TA 211 PROJECT REPORT

TRAIN WITH RAILWAY STATION

Group No.6

Course instructor: Shashank Shekhar

Course staff-in-charge: Mr. Indra Pal Singh

Lab-in-charge: Mr. Anil Kumar Verma

Tutor: Prof. Shivam Tripathi

Group Members

Monika(220669)

Manisha Kaushal(220623)

Manvi Verma(220631)

Siddhant(221050)

Mantresh Dhahava(220628)

Naman Yadav(220683)

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Mukul Raj Meena(220676)

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CERTIFICATE ABOUT PLAGIARISM

This is to certify that the following college lab project titled "TRAIN WITH RAILWAY STATION" submitted by the members of group M6, is an original work and is free from any form of plagiarism.

Project Details:

- **Course: TA211**
- **Lab: TA211 Lab (Dept. Electrical Engineering)**
- **Semester: Even Semester of 2023-24**
- **Submission Date:**

SIGNATURES:

MONIKA (220669)

MANISHA (220623)

MANVI VERMA (220631)

SIDDHANT (221050)

MANTRESH DHAHAVA (220628)

NAMAN YADAV (220683)

GAURAV KANAUJIYA (220402)

MUKUL RAJ MEENA (220676)

MANAV SHARMA (220615)

ACKNOWLEDGEMENT

We sincerely express our gratitude to our course instructor Dr. Shashank Shekha, our course staff-in-charge Mr. Indra Pal Singh, our lab-in-charge Mr. Anil Kumar Verma and our tutor Prof. Shivam Tripathi for their valuable support and advice in this project. Without their moral and technical support, we would not have been able to complete this effortful task. Their dedication, keen interest, and above all their overwhelming attitude have played a significant role in helping us complete this project.

We would also like to express our gratitude to all lab staff for their constant guidance and support. The support of all the staff members at the TA211 Lab is highly appreciated and elementary towards completing our project. Lastly, we would like to thank every member of our group who has worked hard to make this project successful.

MOTIVATION

We came across this idea while seeing some inspiration for our TA211 project. When we saw the animated image of this idea, it caught our attention. At that point, we decided that we would apply our TA211 theory to make this image into an authentic embodiment.

We were so infatuated by its image. So, we embarked on this small journey of ours to see how it works in the broadest.

Also, creating a train and station model in a manufacturing area is motivated by the need to enhance efficiency, streamline logistics and achieve overall operational excellence. It serves as a valuable tool for planning, simulation, and continuous improvement in the manufacturing processes. The motivation for a group of engineers to create a train model can be multifaceted, encompassing various aspects of engineering and collaborative work.

WEEK WISE WORK DISTRIBUTION

Members	Week I	Week II	Week III	Week IV	Week V	Week VI
MONIKA	Carriage sheet making	Boiler making	Wheels	Working on carriage	Welding to the main body	Final assembly
MANISHA	Carriage sheet making	Carriage box making	Working on wheels	Joining of the carriage parts	Welding to the main body	Final assembly
MANVI VERMA	Engine Base plate	Boiler making	Chimney and whistle-making	Engine Cab's walls and cover making	Welding to the main body	Final assembly
SIDDHANT	Railway track work	Railway track parts cutting	Welding the track parts	Working on carriage	Finishing	Final assembly
MANTRESH DHAHAVA	Railway track work	Cutting of sheet for the station	Joining of the pieces	Welding to the main body	Welding to the main body	Final assembly
NAMAN	Railway station sheet work	Cutting of sheet for the station	Joining of the pieces	Assembling	Welding to the main body	Final assembly
GAURAV KANAUJIYA	**Smoke Stack**	**Cutting of sheets**	**Joining the parts**	**Wielding to the main body**	**Other help**	**Final assembly**
MUKUL RAJ MEENA	Platform Sheet work	Cutting of sheet for the station	Joining of the pieces	Assembling	Welding to the body	Final assembly

