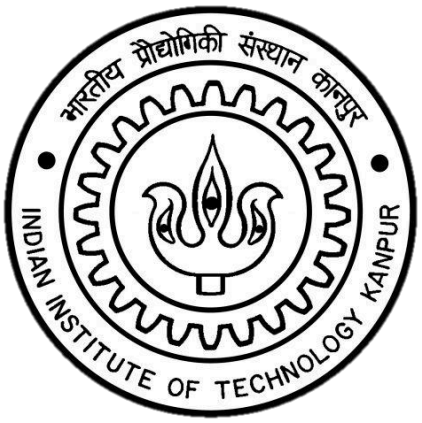
TA 211 PROJECT 2024-25

INDIAN INSTITUTE OF TECHNOLOGY, KANPUR



COURSE INSTRUCTOR – Prof. Kantesh Balani

LAB-IN-CHARGE – Mr. Anil Kumar Verma

COURSE IN-CHARGE – Mr. I.P. Singh

PROJECT NAME – **LOTUS TEMPLE**

Group No. M5

230301 BODA ANJALI

230320 CHANDRA BHAN

230326 CHAUDHARY KRISHNA PRAKASH

230329 CHHAVI TANWAR

230334 CHIRAG BADONIA

230360 DHALKARI GARGEE PRAMOD

230367 DHRUV PRATAP SINGH

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INTRODUCTION

Our project is Lotus Temple.

The Lotus Temple, located in New Delhi, India, is an architectural marvel known for its distinctive flower-like design. As a Bahá'í House of Worship, it symbolises unity, purity, and spiritual peace. The temple's unique structure, characterised by 27 free-standing marble-clad "petals" arranged in clusters to form nine sides, presents a complex challenge in terms of design, engineering, and manufacturing.

This report focuses on the manufacturing process and methodologies involved in replicating the Lotus Temple's intricate architecture. It explores the various stages, from conceptualization and design to the selection of materials, structural analysis, and construction techniques.

MOTIVATION

When we were selecting the design of a monument for the project, Lotus Temple's structure fascinated us the most, its symmetry is the most challenging part to replicate, but with our enthusiasm, we hope to do the project well.

This project gives us the opportunity to explore the process of manufacturing such a complex structure and understand the challenges involved.

The objective of this project is not only to cover the technical aspects of constructing such a monumental structure but also to highlight the innovative approaches and problem-solving strategies required to address the unique challenges posed by the temple's complex geometry.

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to everyone who contributed to the successful completion of this project on the manufacturing of the Lotus Temple.

First, we extend our heartfelt thanks to tutor Prof. Kantesh Balani, Lab-in-charge Mr. Anil Kumar Verma, and Course-in-charge Mr. I. P. Singh for their guidance, valuable insights, and continuous support throughout this project. Their expertise and encouragement have been useful in shaping this whole project.

We are also thankful to all the lab staff members, namely Mr. Rakesh Kumar, Mr. Gaurav Mishra, Mr. Bharat Raj Singh, Mr. Gyanendra Singh, Mr. Surya P. Sonkar, Mr. Rajdipta Samadder, Mr. A. C. Saini and Mr. Pappu for their constant supervision and encouragement which helped us a lot. We would also like to acknowledge the efforts of our TAs, Mr. Poresh Kumar and Mr. Santosh K. Singh for giving us their valuable time.

Lastly, we are grateful to our Instructor In- charge Prof. Kantesh Balani for providing us with an opportunity to learn different manufacturing processes and also incorporate them in the project.

