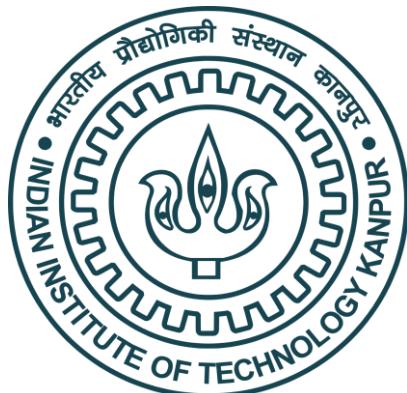


TA211 PROJECT/EVEN

INDIAN INSTITUTE OF TECHNOLOGY,

KANPUR



COURSE INSTRUCTOR: PROF.SHASHANK SHEKHAR

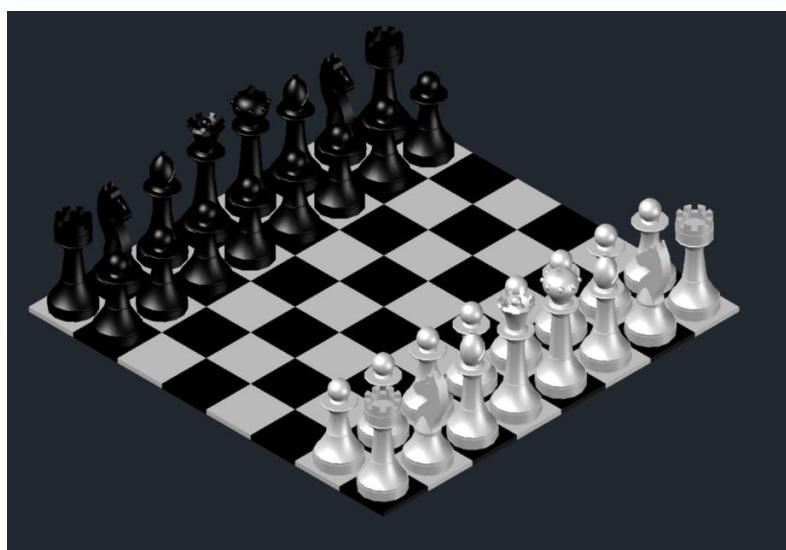
LAB IN-CHARGE: MR.ANIL KUMAR VERMA

COURSE IN-CHARGE: MR.I.P.SINGH

TUTOR:

PROJECT NAME: **THE CHESSMAKER**

GROUP NO.:**W6**



GROUP MEMBERS:

- 220761 SUKHADA PATIL
- 220801 PRANSHU THIRANI
- 220723 NISHANT MEENA
- 220736 NORAH SRIVASTAVA
- 220726 NISHKARSH KAUSHAL
- 220762 PAVI AGARWAL
- 220808 PRATHAM GARG
- 220786 PRAKHAR SRIVASTAV
- 220763 PAWAN DHAKAR

TABLE OF CONTENTS

CONTENTS	PAGE NO.
INTRODUCTION	3
MOTIVATION	4
ACKNOWLEDGEMENTS	5
WORK DISTRIBUTION	6
MATERIAL REQUIRED	7
MAIN ASSEMBLY	8
CHESS BOARD(BASE)	9
KING	10
QUEEN	11
BISHOP	12
KNIGHT	13
ROOK	14
PAWN	15

INTRODUCTION

- What's in a name?

Our project is named “**THE CHESSMAKER**”

MECHANISM:

We aspire to make a creative project named “**The Chessmaker**”. The mechanism to make the board and the chess-pieces using the manufacturing process learnt in the first five labs.

The process we apply to make the pieces:

Lost foam casting: Involves making the thermocol pieces of the design of the pieces and then cast it using lost foam casting using molasses sand.

For differentiating the pieces, we paint them with white and black paint.

Sheet Metal Forming: Half of the pieces will be made by sheet metal forming process.

Board: Using the process of riveting, we will make the base of chess board from metal sheet. And we differentiate the blocks using sketch pens.