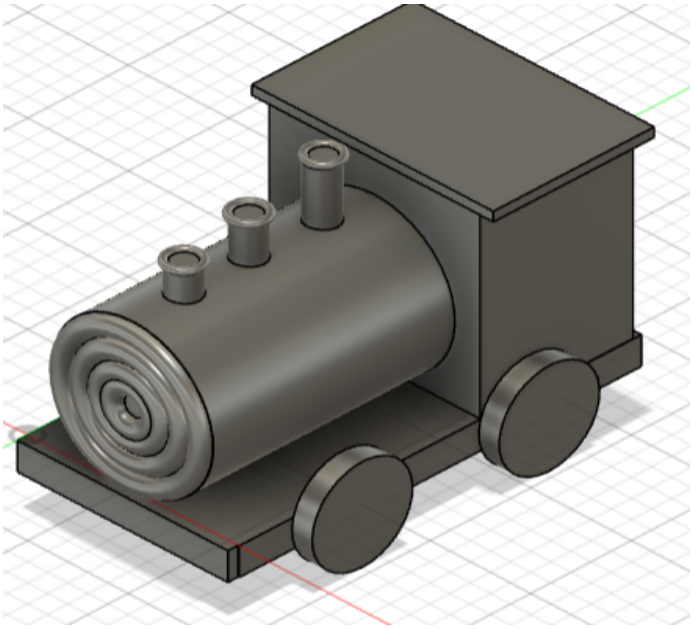
MANAV SHARMA	Railway track work	Cutting of sheet for the station	Joining of the pieces	Welding to the body	Joining of the pieces	Final assembly

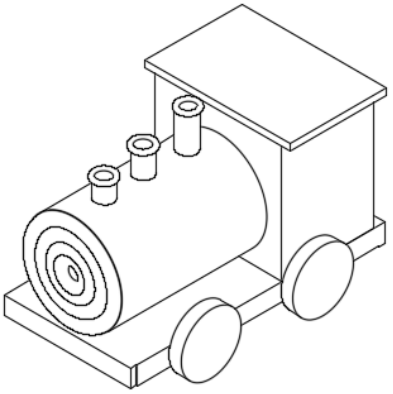
MATERIALS LIST

Part No.	Name	Materials Required (in mm)	Quantity	Process Used
1	Base Plate	40X40	1	Welding, drilling, cutting
2	Station	25X20X15	1	Welding, forging
3	Wheels	Diameter=50 Width=10	8	Welding,
4	Platform	20x15	1	Welding,folding, cutting,
5	Carriage	Base(150x100x22) Metal sheets of 30 for upper parts	1	Metal sheet folding and welding
6	Boiler	120x80	1	Welding,
7	Rods	100x10	4	Cutting, swaging

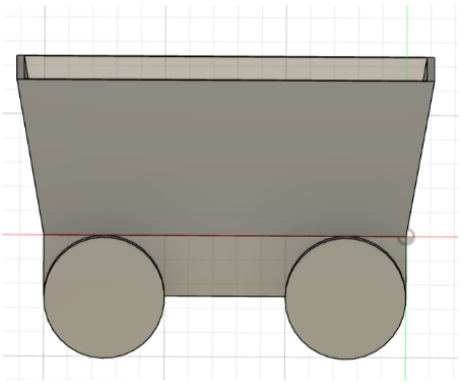
8	Smoke stacks	20x16 14x9 8x7	3	Cutting,welding,folding
9	Engine Cab	100x100	1	Folding and Welding