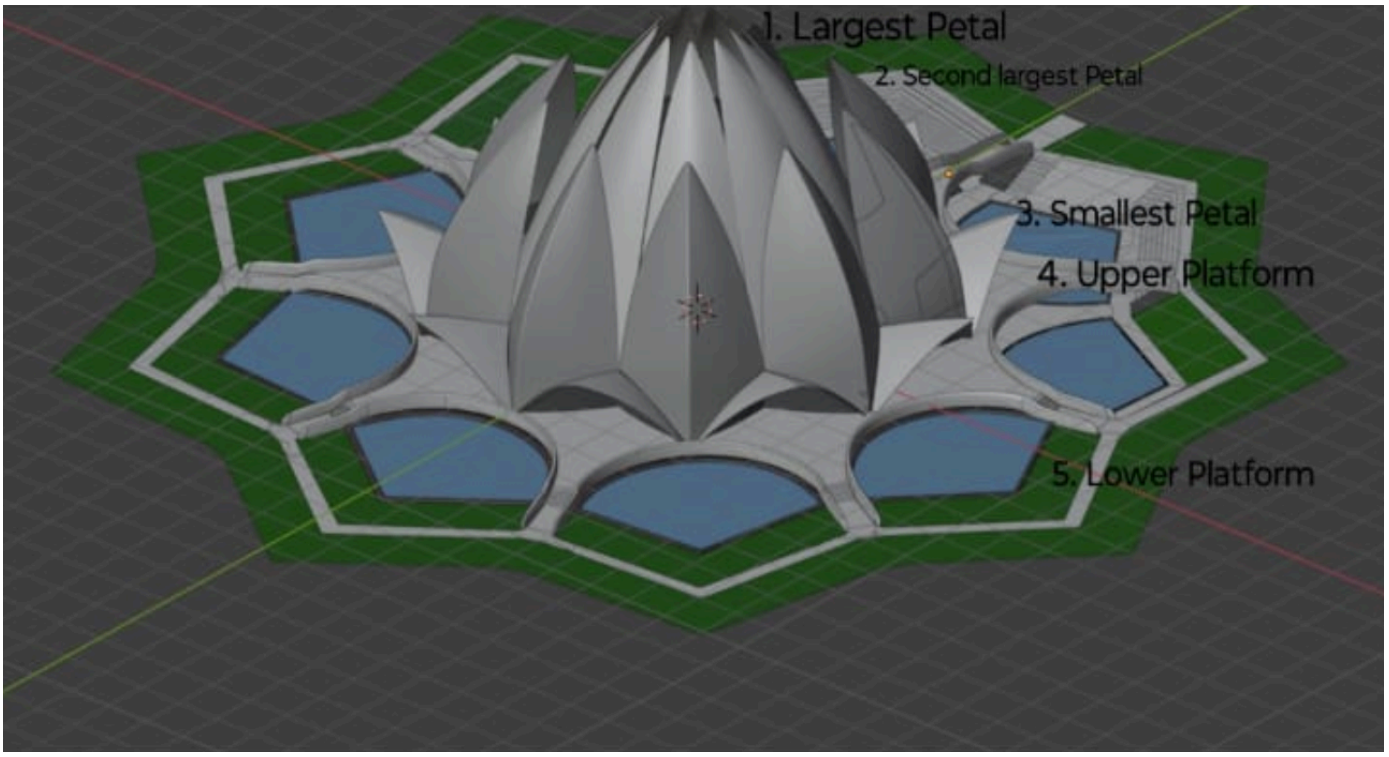
WORK DISTRIBUTION

	Week1	Week2	Week3	Week4	Week5	Week6
BODA ANJALI	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly
CHANDRA BHAN	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly
CHAUDHARY KRISHNA PRAKASH	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly
CHHAVI TANWAR	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly
CHIRAG BADONIA	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly
DHALKARI GARGEE PRAMOD	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly
DHRUV PRATAP SINGH	Largest Petal	Second largest Petal	Smallest Petal	Platforms	Assembly	Assembly

Materials List

S. No.	Material required	Dimensions	Quantity	cost	process
1.	Galvanized Iron Sheet	3 ft x 8 ft x 0.5 mm	1	Rs 1820	Sheet metal, welding
2.	Rivets	-	40		Riveting
3.	Brass Rods	50cm	10		Brazing