MOTIVATION

We came across this idea while seeking inspiration for our TA211 project. In our opinion creating a chessboard involves a range of skills, including woodworking, metalworking, design, and craftsmanship. Engaging in such a project can be a practical way for us to develop and refine these skills. On this collective thought, we decided, that we will apply our **TA211** theory to make this image into concrete manifestation.

Captivated by the captivating image, we were curious about the tangible experience it could offer. This led us to embark on a small journey, exploring the physical reality of the concept to truly understand its essence.

ACKNOWLEDGMENTS

We are deeply grateful to MSE Laboratory In-charge, **Mr. Anil Kumar Verma**, Course In-charge **Mr. I. P. Singh** for their valuable and constructive suggestions during the planning and development of this project. Without their guidance and technical support, we would not have been able to complete this effortful task.

We would like to express our great appreciation towards all lab staffs for their constant supervision and encouragement which helped us in the completion of the project.

Special thanks to our TA's for giving us their valuable time. Overall we thank our Instructor **Prof. Shashank Shekhar** for providing us with this opportunity to learn and something valuable using different manufacturing processes.

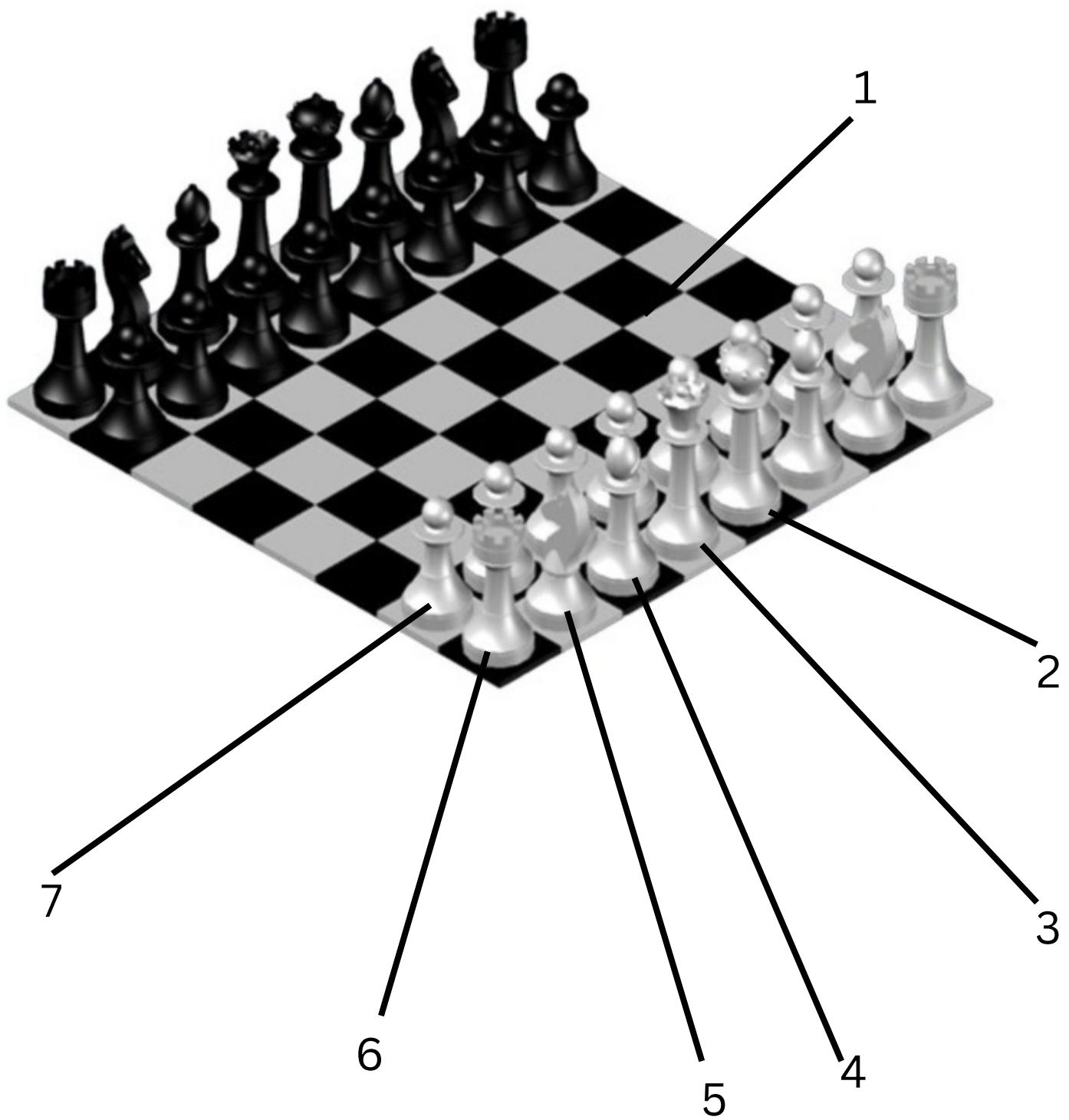
WORK DISTRIBUTION

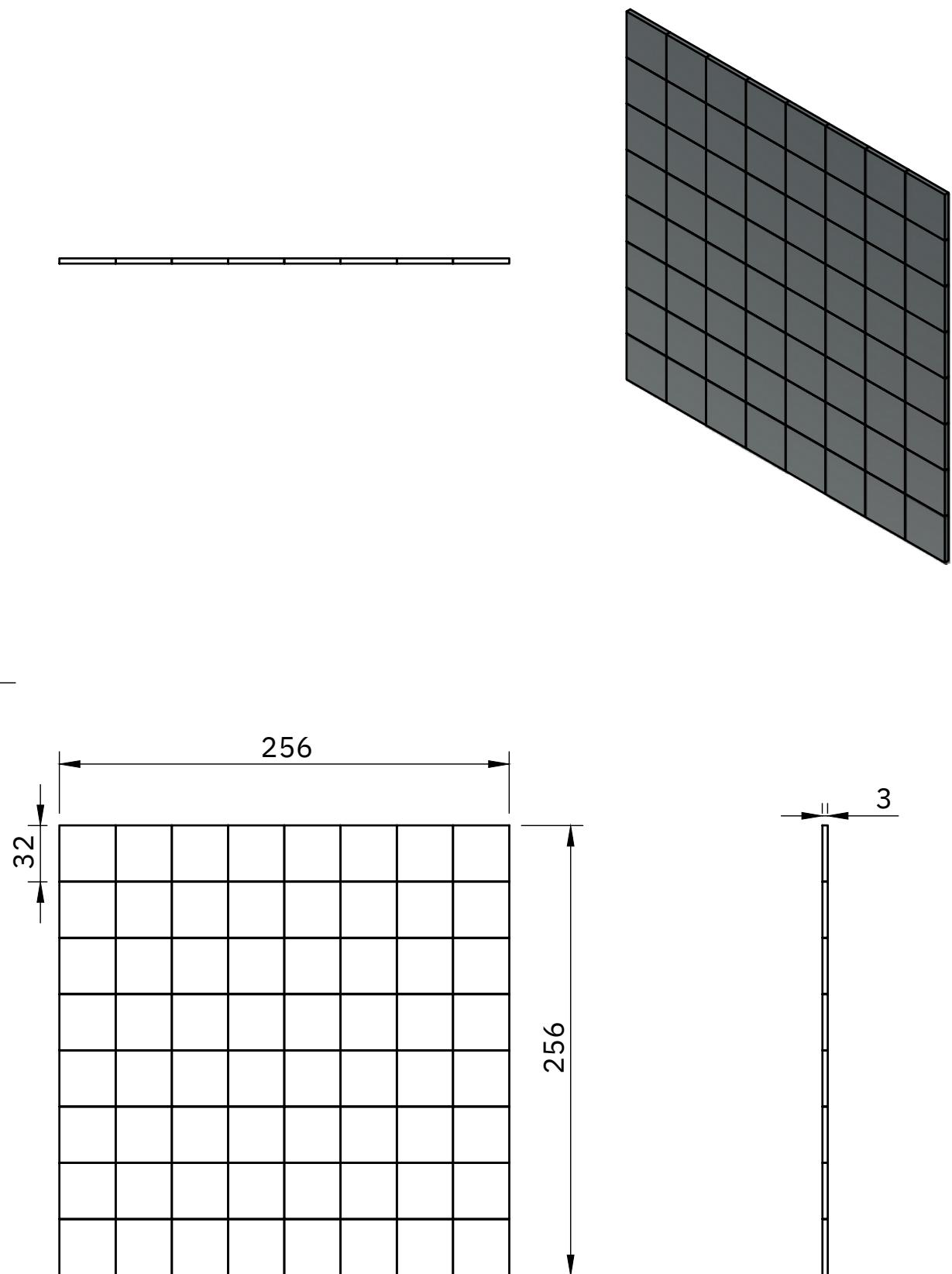
SUKHADA PATIL	Rook, Pawn	Finishing and assembly				
PRANSHU THIRANI	Queen, Pawn	Finishing and assembly				
NISHANT MEENA	Bishop, Pawn	Finishing and assembly				
NORAH SRIVASTAVA	Knight, Pawn	Finishing and assembly				
NISHKARSH KAUSHAL	Pawn, Chess board	Finishing and assembly				
PAVI AGARWAL	King, Pawn	Finishing and assembly				
PRATHAM GARG	Chess board base	Finishing and assembly				
PRAKHAR SRIVASTAV	Chess board base	Finishing and assembly				
PAWAN DHAKAD	Pawn, Chess board	Finishing and assembly				