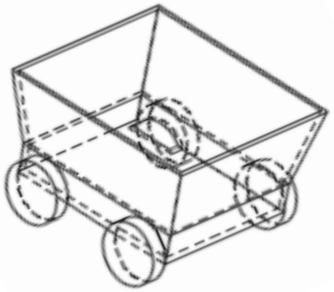
(1)TRAIN ENGINE



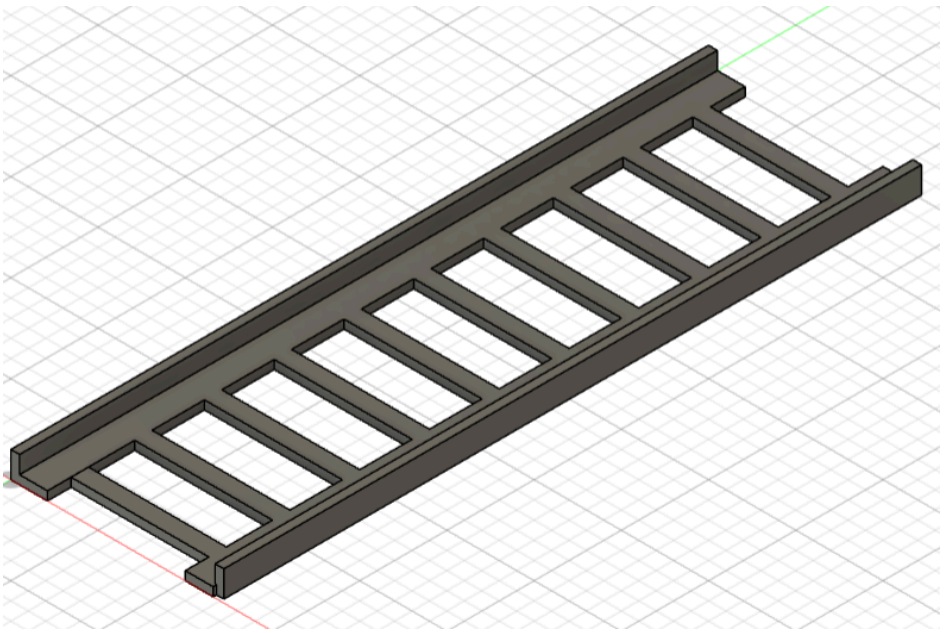


(2)CARRIAGE

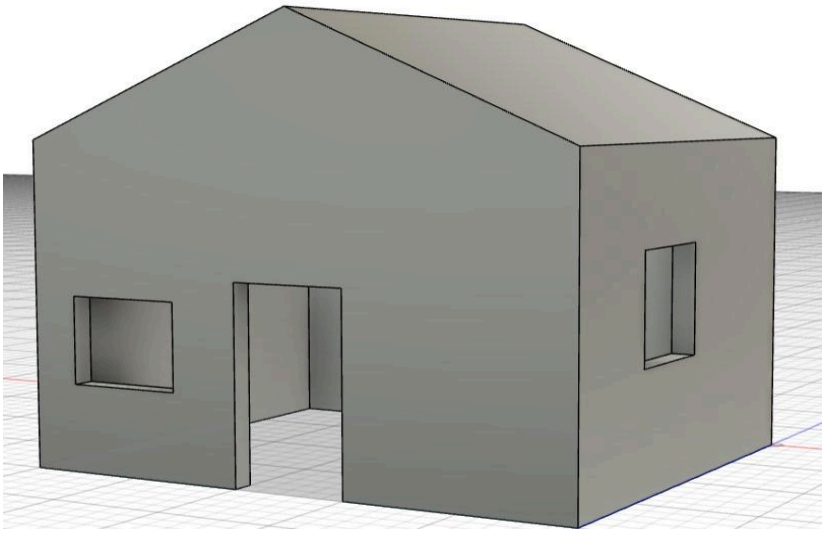


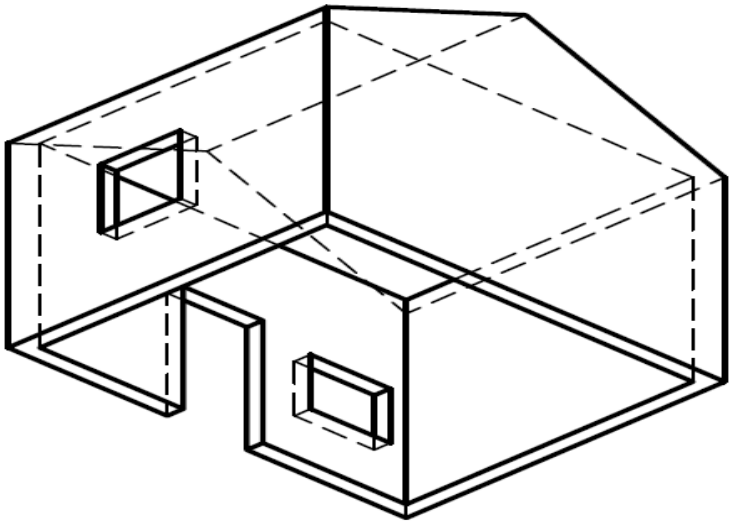


(3)RAILWAY TRACK

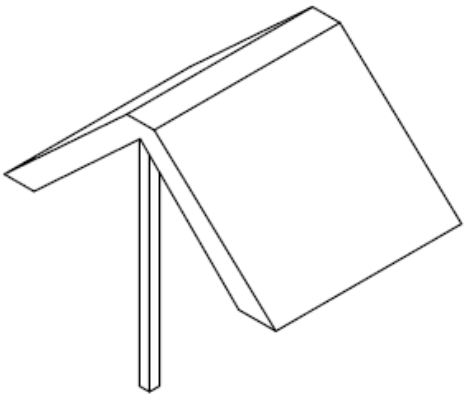


(4)STATION