Isometric View



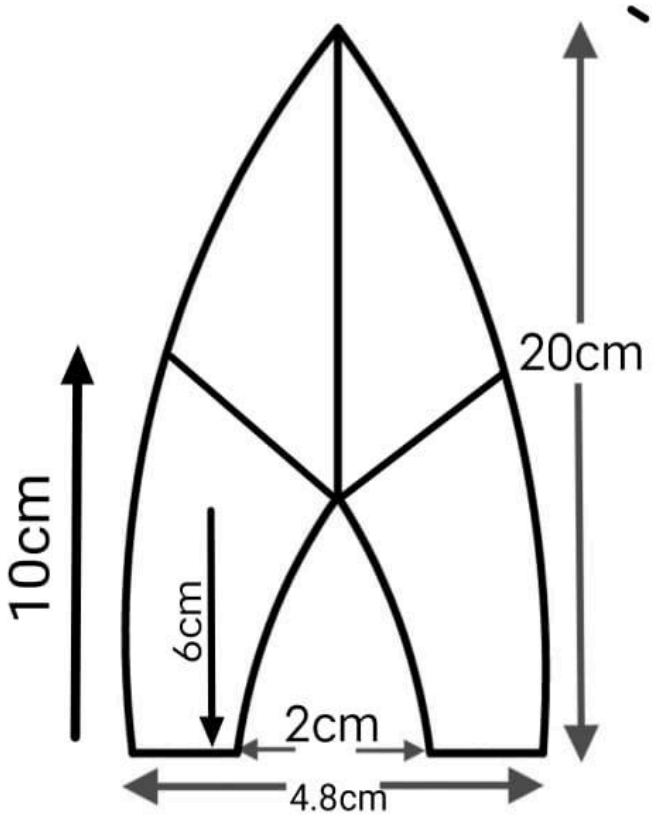
Parts Drawing

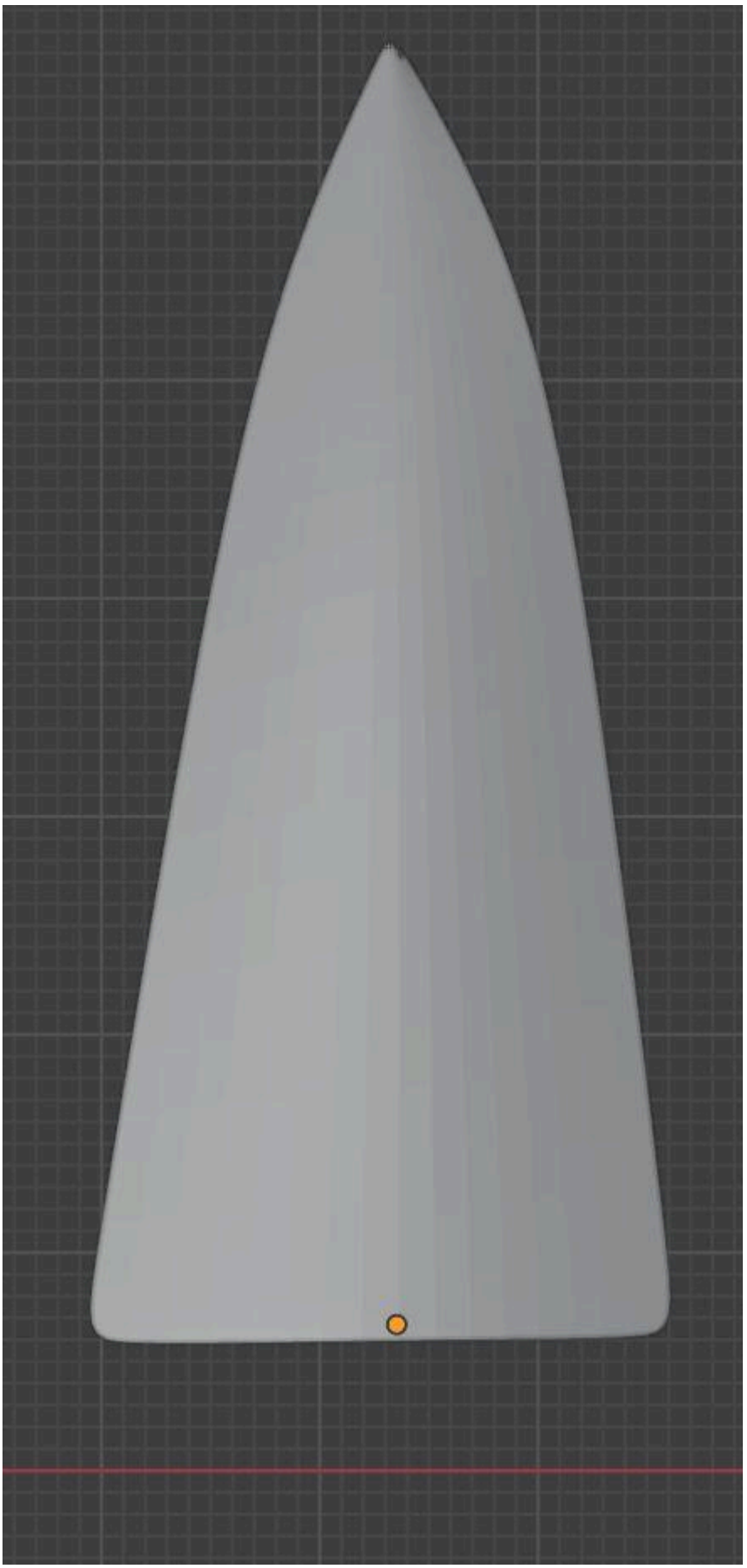
1. Largest petal