MATERIAL REQUIRED

SR.NO.	PART NAME	MATERIAL	DIMENSION	QUANTITY
1	CHESS BOARD	METAL SHEET	256mm x 256mm x 3mm	1
2	KING	ALUMINIUM, SHEET METAL FORMING	25mm dia, 45mm high	2
3	QUEEN	ALUMINIUM, SHEET METAL FORMING	20mm dia, 40mm high	2
4	BISHOP	ALUMINIUM, SHEET METAL FORMING	16.45mm dia, 36mm high	2
5	KNIGHT	ALUMINIUM, SHEET METAL FORMING	17.5mm dia, 32mm high	2
6	ROOK	ALUMINIUM, SHEET METAL FORMING	20mm dia, 32mm high	2
7	PAWN	ALUMINIUM, SHEET METAL FORMING	15mm dia, 24mm high	16

FULL ASSEMBLY





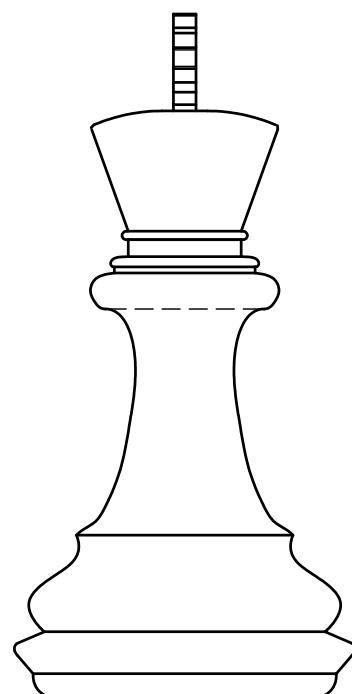
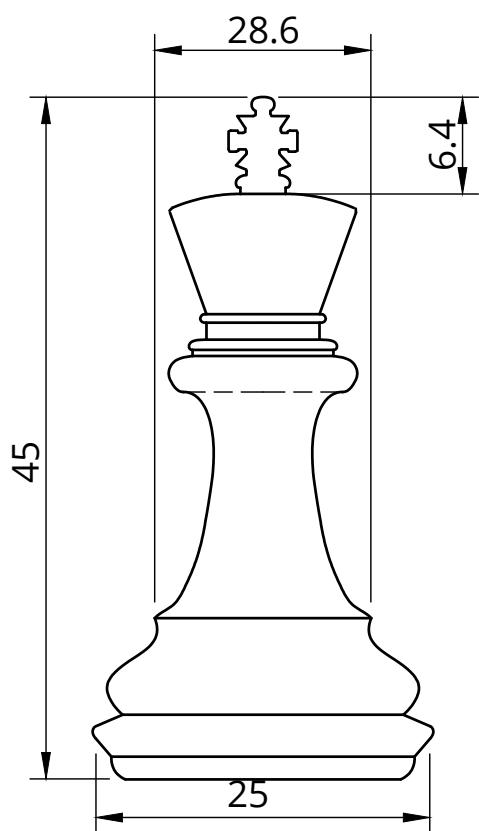
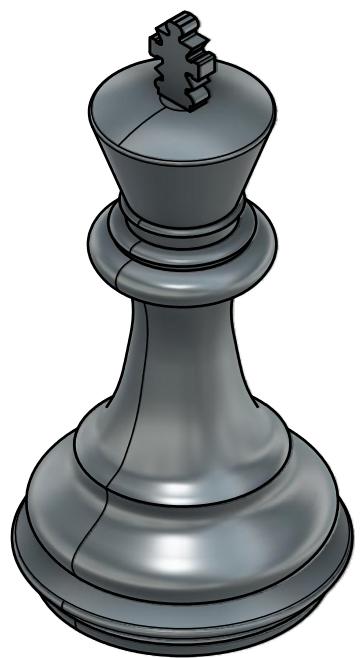
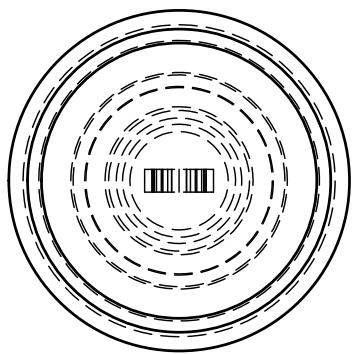
Part no.:1

Part Name:Chess Board(base)

Made By:Pratham

Process Applied:Ravetting,Sheet metal forming

Quantity:1



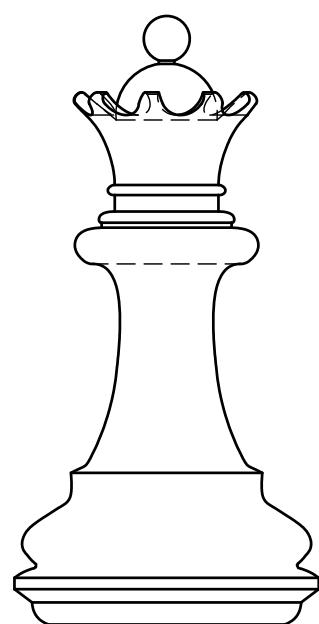
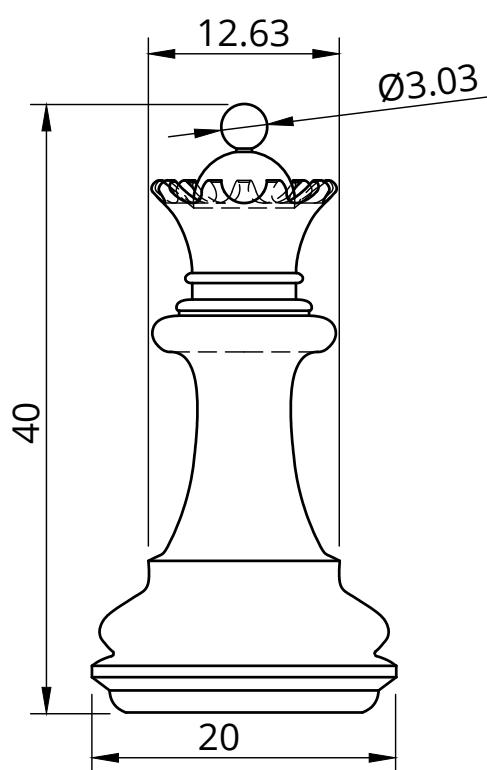
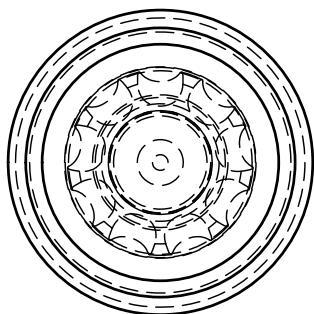
Part no.:2

