

Question 3:-List down the product development phases

6 points

Question 4:-In product development what is Customer need analysis?

6 points

Question 5:-What are the major steps of reverse engineering? Define each step briefly?

12 points

Question 6:-For the digital satellite receiver bellow:

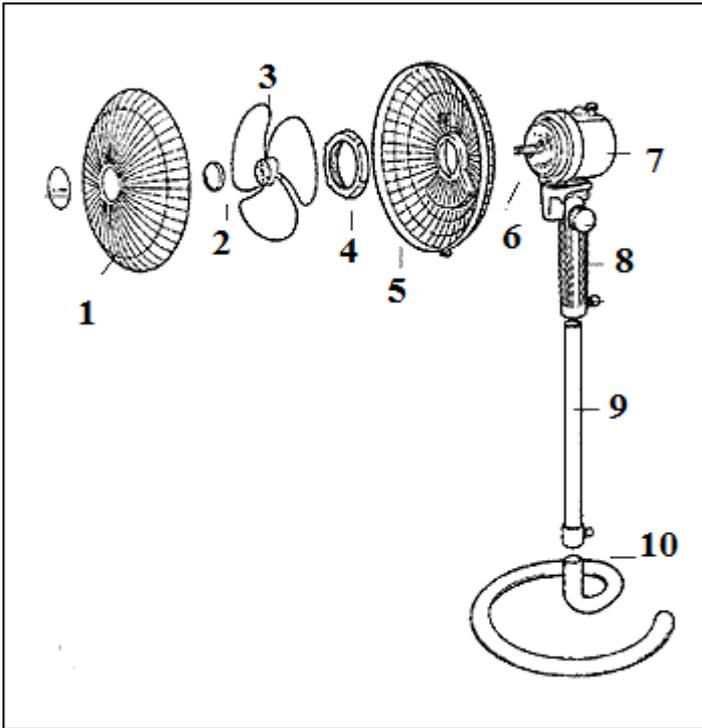
- 1- Draw the black box model and determine the input and output of the system
- 2- Develop a FAST diagram for receiver.

25 points



Question 7: Given the following exploded view of fan build a single level BOM that describe the parts 1 to 10 with integrated SOP description.

20 points



Question 8:- For the house of Quality diagram bellow for Power Screwdriver answer the following question.

10 points

	Relative importan	Low weight of SD	Geometry of chuck	Few componenets	Battery capacity	Speed of spindle	Power Base PB36
The SD allows one-hand grip	4	●	○	○			4
The SD can access narrow areas	2		●	○			3
The SD can be locked in order to use manually	2		●	●			1
The SD maintains power for several hours	4				●		1
The SD drives screws faster than by hand	5		○	○		●	2
Technical difficulty	4	3	2	3	2		
Measurment units	kg	m	nr	min	rpm		
Object target values	0,3	0,02	22	10	150		
Objective measures	0,4	na	na	3	140		

1- What is the most important Design requirement that should be improved with respect to customer requirement and market needs? Justify your answer

2- What is the Effect of Battery Capacity on the customer requirement "The SD allows one-hand grip"? Suggest a solution.