Material: Galvanized Iron Sheet

Process: cutting, bending, riveting

Quantity: 7



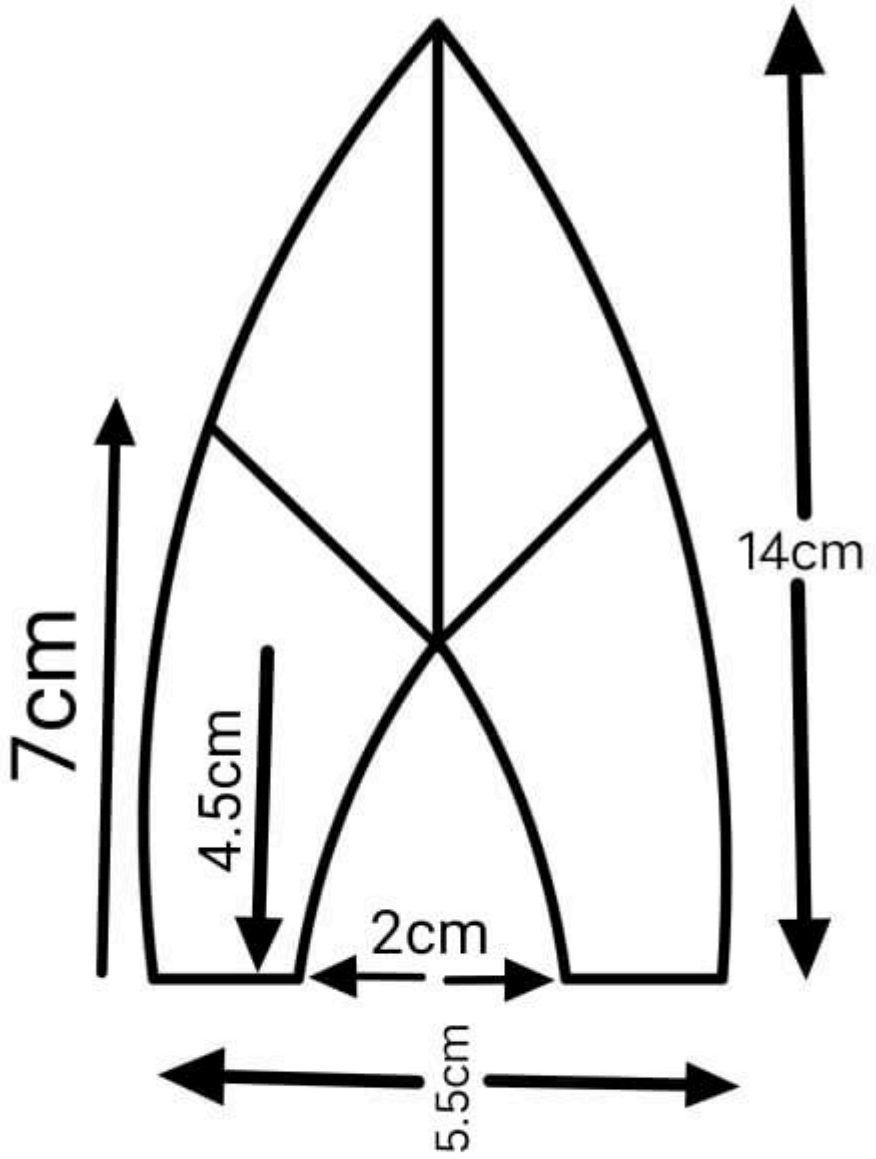


