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COURSE NAME : 19GET201 PROFESSIONAL ETHICS & HUMAN VALUES

IVYEAR/ VII SEMESTER

UNIT – II Engineering as Social Experimentation

Topic: Engineers as responsible Experimenters

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Engineers as Experimenters

Trial and error method
An engineer should always be ready for the unexpected output
Subjected to risks and Uncertainties

Responsibility in Experimentation

The following points which are related to the moral aspects of human behavior

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

Conscientiousness

Conscientiousness implies **consciousness** which means the sense of awareness.

Every engineer is expected to have some moral standards irrespective of the role he is performing.

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

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., an engineer should be conscious about the unexpected.

Adverse outcome may come up as unexpected result of their experiments; for this, they are answerable to the public

Informed Consent

One should be informed of **the facts** so as to be conscious

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.

Eg:

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

Moral Autonomy

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

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

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

This leads to moral autonomy wherein, he also gains the trust of the employer, through his commitment.

Accountability

Accountability can be understood as the moral responsibility that we have towards our actions.

It means a tendency to be willing to openly accept the moral examinations towards one's actions and being responsive to the assessment of others.

The gap between casual responsibility and moral accountability is common in any profession, along with engineering.

Instances to understand accountability

Group of persons are involved in the completion of a project→each person makes only a small contribution to something much larger.

The accountability is diffused within the organization and one has to accept it. Both credit and failure need to be considered for accountability where the work is diffused and the areas of personal accountability are delimited within the organization.

At times, when the engineers are pressurized to move to another project while the current is still underway, then the accountability is limited only for meeting schedules.

There is always a moral involvement beyond the laid down institutional role, where the engineers cannot separate themselves from personal responsibilities of their work.

Code of Ethics

The engineers who are represented as professionals, and who belong to a professional society need to have some moral responsibilities.

A code of conduct is important for engineers to remain committed to their world.

Engineering societies such as **AAES, ABET, NSPE, IEEE** and **AICTE** → framed these codes of ethics to maintain moral issues

Eight important roles

Serving and protecting the public
Guidance
Inspiration
Shared Standards
Support for Responsible Professionals
Education and Mutual understanding
Deterrence and Discipline
Contributing to the Profession's Image

Advantages of Codes of Ethics

Advantages of Codes of Ethics

- ✓ Set out the ideals and responsibilities of the profession.
- ✓ Exert a **de facto** regulatory effect protecting both clients and professionals.
- ✓ Improve the profile of the profession.
- ✓ Motivate and inspire practitioners, by attempting to define their raison d'etre.
- ✓ Provide guidance on acceptable conduct.
- ✓ Raise awareness and consciousness of issues.
- ✓ Improve quality and consistency.