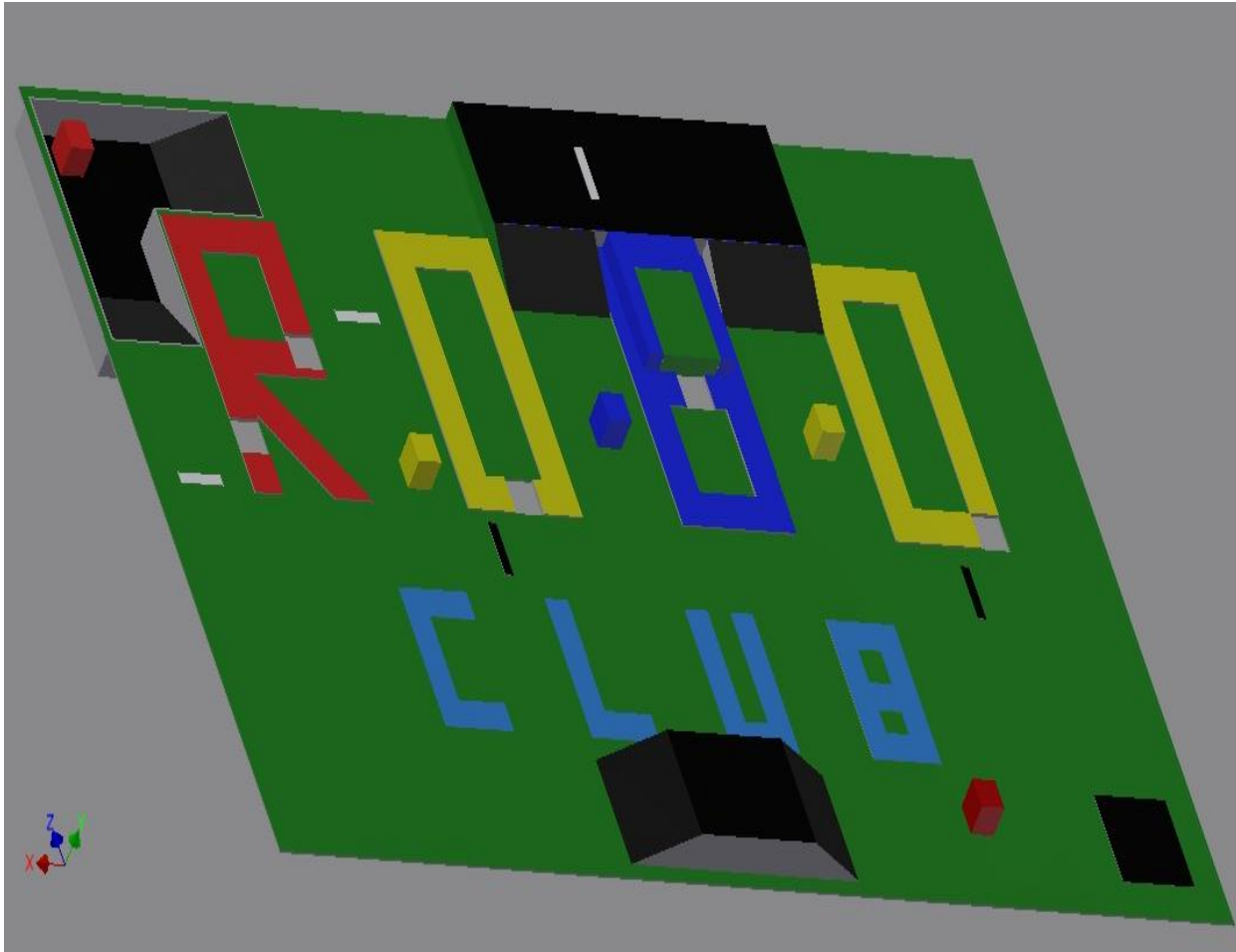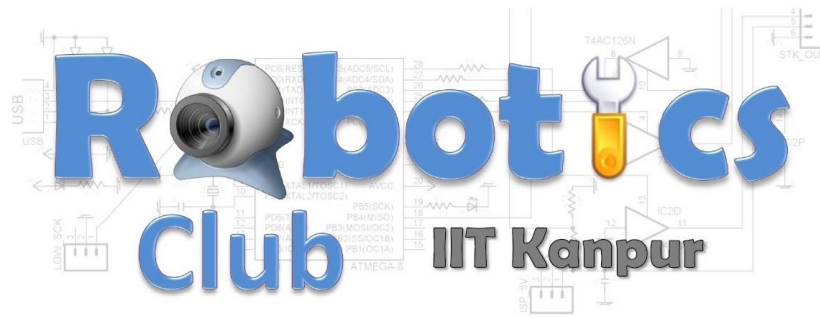
1.) The arena consists of a green background .Strips of black and white colour are placed after the boxes.
2.) It has a bridge of height 10cm and width 200cm, a trench of depth 10cm and a U turn platform.
3.) The dimensions of the box are 8cm*8cm*8cm
4.) Weight of the boxes is around 50gm each.

