

## **Module 2**

### **1 What is Moral Dilemma? Explain it with examples.**

**Moral Dilemma** refers to a situation in which an individual is faced with conflicting moral principles, making it challenging to choose the right course of action. A moral dilemma happens when you face a tough choice between two or more options, and each option goes against some moral belief you have. Whatever decision you make, you end up going against one of your moral values.

**Examples:** Consider a scenario where an engineer working for a construction company discovers a flaw in the design of a building that could potentially compromise its structural integrity in certain conditions. However, revealing this flaw could lead to significant financial losses for the company and potential damage to its reputation. The engineer faces an ethical dilemma: should they report the flaw and risk the negative consequences for the company, or remain silent and potentially endanger public safety? In this scenario, the ethical dilemma revolves around conflicting values such as honesty, integrity, and public safety versus loyalty to the employer and considerations of financial impact.

Now, let's consider a different scenario where an engineer is tasked with designing a new product for their company. During the design process, the engineer realizes that the product could have negative environmental impacts due to its manufacturing process or materials used. Despite meeting all legal requirements and industry standards, the engineer grapples with the moral implications of contributing to environmental degradation. Here, the moral issue lies in the broader ethical considerations beyond immediate consequences or legal obligations. The engineer must weigh the potential harm to the environment against the benefits of the product, questioning their responsibility to minimize harm and promote sustainability.

### **2 Moral development theories**

#### **Kohlberg's stages of moral development**

Lawrence Kohlberg's moral reasoning theory was inspired by the work of Jean Piaget. This theory holds that moral reasoning, which is the basis for ethical behaviour, has six identifiable developmental stages. He followed the development of moral judgment beyond the ages originally studied by Piaget, who claimed that logic and morality develop through constructive stages. Kohlberg expanded considerably on this groundwork, determining that the process of moral development was principally concerned with justice and that its

development continued throughout the lifespan, even spawning dialogue of philosophical implications of his research. Kohlberg used stories about moral dilemmas in his studies, and was interested in how people would justify their actions if they were put in a similar moral crux. He would then categorize and classify evoked responses into one of six distinct stages. These six stages are broken into three levels: pre-conventional, conventional and post-conventional. His theory is based on constructive developmental stages; each stage and level are more adequate at responding to moral dilemmas than the last.

Kohlberg's **six stages** were grouped into **three levels**:

Before going into the theories, first we should know what is meant by convention & Conventional

**Convention:** - Conventions denote customs or traditions or usages which are in use since long. To be clear, these are nothing but unwritten laws. The accountants have to adopt the usage or customs, which are used as a guide in the preparation of accounting reports and statements. These conventions are also known as doctrine.

In other words, convention means a general agreement about basic principles or procedures, it can also be a principle or procedure accepted as true or correct by convention like the conventions of grammar.

**Conventional:** - based on or in accordance with what is generally done or believed.

### **Level 1** (pre-conventional)

1. Obedience and punishment orientation
2. Self-interest orientation (What's in it for me?)

### **Level 2** (Conventional)

3. Interpersonal accord and conformity (The good boy/good girl attitude)
4. Authority and social-order maintaining orientation (Law and order morality)

### **Level 3** (post-conventional)

5. Social contract orientation
6. Universal ethical principles (Principled conscience)

## Level 1 Pre-Conventional

The pre-conventional level of moral reasoning is especially common in children, although adults can also exhibit this level of reasoning. Persons in the pre-conventional level judge the morality of an action by its direct consequences. The pre-conventional level consists of the first and second stages of moral development, and are purely concerned with the self in an egocentric (thinking only of oneself, without regard for the feelings or desires of others; self-centred) manner.

**Stage 1- (Obedience and punishment orientation)** In this stage individuals focus on the direct consequences that their actions will have for themselves. For example, an action is perceived as morally wrong if the person who commits it gets punished. The worse the punishment for the act is, the more 'bad' the act is perceived to be. In addition, there is no recognition that others' points of view are any different from one's own view. This stage may be viewed as a kind of authoritarianism (the enforcement or advocacy of strict obedience to authority at the expense of personal freedom.). Stage two espouses the what's in it for me position, right behaviour being defined by what is in one's own best interest.