Part Name:King

Made By:Pavi

Process Applied:Lost Foam Casting,sheet metal forming:

Quantity:2



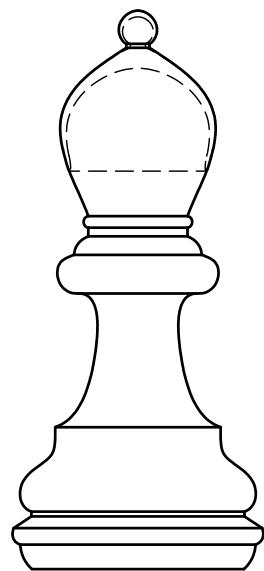
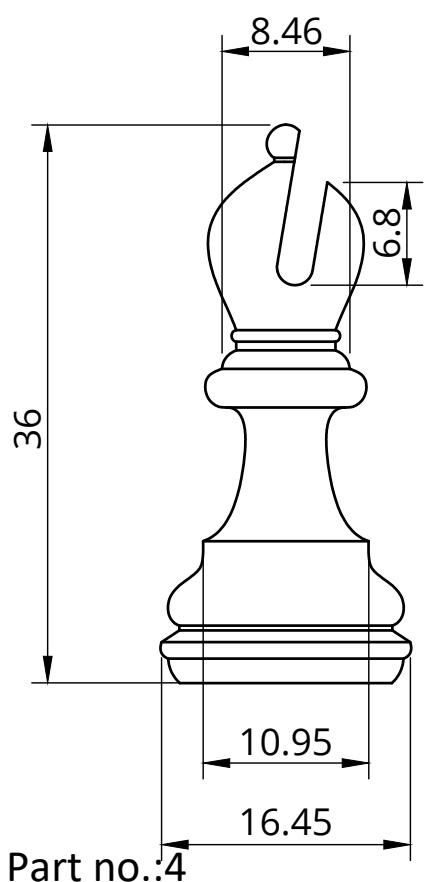
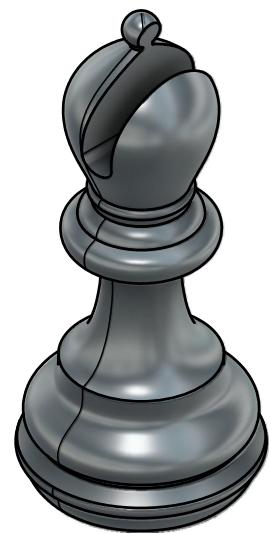
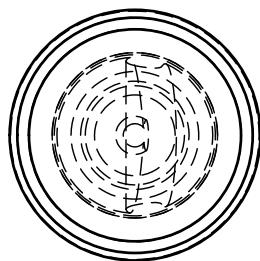
Part no.:3

Part Name:Queen

Made By:Pranshu

Process Applied:Lost Foam Casting,sheet metal forming:

