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Values like honesty, empathy, truthfulness, humbleness, loyalty, efficiency, love for others, will develop a man as a morally good person.

Trustworthiness Respect Responsibilities Fairness Care Citizenship

Morals: Principles that refer to way of behaviour

Values: Right or Wrong Decision making rules.

Honesty: Not given to lying, cheating or stealing.

Characterised by sincerity & candor (frankness).

Empathy: The ability to understand and share the feelings of another.

Truthfulness: Learning to speak the truth is a first and vital step in the formation of a strong character. [Trustworthiness]

Humbleness: Quality of not being proud or not believing you are (अहंकारी) important.

Loyality: State of being faithfulness (सत्त्वदृष्टि)

Efficiency: Functioning in best possible manner and work to keep a schedule.

Love: Taking pleasure in others well-being.

Power to cause one person to wish happiness of other.

Respect: Deep admiration of someone or something by their quality

Responsibilities: State of being accountable
Having a duty to deal with someone or having control over something.

Fairness: People should be treated equally regardless of their station in life.

Care: Making grounded in a relationship.

Citizenship: Concerned with right action of citizens in public arena

Peace: No -ve vibes, having willpower of discern diff. b/w real needs & superfluous desires.

2.9.2 Conceptual Inquiries

Conceptual inquiries clarify the concepts and issues in engineering ethics. For example, how issues of safety and risk are interrelated and often overlap? Conceptual issues determine the parameters of a gift or a bribe. Whether accepting it is fair or unfair? Define the problem and it becomes clear which moral concept applies and the correct decision becomes obvious.

2.9.3 Factual Inquiries

Factual or descriptive inquiries uncover information regarding value issues. They provide important information about the business realities of contemporary engineering profession—ethical codes, risk assessments and social responsibilities of engineers. This leads to an understanding of the background conditions that generate moral problems and enables us to deal with alternative ways of resolving those problems.

2.10 KOHLBERG'S THEORY

According to Kohlberg, people go through six identifiable stages confined to three levels in their moral reasoning. Kohlberg's classification is outlined in Table 2.1.

Table 2.1 Kohlberg's Six Stages of Moral Development

Level	Stage	Social orientation
Pre-conventional	1	Obedience and punishment
	2	Individualism, instrumentalism, and exchange
Conventional	3	"Good boy/girl"
	4	Law and order
Post-conventional	5	Social contract
	6	Principled conscience

In the first stage of the first level, people behave according to socially acceptable norms due to pressure from authority (Parent or teacher). This obedience is ensured by the threat of punishment. The second stage is characterized by a view that right behaviour means acting in one's own best interests.

The second level of moral thinking is common in society (conventional). The first stage of this level (stage 3) is characterized by an attitude which

always seeks the approval of others. The second stage is one oriented to abiding by the law and responding to the obligations of duty.

The third level of moral thinking is not normally reached by the majority of adults. Its first stage (stage 5) is an understanding of social mutuality and a genuine interest in the welfare of others. The last stage (stage 6) is based on respect for universal principle and the demands of individual conscience. Kohlberg could not get enough subjects to define the sixth stage.

He believed that individuals could not 'jump' stages. They could only come to a comprehension of a moral rationale one stage above their own. Thus, according to Kohlberg, it was important to present them with moral dilemmas for discussion. This approach is based on the insight that individuals develop as a result of cognitive conflicts at their current stage. According to Kohlberg, children usually develop through stages 1 and 2 and settle into 3 and 4. A minority of adults pass into the higher stages 5 and 6. Once you understand this theory, it explains a great deal about the varying morality that exists in any society. It also shows the way to elevate others.

2.11 GILLIGAN'S ARGUMENT

A student of Kohlberg, Gilligan disagreed with his assessment of the content of the moral system. From her careful interviews with women making momentous decisions in their lives, Gilligan concluded that these women were thinking more about the caring things to do rather than the thing the rules allowed.