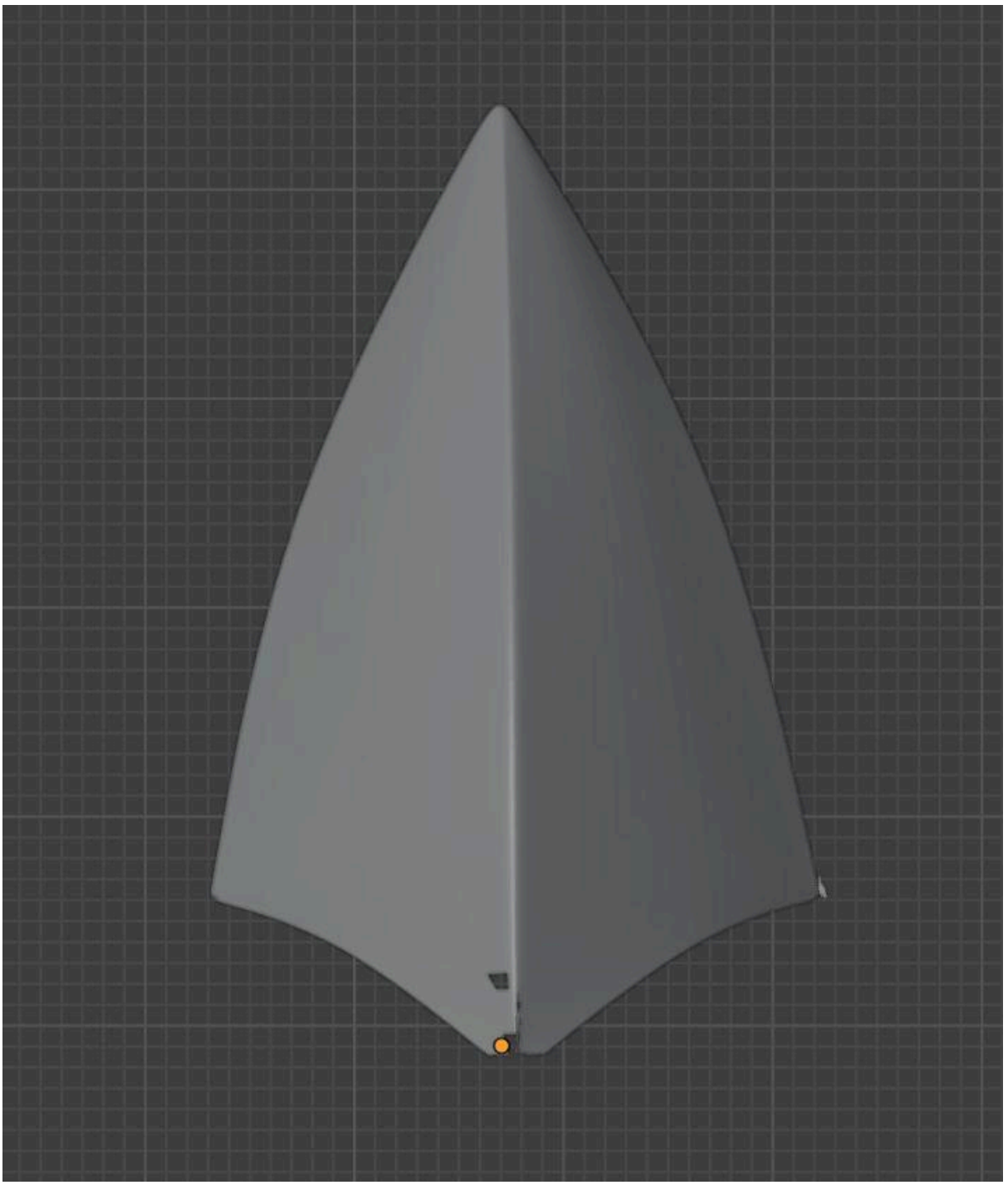
2. Second largest Petal

Material: Galvanized Iron Sheet

Process: cutting, bending, riveting

Quantity: 9



