



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 ECE

19GET201 –PROFESSIONAL ETHICS AND HUMAN VALUES

IV YEAR VII SEM

UNIT 2 –ENGINEERING AS SOCIAL EXPERIMENTATION

TOPIC – Engineering as Social Experimentation & Codes of Ethics





WHAT IS ENGINEERING EXPERIMENTATION & CODES OF ETHICS?

Let's start with the first question



Review of Unit-1

X Senses of Engineering ethics

X Variety of moral issues & Types of inquiry

X Moral dilemmas & Moral autonomy

X Kolberg's theory & Gilligan's theory

X Consensus & Controversy and Professions & Professionalism

X professional ideals and virtues

X theories about right action

X self-interest – customs and religion – use of ethical theories.

What is Engineering?

X The process of engineering lets you go through a series of different experiments when it comes to practical use

X Though it is not like an experiment in laboratory under controlled conditions, which is done while learning, an engineer should be ready to do the same on a social scale involving human subjects



What is Experimentation?

X An engineer who is ought to design the parts of a car, will be able to understand the result only when it is tested practically

X Preliminary simulations are conducted from time to time to know how the new concept of engineering acts in its first rough design

X Materials and processes are tried out, usually employing formal experimental techniques

X Such tests serve as a basis, which help in developing the final product

Engineers as Experimenters

- X In the process of developing a product, an engineer generally learns through experimentation
- X To simply put, a trial and error method is the mostly used one to obtain results, but that goes with some calculations
- X Hence, we can say that, primarily any experiment is carried out with partial ignorance
- X Even the outcomes of the experiments may not be as expected
- X An engineer should always be ready for the unexpected output
- X The improvement of current prototype will lead to some change which may or may not be fruitful

Responsibility in Experimentation

- X To maintain the safety of human beings
- X To procure their rights of consent
- X To keep them aware regarding the experimental nature of the project
- X To warn them about the probable safety hazards
- X Should monitor the results of the experiment continuously
- X Having autonomy in conducting experiments
- X Accepting accountability for the results of the project
- X Exhibiting their technical competence and other characteristics of professionalism

Conscientiousness



X The ethics that an engineer should follow depends upon the moral standards of the individual

X Conscientiousness implies consciousness which means the sense of awareness and every engineer is expected to have some moral standards irrespective of the role he is performing



CONSCIOUSNESS

That annoying time between this nap and the next one.

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Conscientiousness



X The present working environment of engineers, narrow down their moral vision fully with the obligations accompanied with the status of the employee

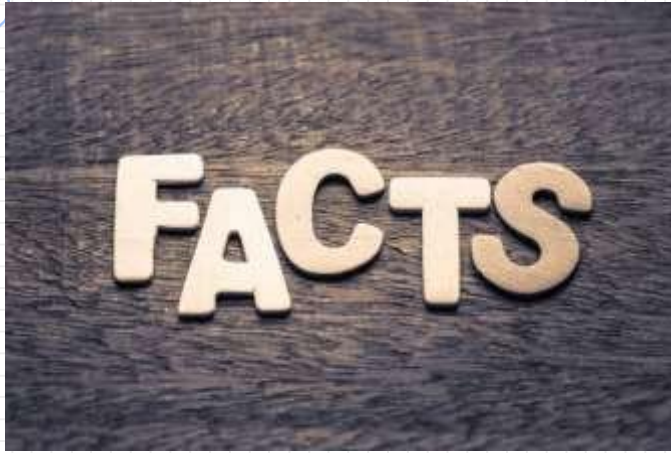
X But this might break the moral laws. Along with satisfying the employer's goals, by behaving as a responsible employee, by not doing any fraud, not breaking confidentiality and violating patent rights etc,

HOW TO STUMP A CORPORATE LAWYER



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Informed Consent



X As a responsible engineer, one should be informed of the facts so as to be conscious

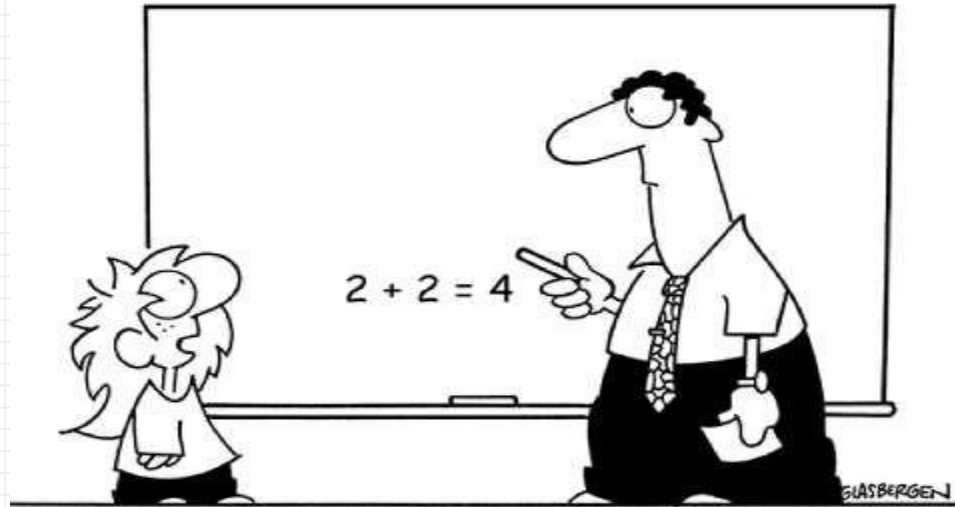
X The engineered products of the company should be in such a way that they can never be used to perform any illegal or unsocial activities, which causes destruction



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Informed Consent



“How can I trust your information when you’re using such outdated technology?”

XIt is to be observed that if a company produces some products that are out of fashion or the items which promote wastage of energy and do not fetch in benefits, such things are to be well explained to the employer and alternative solutions should also be suggested by the engineers

Moral Autonomy



X Moral beliefs and attitudes must be integrated into an individual's personality which leads to a committed action

X Any person can be morally autonomous only when one is being genuine in one's commitment towards moral values



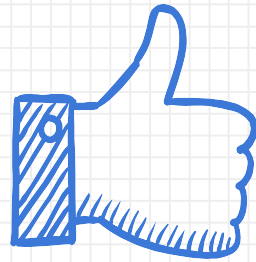
Moral Autonomy



X The responsibility to answer an unexpected result, influences an engineer to involve himself personally into the work



X This leads to moral autonomy wherein, he also gains the trust of the employer, through his commitment. Such responsible actions lead to great outcomes



THANKS!

Any questions?