Table 2.2 Gilligan's Stages of Cognitive Development

Approximate age range	Stage	Goal
Not listed	Pre-conventional	Goal is individual survival Transition is from selfishness to responsibility to others
Not listed	Conventional	Self sacrifice is goodness Transition is from goodness to truth that she is a person too
May be never	Post-conventional	Principle of non-violence—do not hurt others or self

Gilligan's stage theory of moral development (Table 2.2) for women has three major divisions: Pre-conventional, Conventional, and Post-conventional. The transitions between the stages are fueled by changes in the sense of self rather than in changes in cognitive capability. Kohlberg built his theory based on interviews with males only. Gilligan has shown the inadequacy of that. In addition, she refuted the idea that there was only one dimension of moral reasoning. Women are different, but they are not inferior. Men and women view relationship differently. Current research agrees with Gilligan.

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2.12 HEINZ'S DILEMMA

The famous example used by Kohlberg was called 'Heinz's dilemma'. A woman living in Europe would die of cancer unless she was given an expensive drug. Her husband, Heinz, could not afford it. But the local pharmacist, who had invented the drug at only one tenth of the sale price, refused to sell it to Heinz who could only raise half the required money from borrowings. Desperation drives Heinz to break into the pharmacy and steal the drug to save his wife.

When respondents were asked whether and why Heinz should or should not steal a drug to save his wife from a life-threatening illness. The responses of the individuals were compared with a prototypical response of individuals at particular stages of moral reasoning. Kohlberg noted that irrespective of the level of the individual the response could be same, but the reasoning could be different.

For example, if a child reasoning at a 'pre-conventional' level might say that it is not right to steal because it is against law and someone might see you.

At a 'conventional' level, an individual might argue that it is not right to steal because it is against law and laws are necessary for society to function.

At a 'post-conventional' level, one may argue that stealing is wrong because it is against law and it is immoral.

Values are something we qualify our goals in life. The concept of values describes that part of our behaviour which is not immediately necessary for survival. When two different goals come into conflict, we call for a higher goal or a value which we choose to resolve the conflict.

Classification of Human Values

Human values can be classified as follows:

1. Values relating to an individual (good or bad) that is related to the person
2. Values where there is normally an element of consensus implied as in terms, such as fair, decent and tolerant
3. Values relating primarily to things in the sense of 'fitting', such as good pen or good computer

With reference to the first two types of values, there are two separate and important aspects:

- (a) How does each culture establish its current, commonly accepted values?
- (b) How does each person acquire the values that are unique for him or her, given that all individual items must inevitably be strongly coloured and broadly determined by the culture in which he or she was born and bred?

Management by values highlights the concept of 'self' in man. The ethical quality of managerial decision making can be improved through a full understanding and internalization of the doctrine of karma. All decisions depend critically on the purity of mind of the decision maker. The virtues held in high esteem are simplicity, sacrifice, renunciation and compassion.

Universal Values

There are five systems values or virtues that come from these. They contain all that makes a human being noble, caring and kind.

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proper Relevant

Codes of ethics

1. Inspiration & guidelines
2. Support
3. Education

Right conduct: Right conduct is concerned with maintenance of the body to serve us in performing the tasks of life.

Peace: When the will power is sufficiently strong to discern the differences between real needs and superfluous desires, we cease to be driven by the urge to own more and more things. Inner agitation stops and we remain peaceful.

Truth: Learning to speak the truth is a first and vital step in the formation of a strong character. Voicing untruth is an anti-social act and causes confusion in the minds of both the speaker and listener. Telling lies hurts ourselves and others in a subtle but real way.

Love: Love is a spontaneous reaction of the heart. It is the power of love which causes one person to wish happiness for another and take pleasure in his or her well-being. Love is unconditional, positive and regard for the good of another. Love is the unseen undercurrent binding all the four values.

Non-violence: Non-violence can be described as a universal love. This creates harmony with the environment. That is living in a way that causes as little harm as possible to one-self, other people, animals, plants is a sign of a well-integrated and well-balanced personality.

