DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

UNIVERSITY OF MORATUWA

EN2160 - Electronic Design Realization

Report - Conceptual Design Part

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Index: 200489H

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List of Members contributed to the Design driven Innovation.

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200529H	RATHNASEKARA T S
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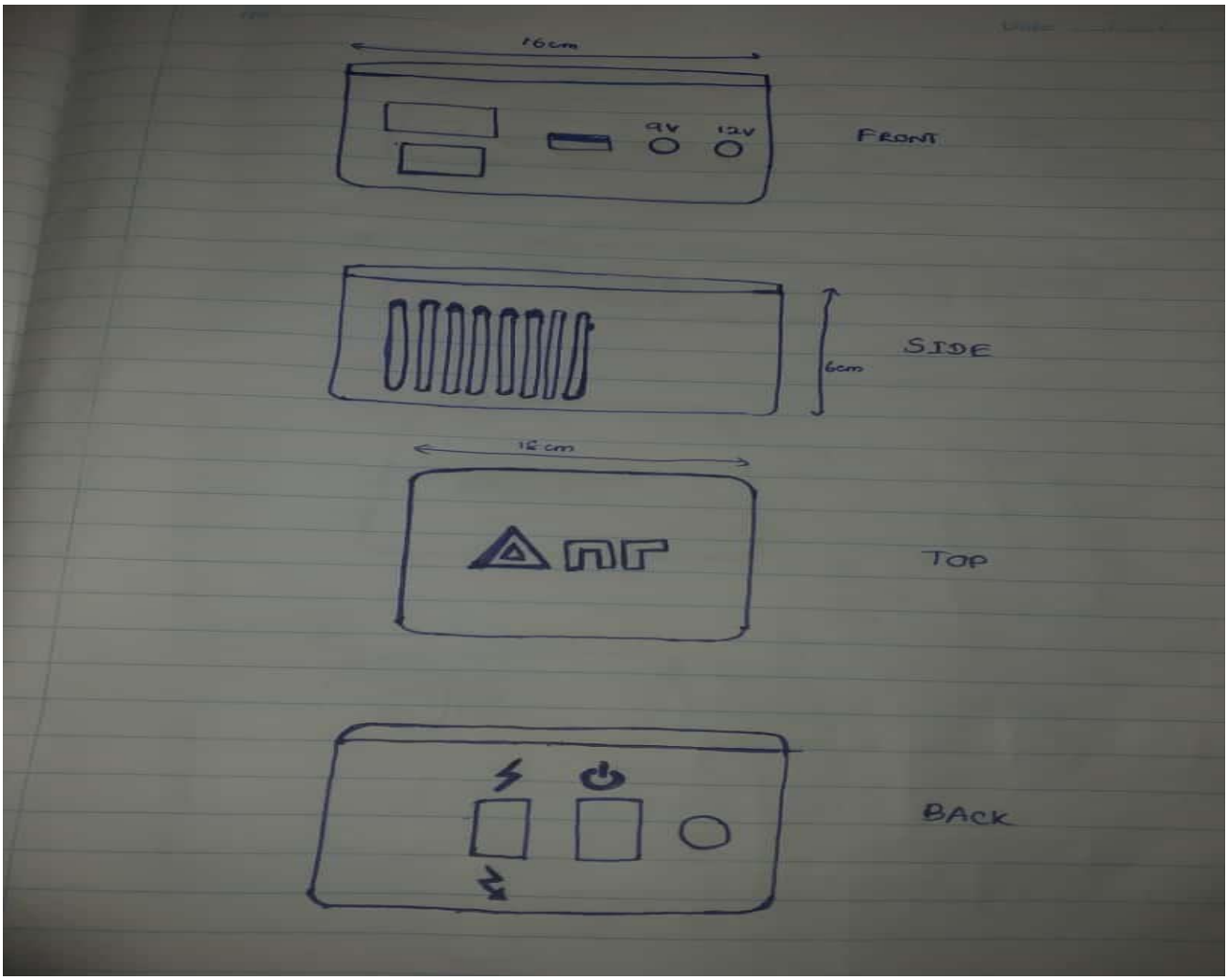
200306X	Kishokkumar R.
200095V	Croos J.J.S.E.
200685F	Viruthshan V.