Quantity:2

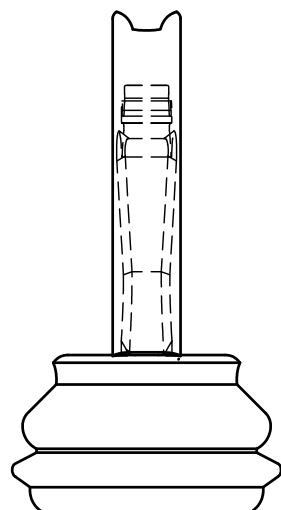
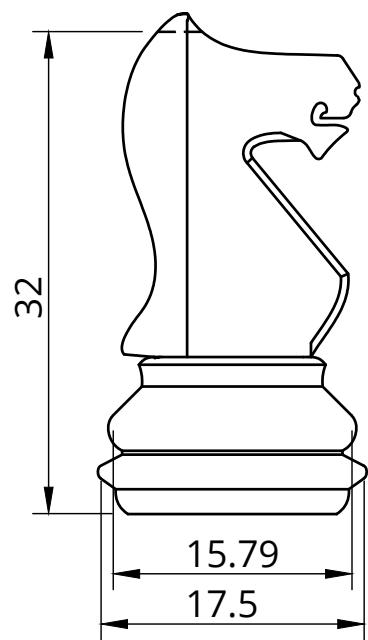
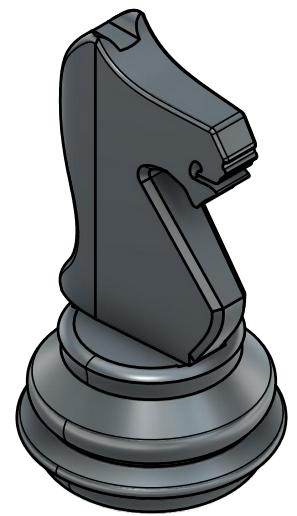
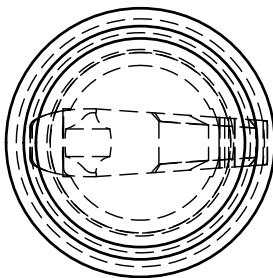