Fundamental Values

Indians have developed four fundamental values about human life which they have been practicing throughout the ages:

1. Essential divinity inherent in all life
2. Presence of divine motherhood in all women
3. Religion is the manifestation of the divinity already in man. The plurality of religion is only on the surface. At the spiritual core, there is an essential unity of all of them.
4. Civilization is the manifestation of divinity in man. That society is the most developed where the highest truths becomes practical. The end of all work is to bring out the divine in ourselves by serving the divine in others.

1.1.3 Ethics

Ethics is a branch of moral philosophy. Ethics is often defined as 'the

- courses of action
5. To enable us to arrive at a balanced judgment
 6. To be used to justify the general obligations of professionals

2.8 PROFESSIONAL ETHICS

Professional ethics is a codified formal system or set of rules which are explicitly adopted by a group of people.

1. Professional ethics speaks about managing values and conflicts among professionals.
2. Most of the ethical dilemmas faced by managers in the workplace are highly complex.
3. Professional ethics gives a programmatic approach to solve ethical problems.
4. The value of code of ethics to an organization is its priority and focus regarding certain ethical values in that workplace. Managing ethics in the workplace includes every one working as a team to help each other and remain ethical at work.
5. Professional ethics is not of recent origin. It got more attention recently because of the social responsibility movement that started in 1960s.
6. Profit maximization, expanding market share, etc. can be very strong influences on morality. Laws, regulations and rules influence behaviours to be more ethical.

2.9 TYPES OF INQUIRY

There are three types of inquiries: Normative, Conceptual and Factual inquiries.

2.9.1 Normative Inquiries

Normative inquiries identify and justify the morally desirable norms that guide individuals or groups. For instance, what an amount of responsibility

actions.

4. Focused

Codes of ethics

does an engineer owe to protect public safety? Whose values take precedence about acceptable risks—those of management, public or government? What engineering practices are morally warranted? How to even out professional ideals with fundamental moral ideals?

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Pre-conventional	2	Good boy/girl
Moral relativism	3	Contractarianism
Moral relativism	4	Universal principles
Post-conventional	5	Principles and justice
Post-conventional	6	Universal ethical principles

- Engineering acts social experimentation
- 1) Why engineering is called as social experimentation?
 - 2) Comparison with standard experiments.

Ans similarities

1. Any experiment should be carried on partial ignorance.
 - a) The uncertainties in abstract model used for design calculations.
 - b) The uncertainties of the precise characteristics of material purchase.
 - c) Uncertainties caused by the variation in process and fabrications of that product.
 - d) Uncertainties in the nature of stresses that the final outcome ^{may be} encounters.
2. The final outcome of engineering process like those of any experiments is uncertainable.
3. The better engineering process should always come up with gain knowledge.

Conflicts

1. Experimental Control

2. Informed Consent

- 1. Knowledge
- 2. Voluntary
- 3. Knowledge gained

3. Human touch

understanding of social networking
the last stage is based

Engineering has Social Experimentation

Comparison with standard

Similarities

① Partial Ignorance

Uncertainty in the abstract model design calculations.

② Uncertainty in the presized characteristics of a material.

③ Uncertainty caused by the variations in the process and fabrication of the product.

④ Uncertainty that the nature of the stress that the final outcomes encounters.

⑤ The final outcome of any engineering process like those of experiments is uncertainty.

⑥ Knowledge gained:

Conflicts

1. Experimental control. (medical experimental)
control group

2. Informed Consent (Knowledge) (common for medical/Engineering)

1. knowledge : subject. ; human's society
2. Voluntary

3. Human touch
knowledge gained.

Laboratories (Conflicts) (Similarities)

1. Experimental control
(medical experiment)
control group

2) Informed consent

- i) knowledge : safety; human safety.
- ii) Voluntary.

(Common for medical/Engineering)

3) Human touch /
Knowledge gained.
(Scientific experiments)