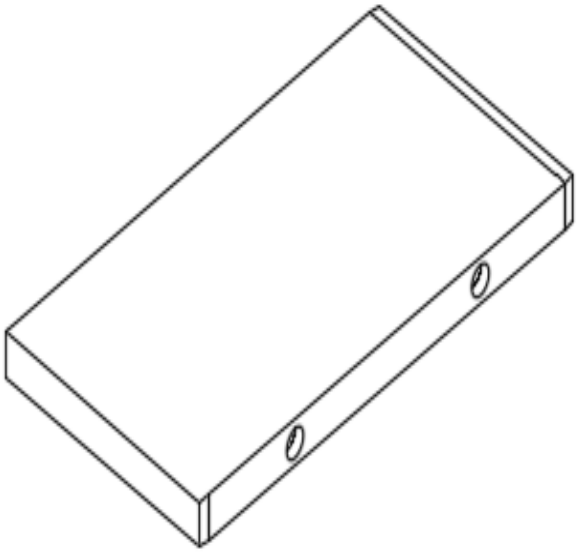


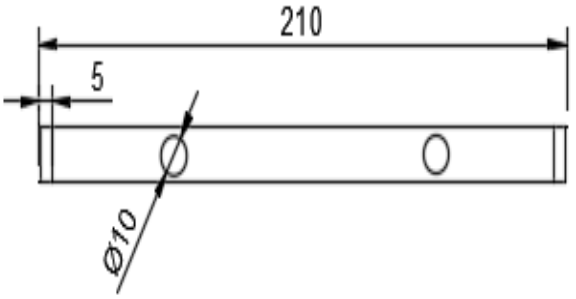
(5) PLATFORM



Part 1

Base



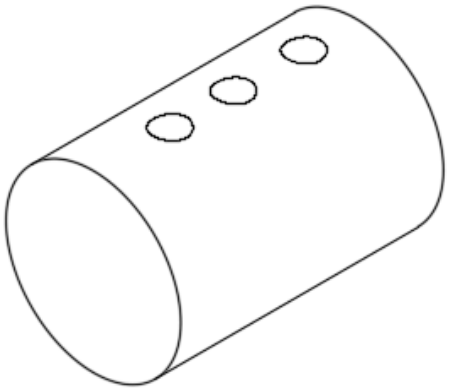


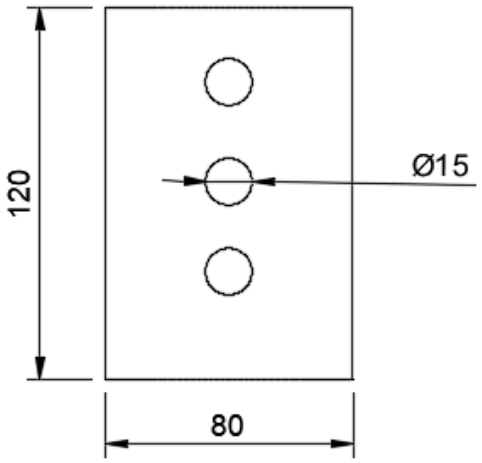
All Dimensions are in mm

Required material: Mild Steel
Dimensions: Length=210, Width= 100, Height= 15.
Quantity:2