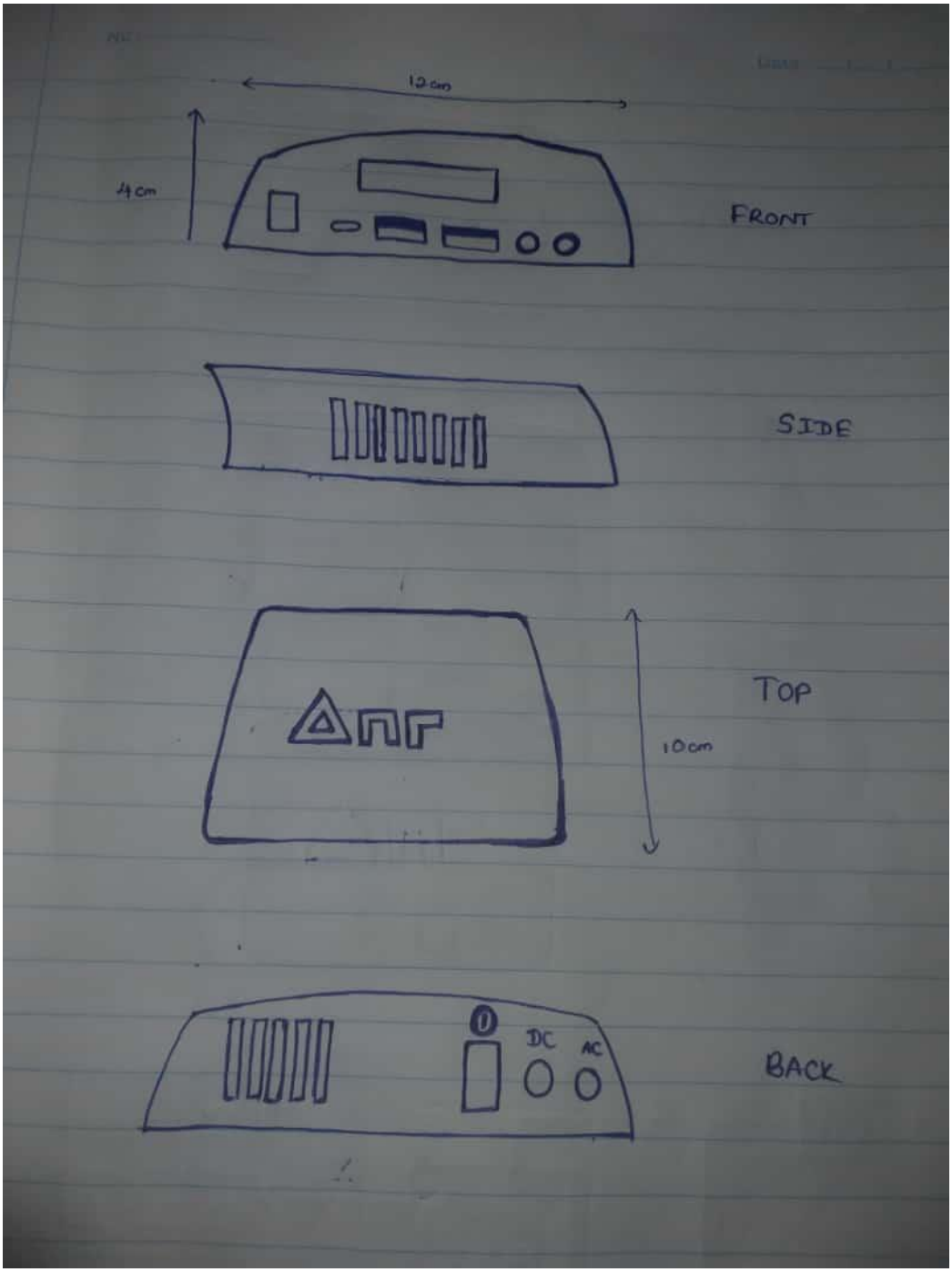
Hand Sketches for Enclosure Designs Suggested.

Three designs have been chosen for evaluation to find the most optimal solution among them after considering various design options.

