



**Quiz # 7 - Section XBG – Team # 7 - Grade = 3**

M	ID #	Name
1		
2		
3		
4		
5		
6		

**Design a Garbage Recycling Facility.**

For the design project stated above:

1. *From the morphological chart that you constructed in Quiz # 6, identify four potential design alternatives (by writing in four separate lines or shading the cells in four separate tables). 1 point*
2. *Construct the chart used in Pugh's method and fill all elements required in the chart. 1 point*
3. *Compare the design alternatives and identify the preferred design using Pugh's method. 1 point*

Functions	Means					
collects garbage	Garbage truck...	Recycling bins	Sanitary worker			
Recycles garbage	Makes new paper	Makes Wood-Plastic- composite (WPC)	Makes new cans	Makes new plastic	Makes new machines i.e. phones	Makes new tissue
Divided storage based on material	Plastic	paper	aluminum	Tetra pack		
Separates garbage	Paper centrifuge...	Different colored bins	magnet	robot		
Protects the environment	Sealed bins made of environmentally-friendly materials	Facility located away from residents...	Environment ally-friendly machines			



- *Alternative 1: gray (Recycling bins- Makes Wood-Plastic- composite (WPC) – Tetra pack – Paper centrifuge -Sealed bins made of environmentally-friendly materials).*
- *Alternative 2: turquoise (Garbage truck – makes new plastic – Plastic – Different Colored Bins – Facility located away from residents).*
- *Alternative 3: yellow (Sanitary worker - Makes new machines i.e. phones – aluminum – robot - Environmentally-friendly machines).*
- *Alternative 4: Pink (garbage truck – makes new tissue – paper - paper centrifuge – facility located away from residents).*

objective		weight	Alternatives			
			1	2	3	4
1. Fast recycling and productions.	<b>Trewind Recycling Factory in Jeddah</b>	<b>8</b>	<b>S</b>	+	-	<b>S</b>
2. Does not bother residents.		<b>7</b>	<b>S</b>	+	–	+
3. Does not consume a lot of energy and money.		<b>8</b>	+	–	–	+
4. Makes profit from recyclables.		<b>9</b>	<b>S</b>	–	–	–
<b>Total</b>			<b>8</b>	<b>-2</b>	<b>-32</b>	<b>6</b>

**Best Alternative is alternative 1 because it had the highest score which was 8.**