Part 2

Boiler



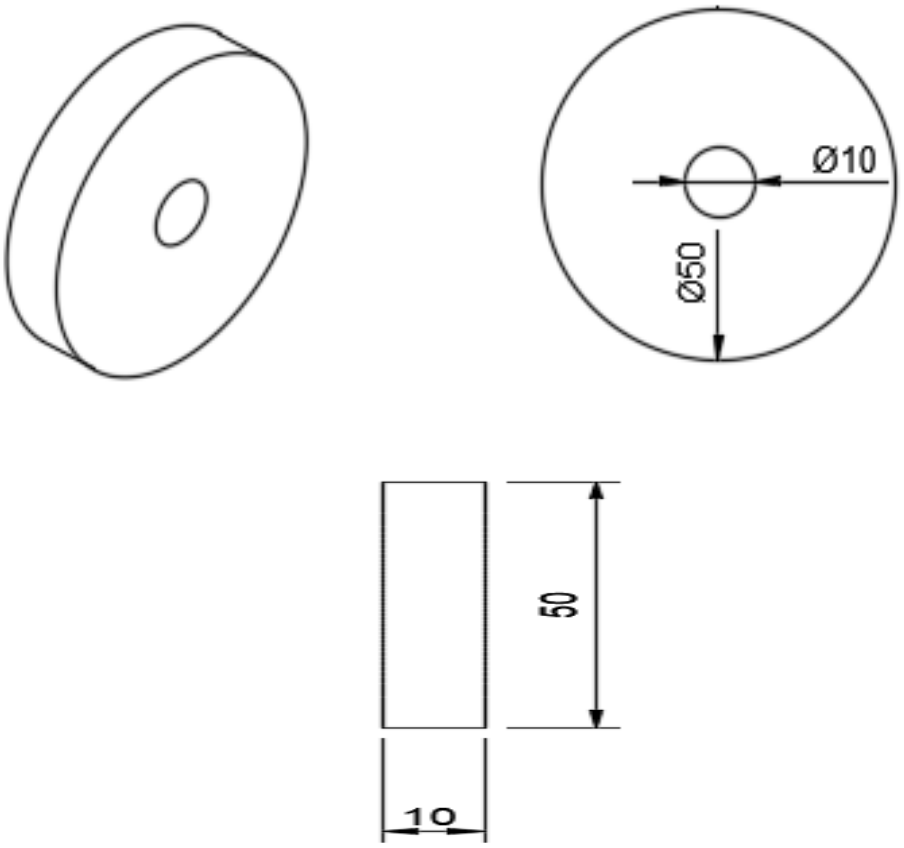


All dimensions are in mm

Required material: Galvanized iron
Dimensions: Diameter=80, Length=120
No.of holes: 3, each of diameter 15.
Quantity:1