**Stage 2- (Self-interest orientation (What's in it for me?)).** In this stage the reasoning shows a limited interest in the needs of others, but only to a point where it might further one's own interests. In stage two concern for others is not based on loyalty or intrinsic respect. Lacking a perspective of society in the pre-conventional level, this should not be confused with social contract (stage five), as all actions are performed to serve one's own needs or interests. For the stage two theorist, the perspective of the world is often seen as morally relative.

## Level 2 Conventional

The conventional level of moral reasoning is typical of adolescents and adults. Persons who reason in a conventional way judge the morality of actions by comparing these actions to societal views and expectations. The conventional level consists of the third and fourth stages of moral development.

**Stage 3- (Interpersonal accord and conformity (The good boy/good girl attitude)).** In this stage the self enters society by filling social roles. Individuals are receptive of approval or disapproval from other people as it reflects society's accordance with the perceived role. They try to be a good boy or good girl to live up to these expectations, having learned that there is inherent value in doing so. Stage three reasoning may judge the morality of an action by evaluating its consequences in terms of a person's relationships, which now begin to include things like respect, gratitude and the 'golden rule'. Desire to maintain rules and

authority exists only to further support these stereotypical social roles. The intentions of actions play a more significant role in reasoning at this stage.

**Stage 4- (Authority and social-order maintaining orientation (Law and order morality)).** In this stage it is important to obey laws, dictums and social conventions because of their importance in maintaining a functioning society. Moral reasoning in stage four is thus beyond the need for individual approval exhibited in stage three; society must learn to transcend individual needs. A central ideal or ideals often prescribe what is right and wrong, such as in the case of fundamentalism. If one person violates a law or laws, perhaps everyone would - thus there is an obligation and a duty to uphold laws and rules. When someone does violate a law, it is morally wrong; culpability is thus a significant factor in this stage as it separates the bad domains from the good ones.

### **Level 3 Post-Conventional**

The post-conventional level, also known as the principled level, consists of stages five and six of moral development. Realization that individuals are separate entities from society now becomes salient. One's own perspective should be viewed before the society's. It is due to this 'nature of self before others' that the post-conventional level, especially stage six, is sometimes mistaken for pre-conventional behaviors.

**Stage 5- (Social contract orientation).** In this stage the individuals are viewed as holding different opinions and values, and it is paramount that they be respected and honoured impartially. Issues that are not regarded as relative like life and choice should never be withheld or inhibited. Along a similar vein, laws are regarded as social contracts rather than rigid dictums. Those that do not promote general social welfare should be changed when necessary to meet the greatest good for the greatest number of people. This is attained through majority decision, and inevitably compromise.

### **Stage 6- Universal ethical principles (Principled conscience)**

In this stage the moral reasoning is based on abstract reasoning using universal ethical principles. Laws are valid only insofar as they are grounded in justice, and that a commitment to justice carries with it an obligation to disobey unjust laws. Rights are unnecessary as social contracts are not essential for demonic moral action. Decisions are met categorically in an absolute way rather than hypothetically in a conditional way.

## **Further stages**

In his empirical studies of persons across their life-span, Kohlberg came to notice that some people evidently had undergone moral stage regression. He was faced with the option of either conceding that moral regression could occur, or revise his theory. Kohlberg chose the latter, postulating the existence of sub-stages wherein the emerging stage has not yet been adequately integrated into the personality. In particular Kohlberg noted of a stage 4½ or 4+, which is a transition from stage four to stage five, sharing characteristics of both. In this stage the individual has become disaffected with the arbitrary nature of law-and-order reasoning. Culpability is frequently turned from being defined by society to having society itself be culpable. This stage is often mistaken for the moral relativism of stage two as the individual views the interests of society which conflict with their own choices as relatively and morally wrong. Kohlberg noted that this was often seen in students entering college. Kohlberg further speculated that a seventh stage may exist (Transcendental Morality or Morality of Cosmic Orientation) which would link religion with moral reasoning. However, because of Kohlberg's trouble providing empirical evidence for even a sixth stage, he emphasized that most of his conjecture towards a seventh stage was theoretical.