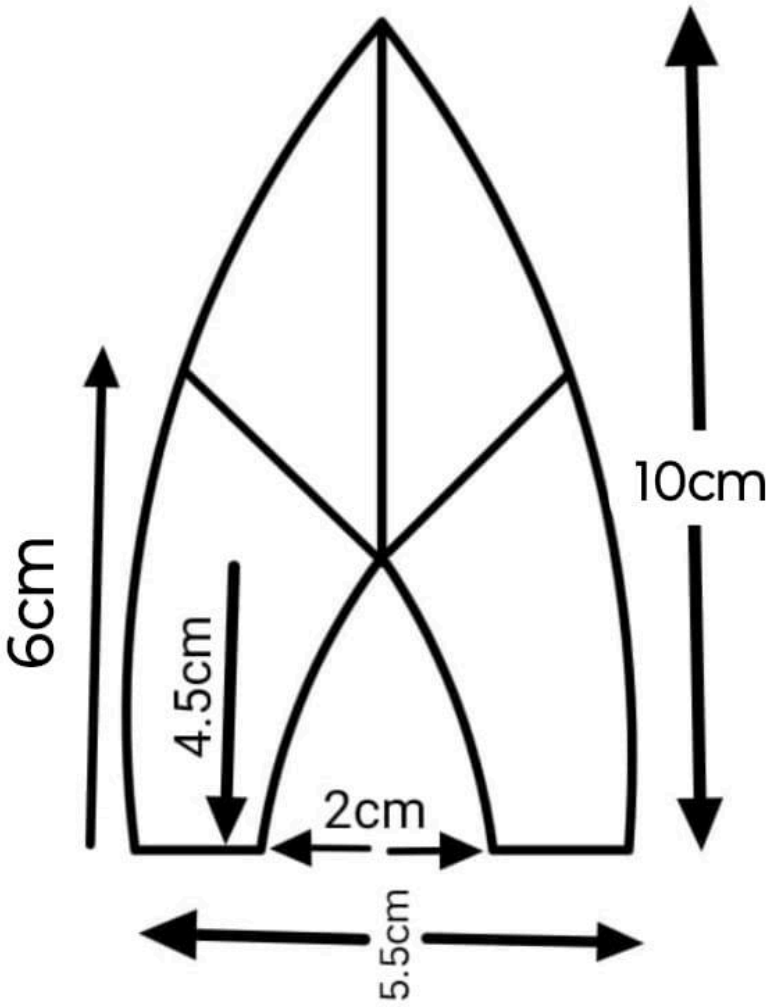


3. Smallest Petal

Material: Galvanized Iron Sheet

Process: cutting, bending, riveting

Quantity: 9