Part 3

Wheels

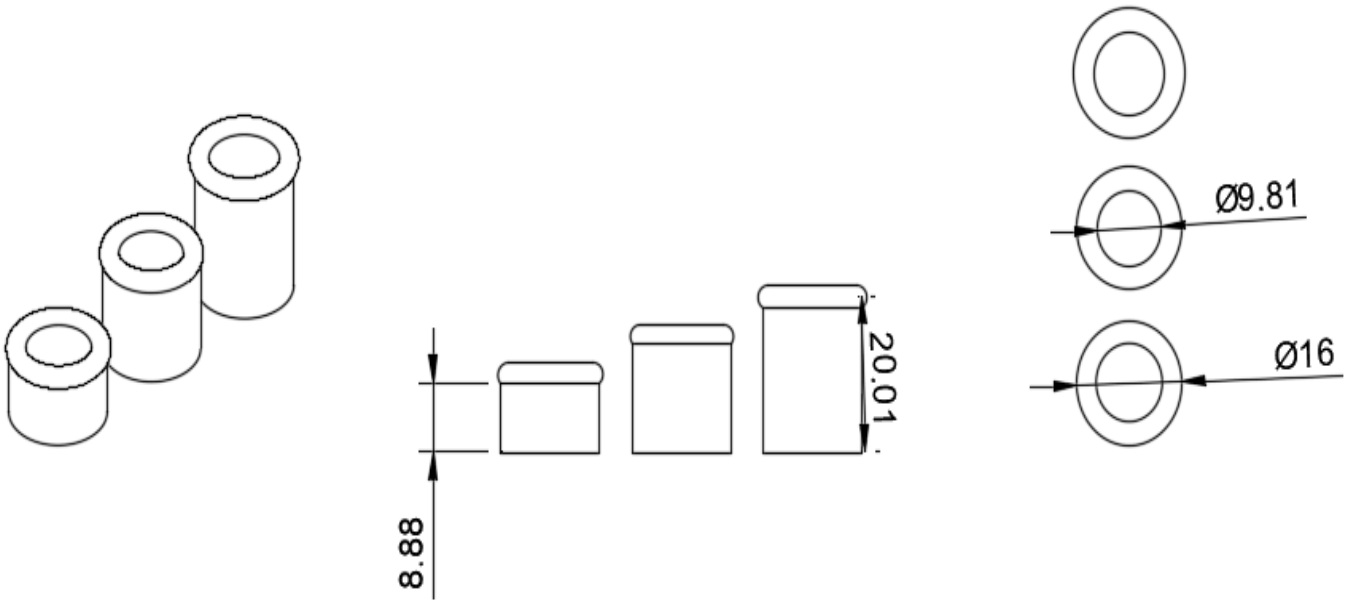


All dimensions are in mm

Required material: Mild steel
Dimensions: Diameter=50, Width=10
No.of holes: 1 of diameter 10.
Quantity:8

Part 4

Smokestacks

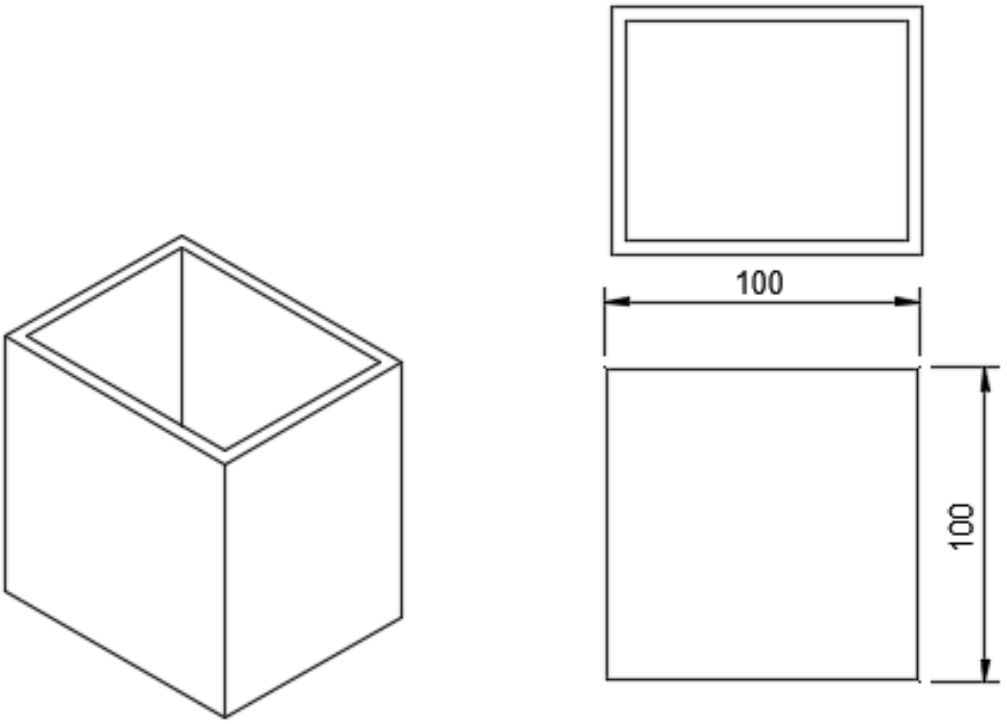


All dimensions are in mm.