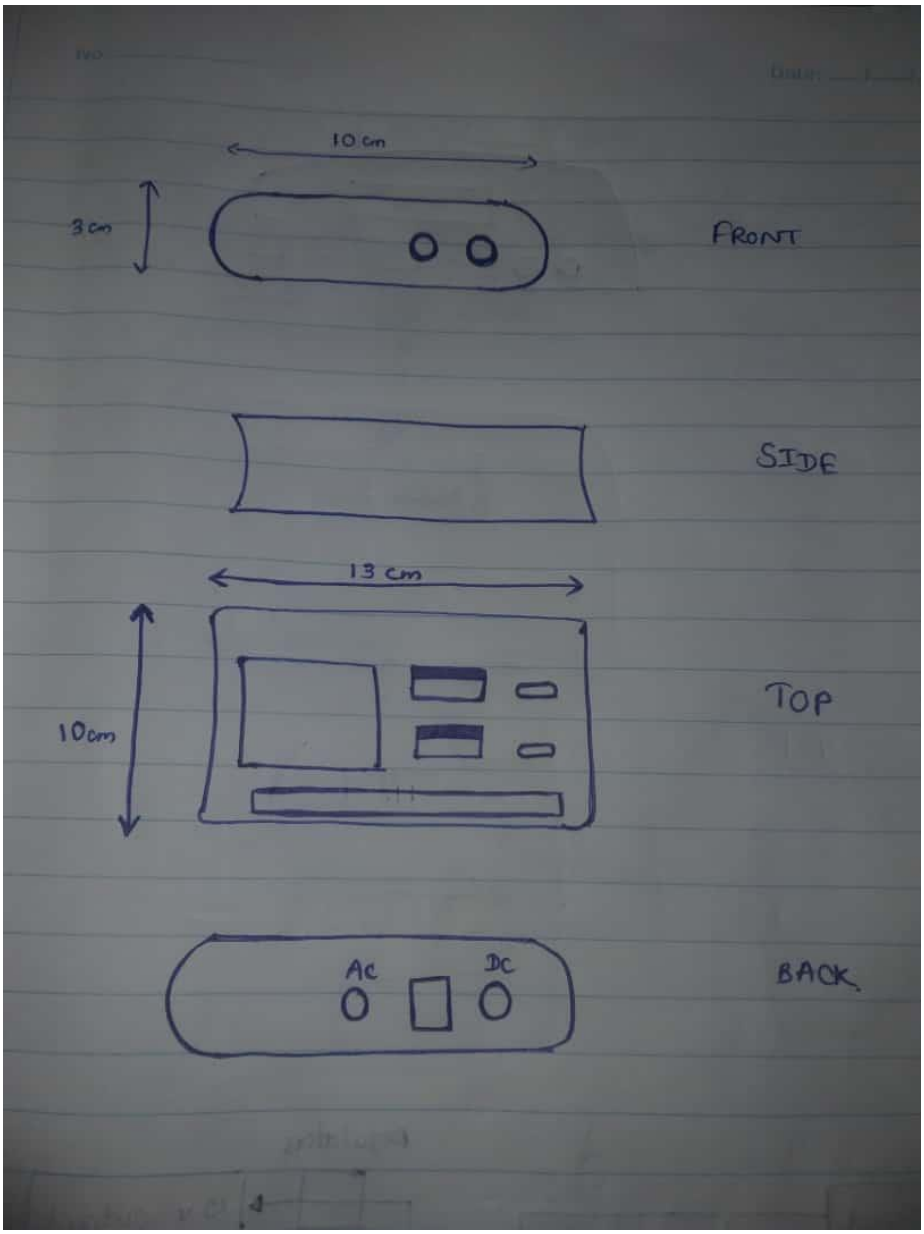
Design 1(INITIAL DESIGN)