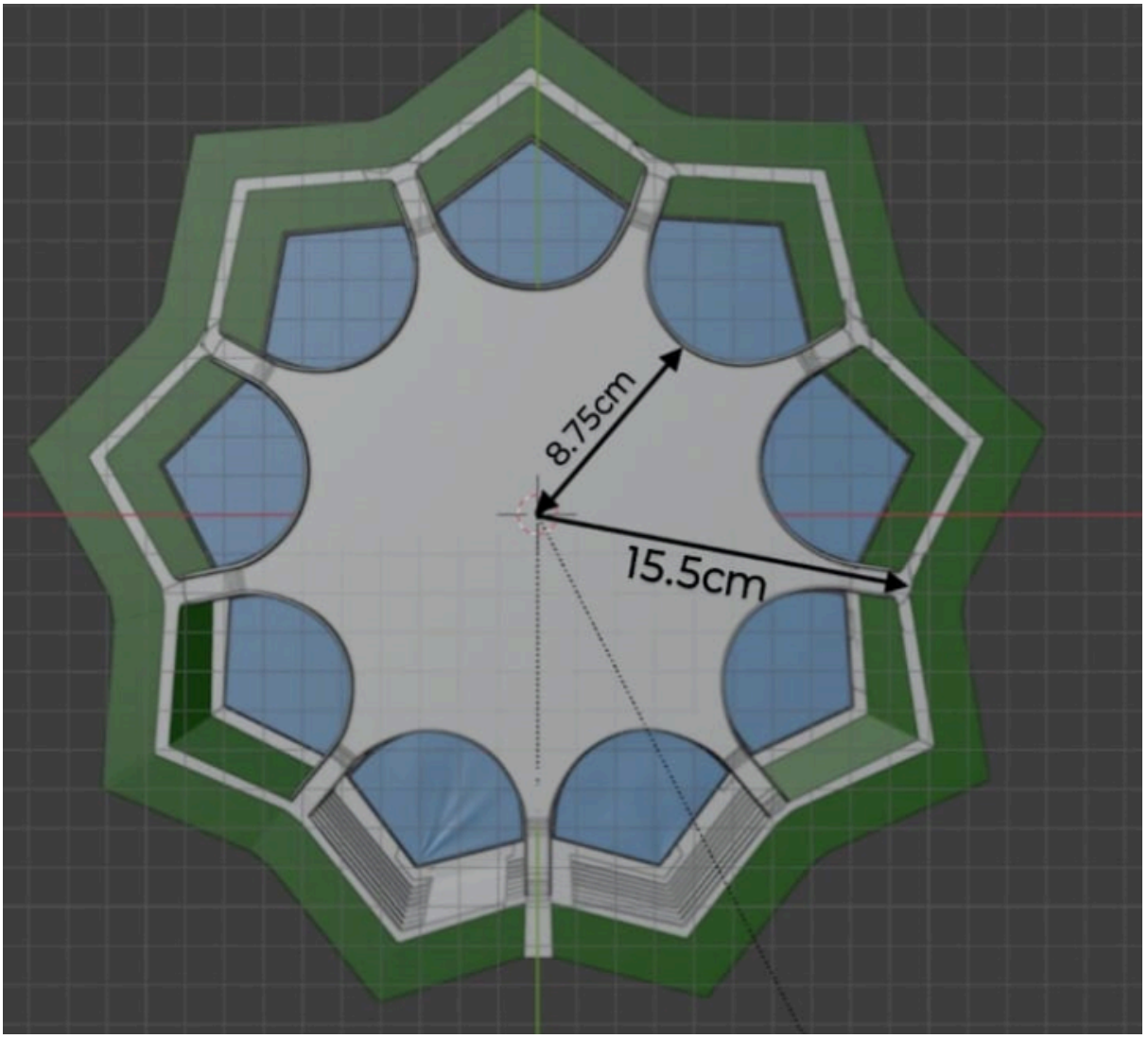


4. Upper Platform

Material: Galvanized Iron Sheet

Process: cutting, riveting

Quantity: 1