Required material: Galvanized iron **Dimensions:Length**=10,15,20; Outer Diameter=16 **Quantity:**3

Part 5

Cab

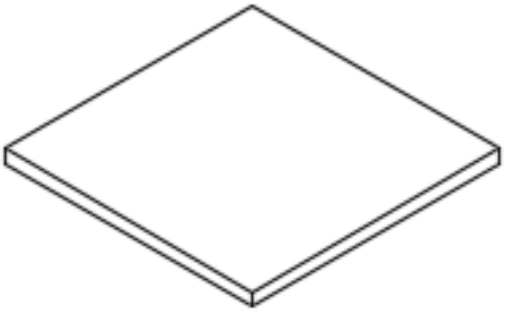


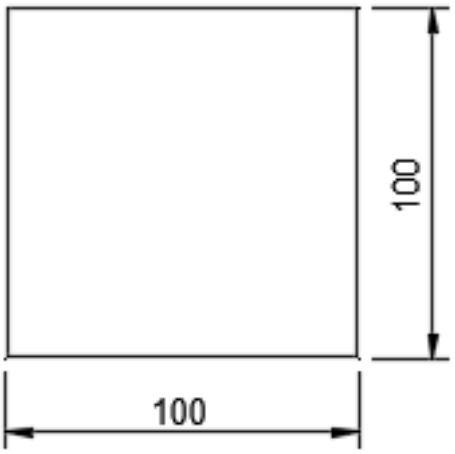
All dimensions are in mm.

Required material: Mild Steel
Dimensions:Length=100;**Width**=100,**Thickness**=5.
Quantity:1

Part 6

Cab cover



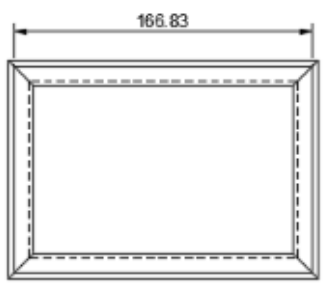


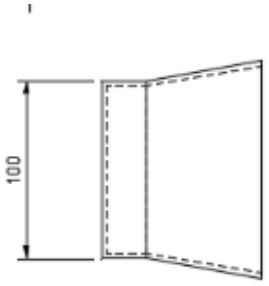
All dimensions are in mm.

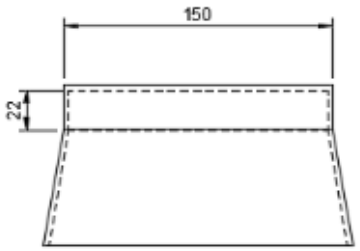
Required material: Mild Steel **Dimensions:Length**=100;**Width**=100,**Thickness**=5. **Quantity:**1

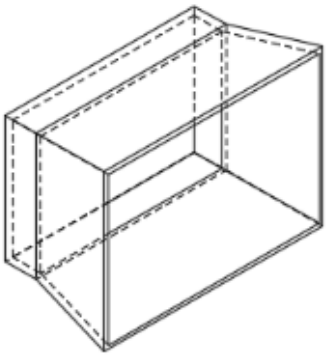
Part 7

Carriage







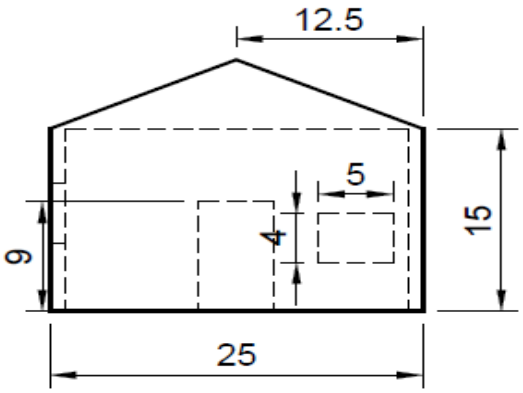


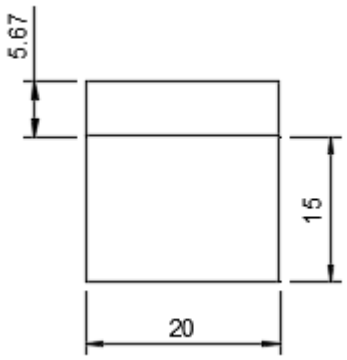
All dimensions are in mm

Required material: Mild Steel
Dimensions:Length=160;**Width**=100,**Thickness**=5.
Quantity:1

Part 8

Station Measurement





All dimensions are in cm.

Part 9

Railway Track Measurement