Game procedure:

All teams will attempt this one by one and have to keep their bots at the starting point. The teams will have to specify the colour of the led used foridentifying the strips. As soon as the timer starts, the bot will hold the first block placed there. If it goes from the bridge with the block in its grip then
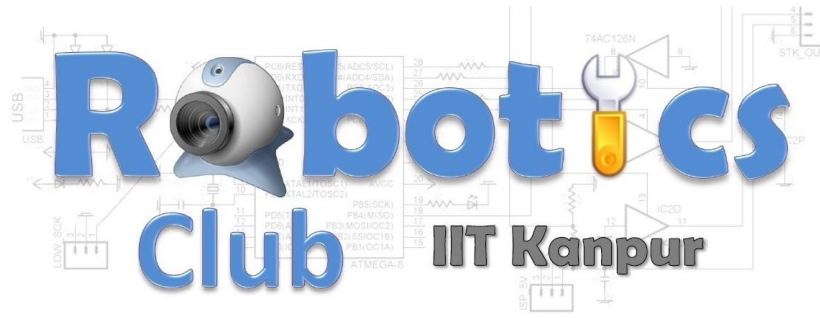
bonus points will be given otherwise it can go from an alternative level path along its side. Then it has to reach the strips in front of the blocks, detect the colour(by glowing LED's) and place the blocks in the depression to complete "ROBO" on the arena and also crossthe U-turn trench.Thewhite colour strip shows that the bot has to turn white and place the box while the black strip shows that the bot has to turn left and place the box.Each letter will have a different colour and the block of corresponding colour has to be put in the depression. The timer would stop as the bot reaches its starting point. Each team will be given two attempts and the best attempt will be considered for evaluation.There is a cavity in the centre of the letter B.if the bot places the box in that cavity then you will be awarded bonus points.Otherwise,you can just skip the step and move onwards leaving the blue box on the platform anywhere.

Note:

1.) There will be no colour strip before the first block.

Rules:

➢ Each team can have a maximum of 5 members.
➢ Each run will be of 5 minutes.
➢ The bot size shouldn't increase 25*25*25 cubic cm initially, and weight should be less than 2kg.
➢ You have to use LED's to distinguish between the colours of strips and arena i.e. white,black and green.
➢ The bot can expand during its run.
➢ The bot must not touch the letters of ROBO otherwise penalties will be awarded.
➢ The bot has to be kept within the starting point initially.
➢ The bot has to move within the arena at all points and if it leaves the arena, there will be a penalty.
➢ The voltage difference between any two points in the bot shouldn't exceed 20 V and there would be provision of power supply at the arena.
➢ Use of Lego-kits is prohibited.
➢ Tethered control is not allowed.
➢ In case of a tie in the points, the team with the best time of the two attempts will be chosen as the winner.
➢ In case of manual assistance the bot would have to take a fresh start.

Scoring:

Points will be awarded for following parameters:
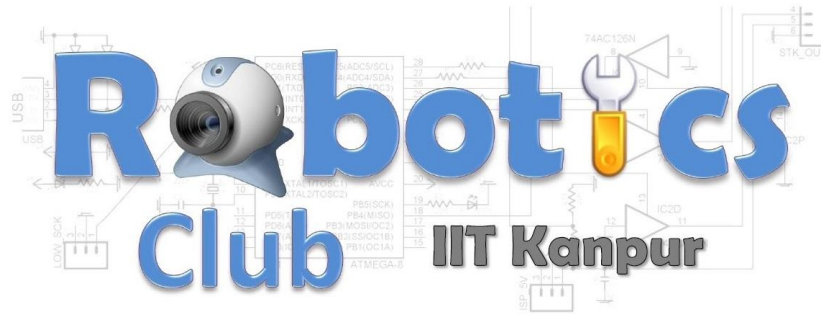
Parameter	Points
1.) Identification of each colour strip	20
2.) BONUS-Crossing the bridge	50
3.) Picking each block	10
4.) Placing each blocks in the correct position	25
5.) Placing the BONUS block in letter B	50

Penalties:

1.) -5 for each time touching the boundaries of the "Robo".

2.) -10 for every wrong identifications of colour strips.

3.) -20 for going out of the arena.

Disclaimer:

• In case of discrepancies, the decision lies in hands of the co-ordinators.