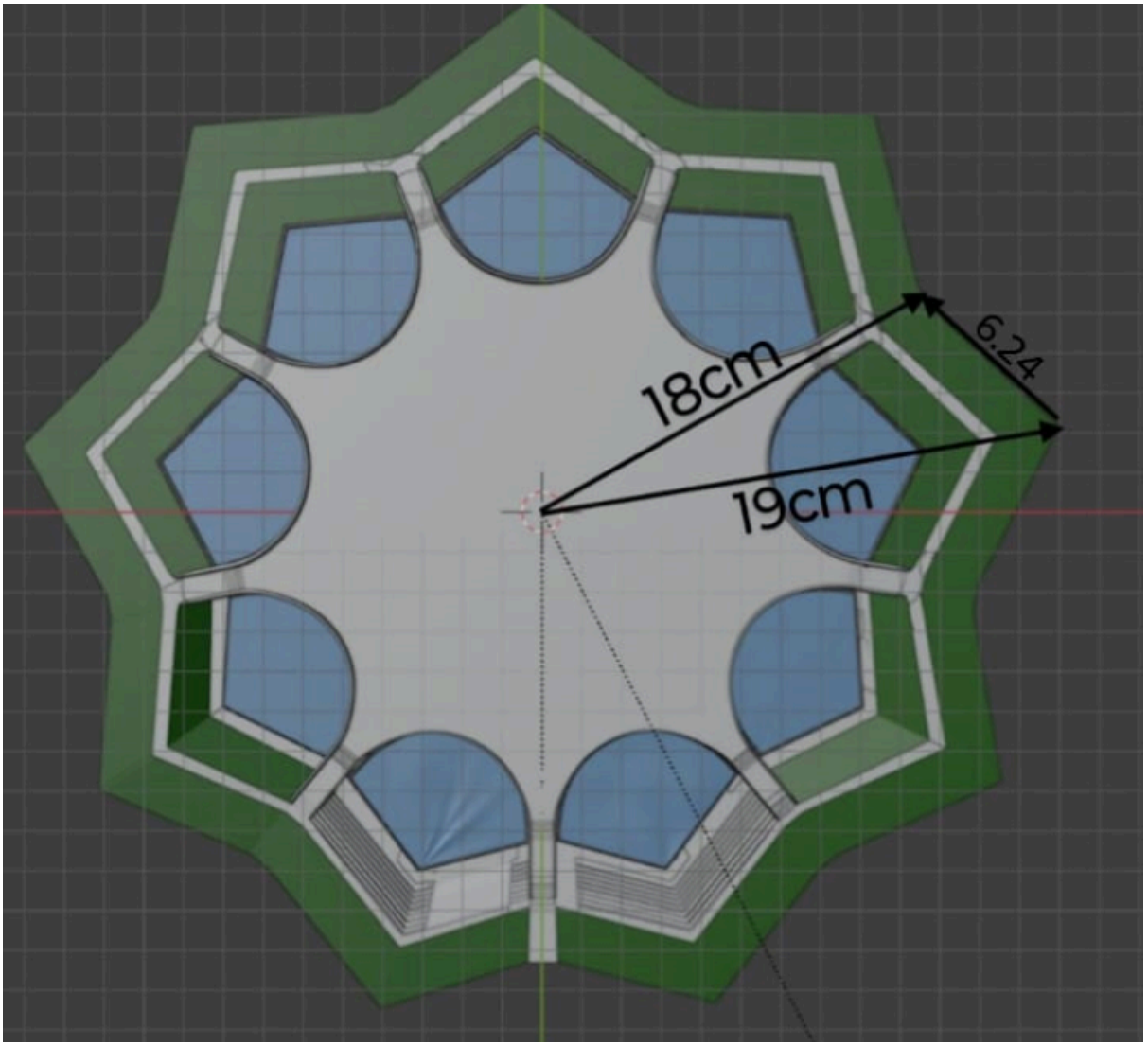


5. Lower Platform

Material: Galvanized Iron Sheet

Process: cutting

Quantity: 1


18cm
6.24
19cm