**Theoretical assumptions (philosophy)** Kohlberg's theory includes a view of human nature, and a certain understanding of the form and content of moral reasoning. It holds conceptions of the right and the scope of moral reasoning across societies. Furthermore, it includes the relationship between morality and the world, between morality and logical expression, and the role of reason in morality. Finally, it takes a view of the social and mental processes involved in moral reasoning. The picture of human nature which Kohlberg begins with is the view that humans are inherently communicative and capable of reason, and they possess a desire to understand others and the world around them. The stages of Kohlberg's model refer to the qualitative moral reasonings that people adopt, and thus do not translate directly into praise or blame of the actions or characters of persons. In order to argue that his theory measures moral reasoning and not particular moral conclusions, Kohlberg insists that the form and structure of moral arguments is independent of the content of the arguments, a position he calls "formalism". Kohlberg's theory revolves around the notion that justice is the essential feature of moral reasoning. By the same token, justice relies heavily upon the notion of sound reasoning upon principles. Kohlberg's theory understands values as a critical component of the right. Whatever the right is, for Kohlberg, it must be universally valid across societies. According to Kohlberg, a person who progresses to a higher stage of moral reasoning cannot skip stages. For example, one cannot jump from being concerned mostly with peer judgments

(stage three) to being a proponent of social contracts (stage five). However, when one encounters a moral dilemma and finds one's current level of moral reasoning unsatisfactory, one will look to the next level. Discovery of the limitations of the current stage of thinking drives moral development as each progressive stage is more adequate than the last. This process is constructive; it arises through the conscious construction of the actor, and is neither in any meaningful sense a component of the actor's innate dispositions, nor a result of past inductions. Formal elements Progress along the stages of development occurs because of the person's increased competence in both psychologically and socially balancing conflicting value-claims. The name of "justice operation" is given to the process which resolves the dispute between conflicting claims and strikes equilibrium between them. Kohlberg identifies two of these operations in "equality" and "reciprocity", which respectively involve an impartial regard for persons (i.e., irrespective of who the individual persons are), and a regard for the role of personal merit. For Kohlberg, the most adequate result of both operations is "reversibility", where a moral or dutiful act within a particular situation is evaluated in terms of whether or not the act would be satisfactory even if particular persons were to switch roles within the situation.

