

# **UCS1704 – Management and Ethical Practices**

**UNIT – III Ethics in Engineering**

**Semester – VII**



# OUTLINE

- Senses of Engineering Ethics
- Variety of moral issues
- Types of inquiry

# The Goal

The course will develop a framework on which

- Professional and ethical issues can be analyzed.
- Build up an awareness of various views of ethical issues as well as professional's ethical rights and responsibilities.

# ENGINEERING ETHICS

- The study of moral issues and decisions confronting individuals and organizations involved in engineering and
- The study of related questions about moral ideals, character, policies and relationships of people and organizations involved in technological activity.
- {\* Confronting – Challenging  
\* ideals - Principles}

# TRAINING IN PREVENTIVE ETHICS

- Stimulating the moral imagination
- Recognizing ethical issues
- Developing analytical skills
- Eliciting a sense of responsibility
- Tolerating disagreement and ambiguity

# IMPEDIMENTS TO RESPONSIBILITY

- Self-interest.
- Fear.
- Self-deception.
- Ignorance.
- Egocentric tendencies.
- Microscopic vision.
- Groupthink.

# SENSES OF EXPRESSION OF ENGINEERING ETHICS

- Ethics is an activity and area of inquiry. It is the activity of understanding moral values, resolving moral issues and the area of study resulting from that activity.
- When we speak of ethical problems, issues and controversies, we mean to distinguish them from non moral problems.
- Ethics is used to refer to the particular set of beliefs, attitudes and habits that a person or group displays concerning moralities.
- Ethics and its grammatical variants can be used as synonyms for “morally correct”.

# WHAT IS MORALITY?

- The term ‘morality’ concerns with
  - what ought or ought not to be done in a given situation?
  - what is right or wrong in handling it?
  - what is good or bad about the persons, policies and principles involved in it?
- If an action is said to be morally right it should have some moral reasons.

# **MORAL REASONS**

## **Moral reasons include**

- Respecting others and ourselves,
- Respecting the rights of others,
- Keeping promises,
- Avoiding unnecessary problems to others
- Avoiding cheating and dishonesty,
- Showing gratitude to others and encourage them to work

# **VARIETIES or APPROACHES OF MORAL ISSUES**

## ***MICRO-ETHICS:***

- This approach stresses more about some typical and everyday problems which play an important role in the field of engineering and in the profession of an engineer

## ***• MACRO-ETHICS:***

- *This approach deals with all the social problems which are unknown and suddenly burst out on a regional or national level*

# **TYPES OF INQUIRY**

- Inquiry means an investigation:-
  - Engineering ethics involves investigations into values, meaning and facts.
    - ❖ Normative Inquiries
    - ❖ Conceptual Inquiries
    - ❖ Factual or Descriptive Inquiries

# NORMATIVE INQUIRY

These are about „what ought to be“ and “what is good”. These questions identify and also justify the morally desirable norms or standards.

- Some of the questions are:
- A. How far engineers are obligated to protect public safety in given situations?
- B. When should engineers start whistle blowing on dangerous practices of their employers?
- C. Whose values are primary in taking a moral decision, employee, public or govt?
- D. Why are engineers obligated to protect public safety?
- E. When is govt justified in interfering on such issues and why?

# CONCEPTUAL INQUIRY:

- These are meant for describing the meaning of concepts, principles, and issues related to Engineering Ethics.
- Examples are:
  - What is SAFETY and how is it related to RISK
  - Protect the safety, health and welfare of public-What does this statement mean?
  - What is a bribe?
  - What is a profession and who are professionals?

## **FACTUAL (DESCRIPTIVE) INQUIRIES**

- These help to provide facts for understanding and finding solutions to value based issues.
- These are inquiries used to uncover information using scientific techniques.
- These inquiries get to information about business realities, history of engineering profession, procedures used in assessment of risks and engineers psychology.