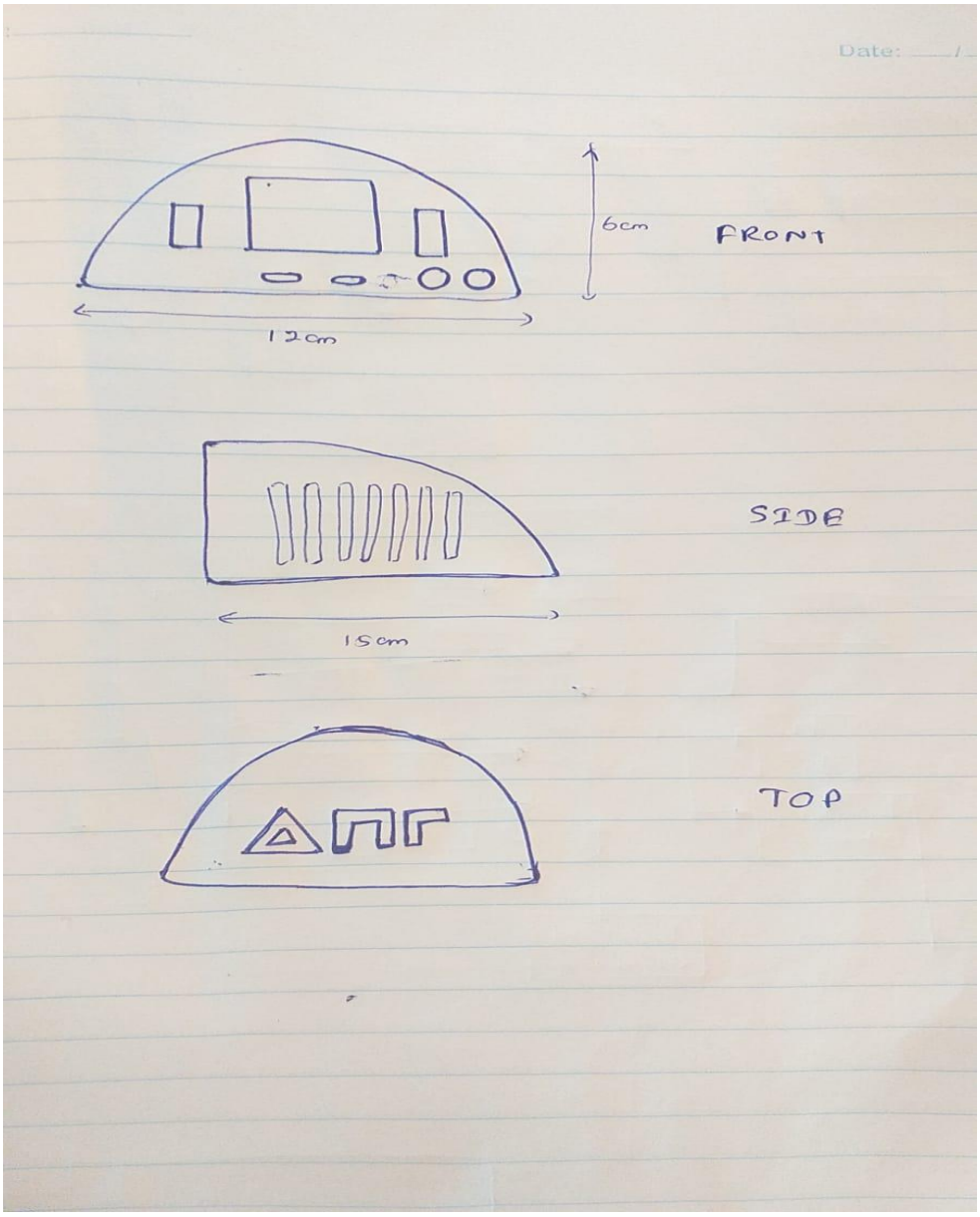
Design 2



Design 3



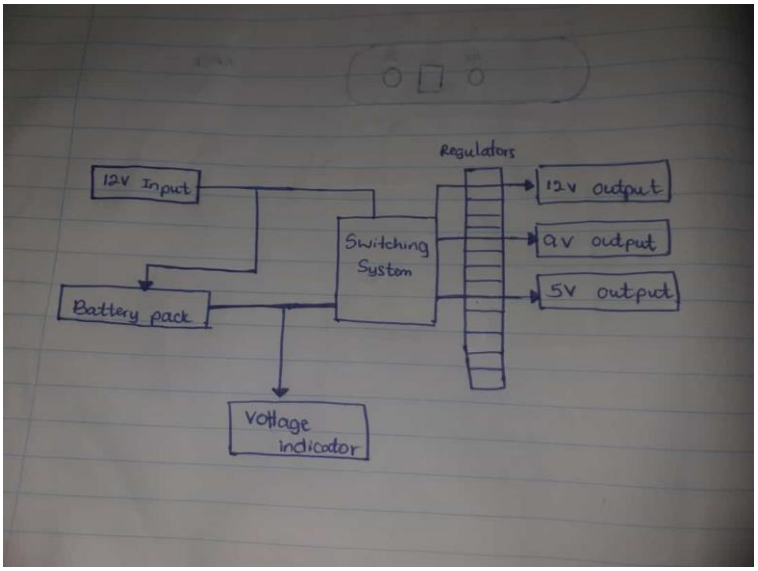
Design 4



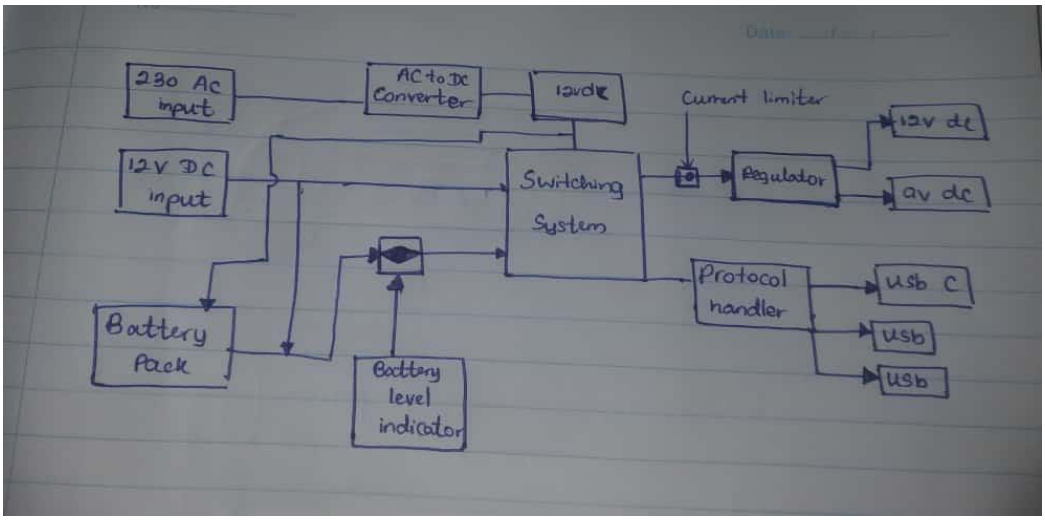
Block Diagrams for the Circuit design.