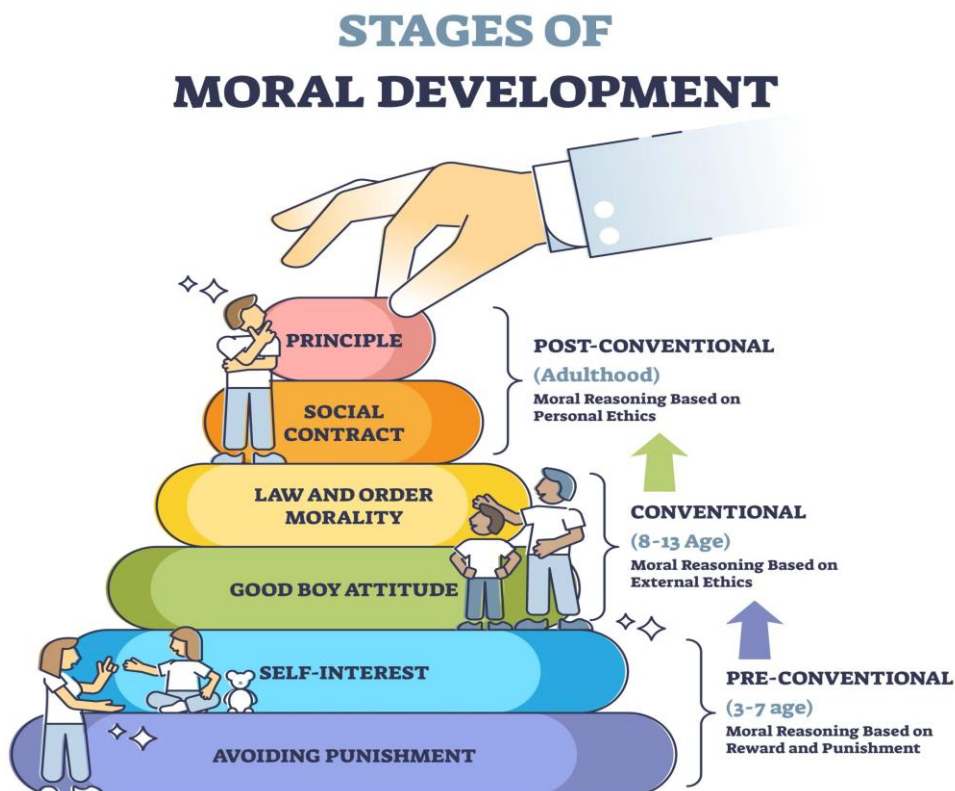


Figure: Kohlberg's stages of moral development

## Piaget Theory of Moral Development

The term “moral” is derived from the Latin word “mores” which means manners, customs and folkways. Moral development refers to the development of moral behaviour and moral concepts. Moral behaviour is a socially desired behaviour. Moral concepts start developing when the child learns what is good and what is bad, what is right and what is wrong. Piaget (1932) used the interview method – to find out the various stages of moral development of the child. According to him, there are four stages of moral development: which are as follows:

1. Anomy (Birth to years)
2. Heteronomy – authority (5 – 8 years)
3. Heteronomy Reciprocity (8 – 13 years)
4. Autonomy Adolescence (13 – 18 years)

**Anomy (Birth to 5 years)** Piaget called the first stage anomy, the stage without the law. At this stage the behavior of child is neither moral nor immoral but is non – moral or moral. So, the child’s behaviour is not guided by moral standards. The regulators of behaviour are pain and pleasure. Example: A toddler takes a toy from another child without understanding that it’s wrong. They are not yet aware of concepts like fairness or rules.

**Heteronomy – Authority (5 to 8 years)** (Morality of Constraint) This stage of moral development may be called the discipline of artificial consequences imposed by adults. Moral development controlled by external authority. Rewards and punishment regulate moral development.

- Children in this stage view rules and authority as fixed and unchangeable. They believe that rules are determined by adults or authorities and cannot be altered.
- They also believe that consequences are more important than intentions. If a rule is broken, they focus on the outcome rather than the intention behind the action.
- They have a sense of moral realism, where they believe that rules are absolute and universally applicable.

Example: A child follows the rule of not drawing on the walls because their parents said it's wrong, and they don't want to get punished.

**Heteronomy – Reciprocity (8 to 13 years)** At this stage, there is the morality of cooperation with peers or equals. This stage is regulated by reciprocity which implies that conformity with the group becomes necessary at this stage. Example:



A child agrees to share their lunch with a friend because they expect the friend to share something in return in the future. They view this as a fair exchange.

**Autonomy – Adolescence (13 to 18 years)** Piaget calls the stage as equity stage. Children of this stage demand equality in moral action. The individual at this stage is fully responsible for his behaviour. In this stage, children begin to develop a more mature understanding of morality. They recognize that rules can be created and changed through agreement among people. Rules are seen as social agreements rather than rigid authorities.

- Children become more concerned with intentions behind actions rather than just the consequences. They start to consider motives and circumstances when evaluating the morality of an action.
- They develop a sense of moral relativism, understanding that rules can vary across cultures and situations.
- Fairness and reciprocity become important concepts. They start to apply principles of equality and mutual benefit in their judgments of right and wrong

Example: A teenager might challenge a school rule they find unfair, like a dress code that discriminates against certain students, because they believe in equal treatment for all.

### **3 Ethical theories**

- **Utilitarian Approach/Theory**: Some thinkers emphasised that the ethical action is the one that's provide the most good and does less harm. It is related with the science of ends known as “Teleological Philosophy”. This Philosophy emphasised on consequences of action and if outcome is right than action is considered right. So, it decides quality of human action on the basis of result rather than the action itself.

