



SNS COLLEGE OF ENGINEERING

Coimbatore-107



19GE701 - PROFESSIONAL ETHICS IN ENGINEERING

UNIT-1

ENGINEERING ETHICS



SENSES OF ETHICS



- **Ethics is an activity of**
 - **Understanding the moral values**
 - **Resolve the moral issues**
 - **Justify the moral judgment**
- **Ethics refers to a set of beliefs, attitudes, and habits that a person or group displays Concerning morality.**
- **Ethics is a purely factual matter about explaining beliefs and actions related to morality.**
- **Ethics refers to being “morally correct”**
 - **People’s action can be spoken as “ethical” or**
 - **“unethical”**
 - **Individuals can be evaluated as “ethical” or**
 - **“unethical”**



MORALITY



- Morality is concerned with **principles and practices of morals** such as:
 - + What ought or ought not to be done in a given situation?
 - + What is right or wrong about the handling of a situation?
 - + What is good or bad about the people, policies, and ideals involved?



MORALITY VS. ETHICS



<i>Morality</i>	<i>Ethics</i>
1. More general and prescriptive based on customs and traditions.	1. Specific and descriptive. It is a critical reflection on morals.
2. More concerned with the results of wrong action, when done.	2. More concerned with the results of a right action, when not done.
3. Thrust is on judgment and punishment, in the name of God or by laws.	3. Thrust is on influence, education, training through codes, guidelines, and correction.
4. In case of conflict between the two, morality is given top priority, because the damage is more. It is more common and basic.	4. Less serious, hence second priority only. Less common. But relevant today, because of complex interactions in the modern society.
5. Example: Character flaw, corruption, extortion, and crime.	5. Example: Notions or beliefs about manners, tastes, customs, and towards laws.



MORAL REASONING



- “Engineering design is a good one”
 - Meets Specifications – Technical Value
 - Specifications has moral content - Moral Reasons
 - **Designed in such a way that a safe, reliable and environmental friendly product can be produced**
- Moral Reasons
 - Require us to respect other people as well as ourselves, to care for their good as well as their own Respecting persons by being fair and just with them, respecting their rights, keeping promises, avoiding unnecessary offense and pain to them, avoiding cheating and dishonesty



VARIETY OF MORAL ISSUES



- **Two Approaches to engineering ethics:**
 - **+ Typical, everyday problems that can take on significant proportions in and engineer's life**
 - **+ Societal Problems that are often shunted aside and are not addressed until they unexpectedly resurface**



HOW DO MORAL PROBLEMS ARISE IN ENGINEERING



- **Examples**
 - **Faculty construction equipment**
 - **Applying for a permit to operate a nuclear power plant**
 - **Chemical plant dumping wastes in a landfill**
 - **Advertisements from an electronic company for a product which is not ready for sale**
- **Engineer might be faced with contrary opinions**
 - **Within the firm**
 - **From the client**
 - **From other firms within the industry**



CHALLENGES ON HANDLING MORAL ISSUES



- To what extent can a supervisor be an authoritative guide to engineer's conduct ?
- What does one do when there are differences of judgement ?
- Should one always follow the law to the letter?
- Is an engineer to do no more than what the specifications say, even if there are problems more serious than those initially anticipated?
- How far does an engineer's responsibility extend into the realm of influencing the social impact of the projects he or she participates in?