After having discussions with all members, we made our minds to have three functional diagrams as illustrated below.

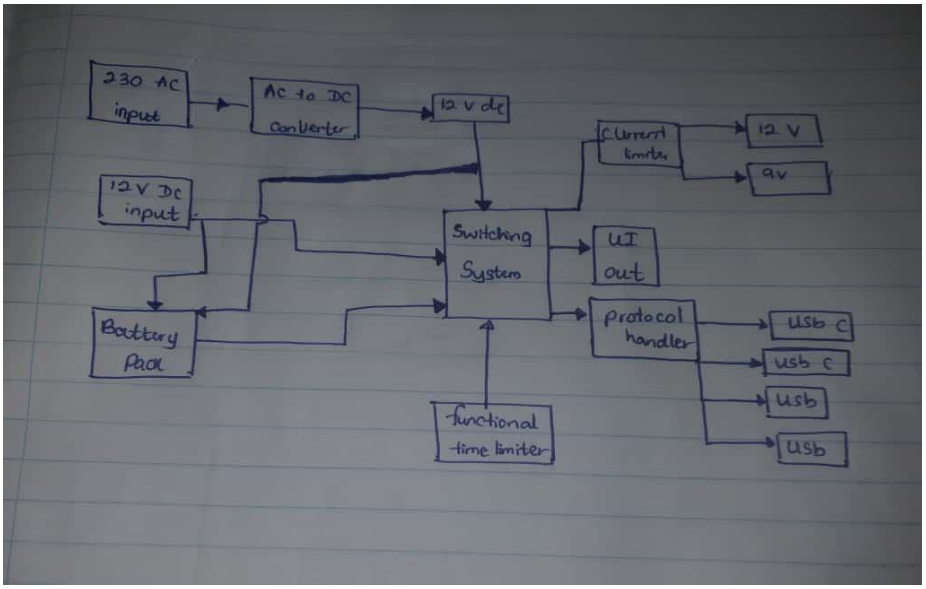
Design 1(INITIAL SKETCH)



