SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF MECHANICAL ENGINEERING

19GET201 –PROFESSIONAL ETHICS & HUMAN VALUES

IV YEAR VII SEM

UNIT 2 –ENGINEERING AS SOCIAL EXPERIMENTATION

TOPIC –Balanced Outlook on Law

WHAT IS BALANCED OUTLOOK ON LAW?

Let's start with the first question

Review

- Engineering as social experimentation
- Engineers as social experimenters
- Responsibilities as experimenters
- Codes of Ethics
- Importance of Codes of Ethics
- Important roles of Codes of Ethics

What is Balanced Outlook on Law?

- The necessity of laws and regulations and the limitations they have in engineering practice can be understood with an overview of the laws in the Engineering profession
- To live in harmony in the society, one should learn to maintain a balance between individual needs and collective needs of the society
- Laws are important as the people are not completely responsible and because of the competitive nature of the free enterprise system which does not encourage moral initiative

Babylon's Building Code (1758 BC)

This code was set by Hammurabi, king of Babylon. It aimed at the builders of his time wherein, they were forced to follow the code by law. He ordered them

Babylon's Building Code (1758 BC)

- "If a builder has built a house for a man and has not made his work sound, and the house which he has built was fallen down and so caused the death of the householder, that builder shall be put to death
- If it causes the death of the house holder's son, they shall put that builder's son to death
- If it causes the death of the house holder's slave, he shall give slave to the householder

Babylon's Building Code (1758 BC)

- If it destroys property, he shall replace anything it has destroyed; and because he has not made the house sound which he has built and it has fallen down, he shall rebuild the house which has fallen down from his own property

- If a builder has built a house for a man and does not make his work perfect and the wall bulges, that builder shall put that wall into sound condition at his own cost"

The United States Steamboat Code (1852 AD)

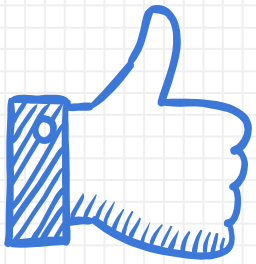
- The steam engines used for travel during those days were really heavy and bulky. James Watt who invented steam engine worked with two more scientists Oliver Evans and Richard Trevithick who had modified the old steam engines by removing condensers and made them compact.

- These redesigned engines though made lighter, couldn't solve the problem of boiler explosions. The speed of the boats if increased led to the explosion of the boilers on steam boats causing disasters. Then Alfred Guthrie, an engineer of Illinois had inspected found out the reasons for the boiler.

The Challenger Case study

The Challenger Case study

- The accident took place on 28th January 1986, due to the failure of one of the solid boosters
- n the post flight experiment in 1985, the Thiokol engineers noticed black soot and grease on the outside of the boosters due to the leakage of hot gases blown through the O-rings
- But unfortunately this new design was not ready by that time of flight in 1986
- President Regan appointed a commission called the Rogers Commission which constituted of many distinguished scientists and engineers
- The debacle highlights how lack of responsibility and morality, improper functions, and lax performance of duties of the engineers resulted in the failure of the launch



THANKS!

Any questions?

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