Part Name:Bishop

Made By:Nishant

Process Applied:Lost Foam Casting,sheet metal forming

Quantity:2



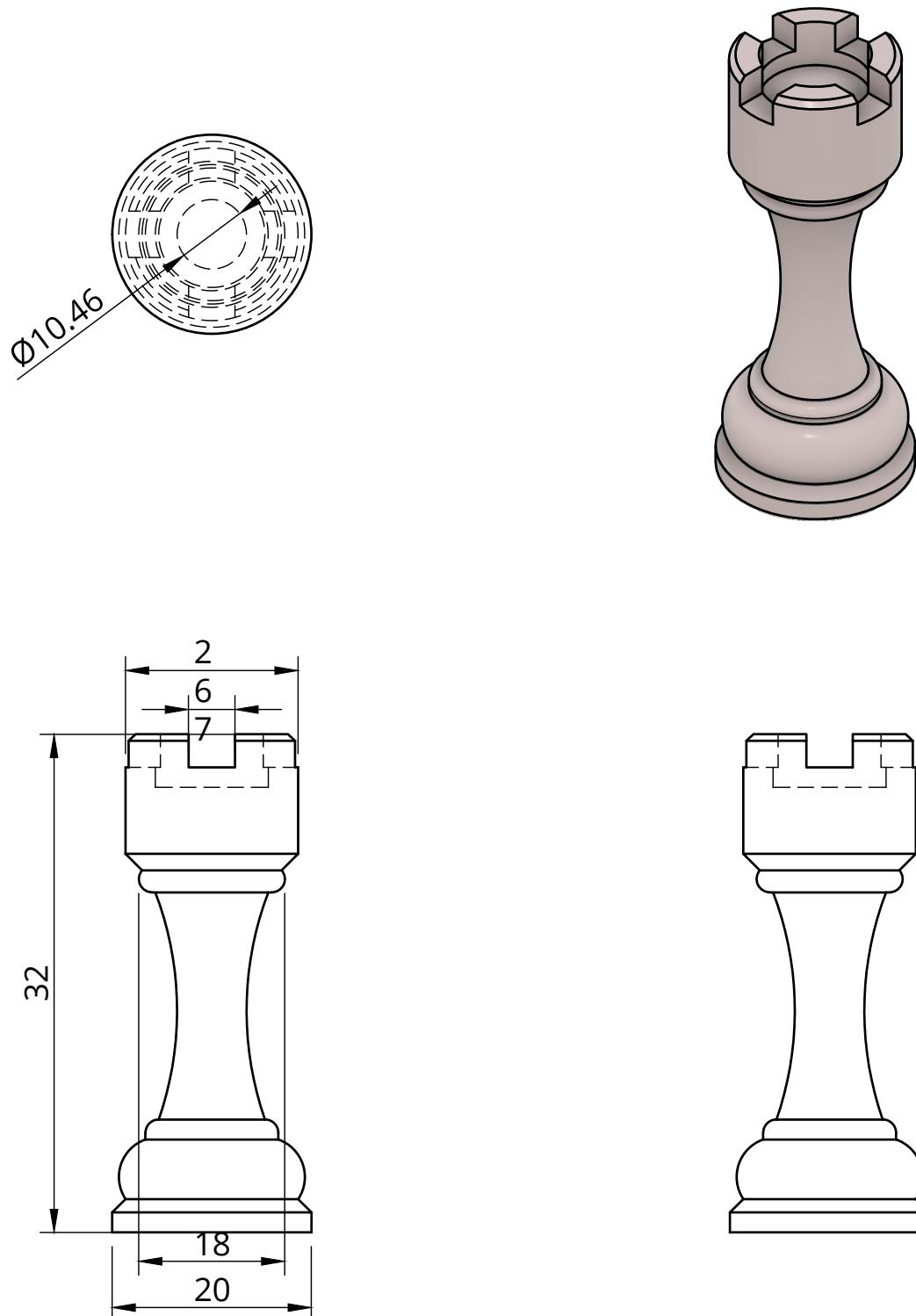
Part no.:5

Part Name:Knight

Made By:Norah

Process Applied:Lost Foam Casting,sheet metal forming:

Quantity:2



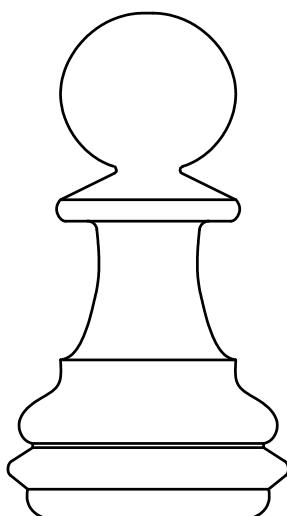
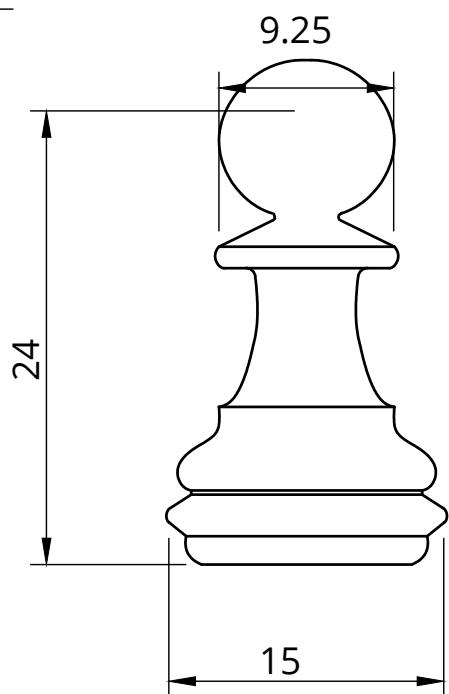
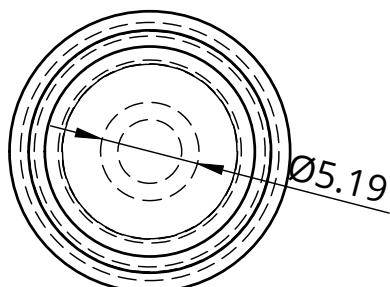
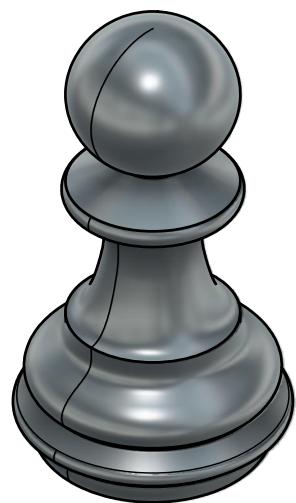
Part no.:6

Part Name:Rook

Made By:Sukhada

Process Applied:Lost Foam Casting,sheet metal forming:

Quantity:2



Part no.:7

Part Name:Pawn

Made By:Nishkarsh

Process Applied:Lost Foam Casting,sheet metal forming:

Quantity:16