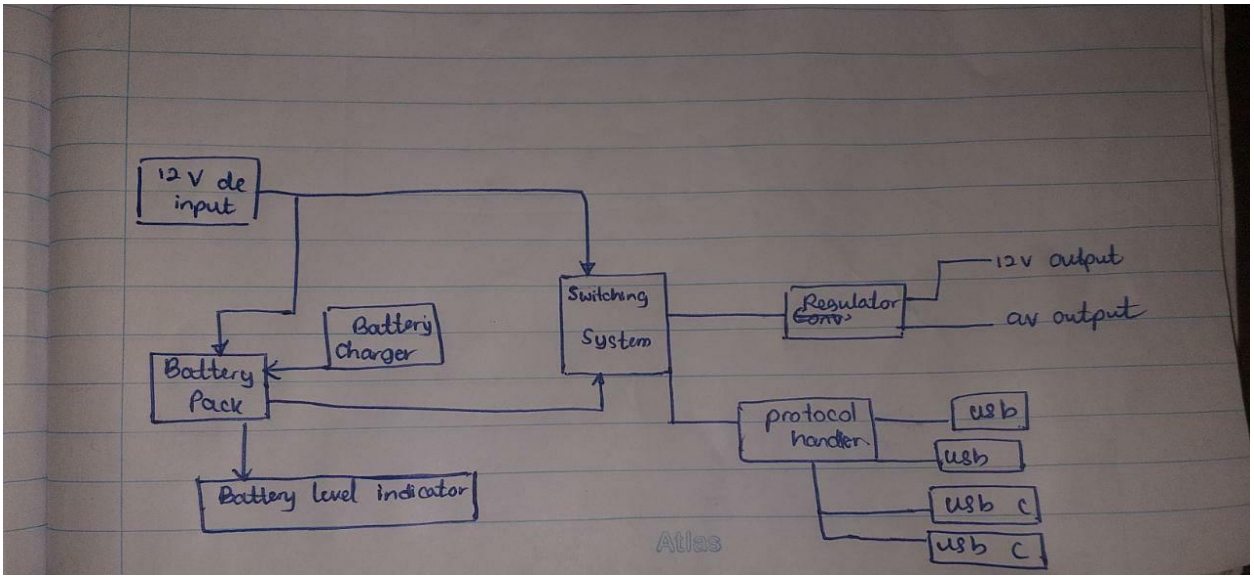
Design 2



Design 3



Design 4



Selection Matrices (giving Marks)

Evaluation Criteria for Enclosures

The following Table depicts the marks given for each point (out of **10.**)

Criteria	***Design 1***	***Design 2***	***Design 3***	***Design 4***
Cost	8	8	8	7
Durability	6	8	7	8
Aesthetic	5	9	6	8
Portability/Size/Weight	4	9	9	7
Material availability	8	8	8	8
Strength	9	7	7	8
Environmental friendliness	4	4	4	4
Complexity	8	7	7	7
	52	**60**	**56**	**58**

According to the above criteria we can see the 2nd design acquired the highest mark. Therefore, it is selected to move on to the next stage.

