

Tutorial 4

Creativity- Generation of Design Concepts (a kind of mental activity)

1. A public transport system must be designed. There are several alternatives:
 - a. Power: electric, diesel, gas turbine.
 - b. Medium: underground, ground, overhead.
 - c. Support: rail, tires.Use morphological analysis (problem-solving) technique, organize and discuss the design alternatives.
2. The high temperature and the sunny days in Riyadh have increased the desirability to protect the car interior from the heat. Develop several design concepts to automatically cover the car.
3. Design a machine for shoe shine.
Formulate the problem, generate several concepts and then evaluate these concepts.
4. A need is perceived (apparent) for a “device to remove dust from carpets at home”, generate several concepts and comment on them
5. Provide several concepts for a device which will retrieve (get back) tennis balls from the other side of the court while you practice your serve.
6. You are an engineer with a local transit authority and have been asked to design a system for automatically cleaning the external surfaces of its vehicles. Generate ideas for solving the design problem.