Electrical Power Engineering

By

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Syllabus

1. Introduction.
2. Fundamentals of electrical power engineering.
3. A.C and D.C power transmission.
4. A.C and D.C power distribution.
5. Interconnections of power systems.
6. Transmission and distribution system.
7. Substations and circuit breakers.

Cont.

8. • Overhead lines.
9. • Cable Systems.
10. • Transformers.
11. • Connection of "green-energy" generation to power systems.
12. • Protection of individuals, equipment and power system installations.
13. • Protective devices and insulation co-ordination.
14. • Generation of high voltage systems.

Cont.

15

- Natural Causes for over voltages.

16

- Overvoltages and insulation coordination.

17

- Earthing system.

Engineering Definition

What is Engineering?

Engineering is the application of math and science by which properties of matter and the sources of energy in nature are made useful.

Engineering Design Definition

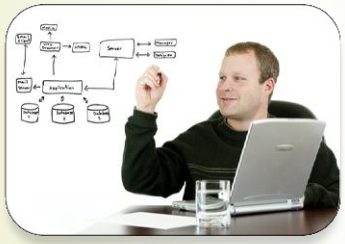
What is Design?

So, Engineering design is……

Applications & Examples

Why Engineering Design?

Betterment of society through



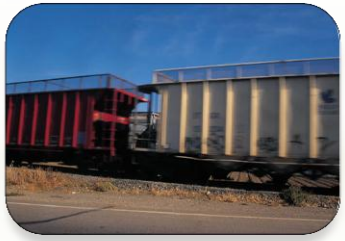
Design

Manufacturing

Research & Development

Management

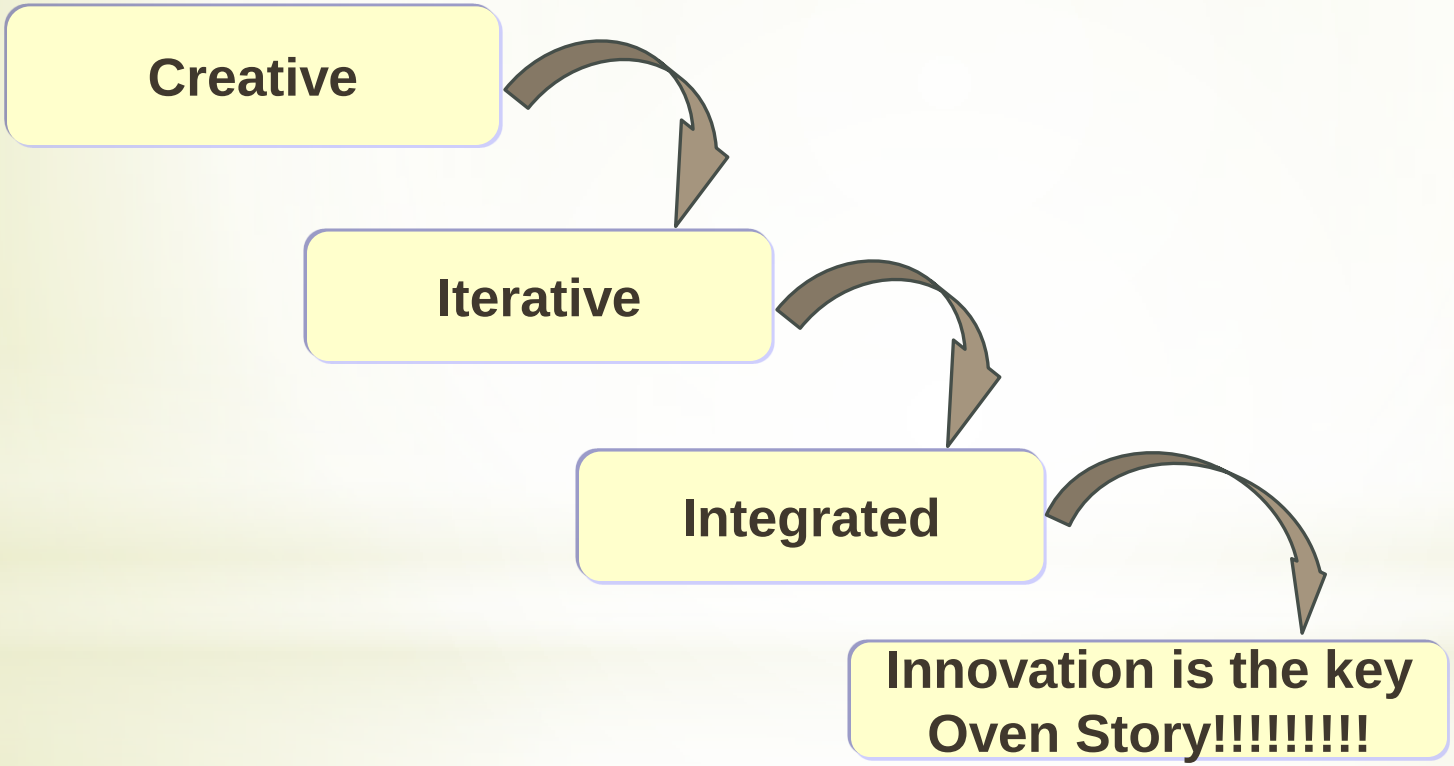
Continual Improvement



Logistics

Engineer Definition

Who is Engineer?



So, Engineer is……

Engineering Process Cycle

The engineering process cycle is achieve by following 10 stages.

1-Identify the problem/product innovation

2-Define the working criteria/goals

3-Research and gather data

4-Brainstorm / generate creative ideas

5-Analyze potential solutions

Engineering Process Cycle

6-Develop and test models.

7-Make the decision.

8-Communication and specify.

9-Implement and commercialize.

10-Perform post-implementation review and assessment.

Thank You
For Your Attention

Mohamed Ahmed Ebrahim