Evaluation Criteria for Circuit Design

The following Table depicts the marks given for each point (out of **10.**)

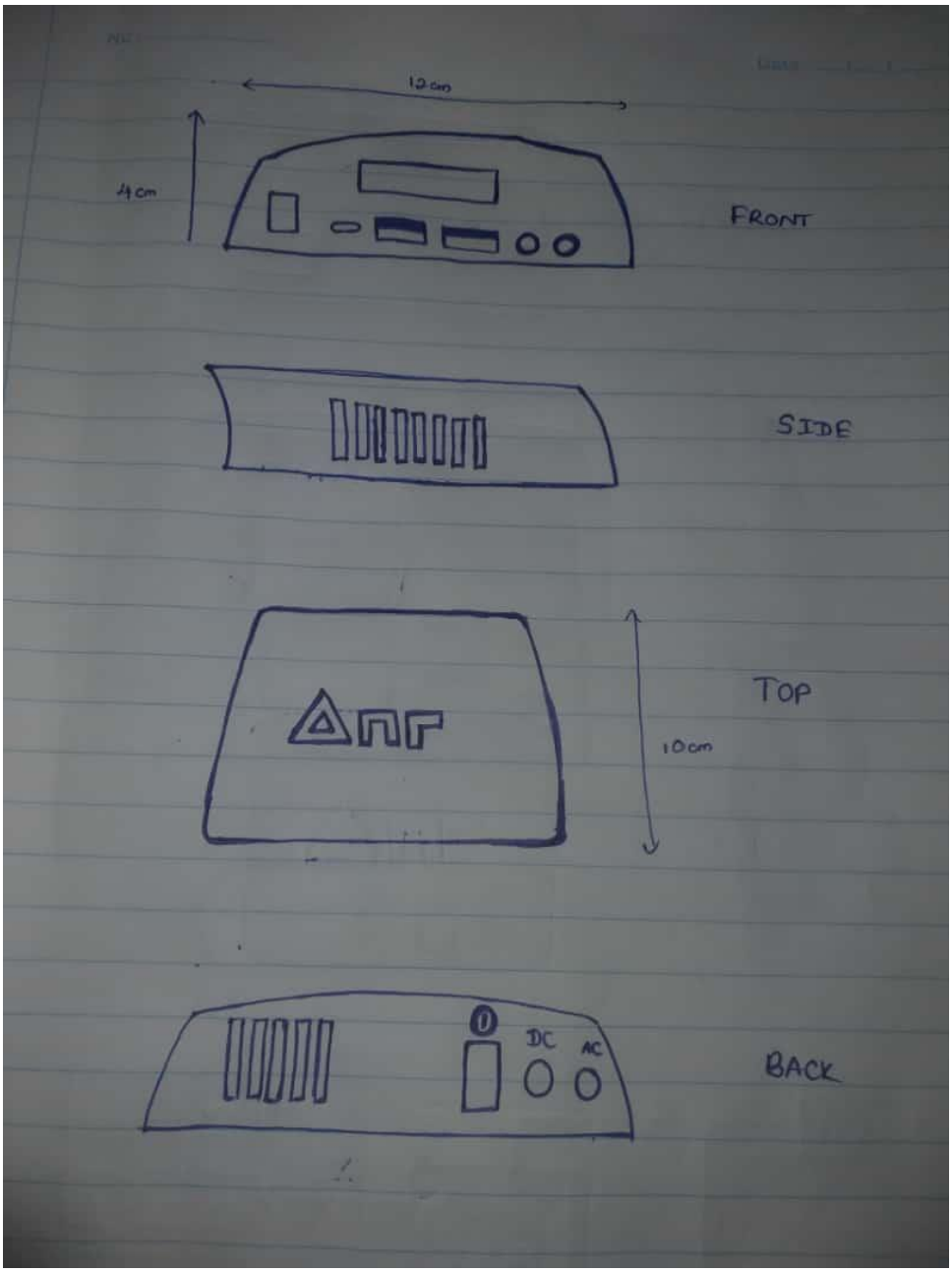
Criteria	***Design 1***	***Design 2***	***Design 3***	***Design 4***
Component availability	8	8	5	8
functionalities	5	8	9	6
Power consumption	8	8	6	8
Cost for components	9	8	5	9
Accuracy/Sensitivity/Range	8	8	8	8
Reliability	7	7	9	7
Complexity of the circuit	10	7	5	10
	55	**54**	**47**	**54**

According to the above criteria we can see the 1st design acquired the highest mark. Therefore, it is selected to move on to the next stage.

Selected Design

According to the above marks below diagram and the enclosure design is chosen.

Selected enclosure



Circuit design