Example: In engineering ethics, a utilitarian approach might involve maximizing overall societal benefit, even if it means sacrificing the interests of a few. For example, in designing infrastructure, engineers might prioritize projects that provide the greatest good for the greatest number of people, even if it means displacing a small community or altering the environment. The focus is on achieving the greatest net positive outcome for society as a whole, weighing the costs and benefits of various actions.

- **Rights Approach/Theory**: Some philosophers suggest that the ethical action is the one that best protects and respects the rights of those affected. This approach starts from the belief that human being has dignity and



human being has an ability to choose freely that what to do with their life. Also, it is often said that rights imply responsibility in particular and also the duty to respect others right.

Example: In engineering ethics, a rights approach emphasizes the importance of respecting and protecting the fundamental rights of individuals and communities affected by engineering projects. For example, when designing a new transportation system, engineers must ensure that the rights of nearby residents, such as the right to clean air and minimal noise pollution, are upheld. Similarly, in developing new technologies, engineers must consider the rights to privacy and autonomy of users. This approach requires engineers to carefully consider the impact of their decisions on the rights of all stakeholders involved and to prioritize actions that uphold and promote those rights.

- **Justice Approach/ Theory:** Aristotle and other Greek philosopher had given the idea that all equals should be treated equally.

A justice approach advocates for fair and equitable treatment of all individuals and communities affected by engineering decisions. For instance, when constructing a new infrastructure project like a bridge, engineers must ensure that the benefits and burdens are distributed fairly among different socioeconomic groups. This might involve conducting thorough assessments of potential environmental and social impacts, consulting with diverse stakeholders, and implementing measures to mitigate any disproportionate harm to marginalized communities. Today we use this idea to say that ethical action treats all human being equally. If unequally than fairly based on some standards that are defensible. We pay people more or less based on their contribution in the organisation.

- **Common good approach/ Theory:** Aristotle and other Greek philosopher had given the idea that all equals should be treated equally. A justice approach advocates for fair and equitable treatment of all individuals and communities affected by engineering decisions. For instance, when constructing a new infrastructure project like a bridge, engineers must ensure that the benefits and burdens are distributed fairly among different socioeconomic groups. This might involve conducting thorough assessments of potential environmental and social impacts, consulting with diverse stakeholders, and implementing measures to mitigate any disproportionate harm to marginalized communities.

- **Virtue Approach/ Theory**: If an action of an individual generates good values within himself than it is considered to be ethical or moral. However, if an action generates negative values in an individual irrespective of the motive or circumstances, it is said to be wrong or unethical. It is a very ancient approach to ethics under it, it is believed that ethical actions ought to be consistent with certain ideal virtues that provide for the full development of humanity. Mahatma Gandhi believed in Virtue approach.
- **Casuist Approach/Theory**: The casuist theory suggests that the best way to solve a current ethical problem is to compare it with similar problems from the past and their outcomes. For instance, if faced with a decision regarding the safety of a new construction material, engineers might consult precedents from similar projects to assess potential risks and ethical considerations. By examining the specifics of past cases and their outcomes, engineers can develop nuanced solutions that account for relevant contextual factors and ethical principles. This approach helps engineers navigate complex ethical challenges by drawing on historical analogies to inform their decision-making and ensure consistency in ethical standards.
- **Moral Absolutism Approach/ Theory**: Moral absolutism is a term that denotes the view held by some people who firmly believe that there is only one right perspective and that is the one held by them. Moral absolutism can be seen in many religious codes of conduct, which have to be observed without anybody raising any questions. In engineering ethics, a moral absolutist stance could be seen in the principle of safety. An engineer adhering to moral absolutism would assert that ensuring the safety of users and the public is an inviolable moral duty. For example, even if cutting corners or using subpar materials could save time or money, a moral absolutist engineer would refuse to compromise on safety standards, believing that protecting human lives outweighs any other considerations.
- **Moral Relativism Approach/Theory**: Moral Relativism is a philosophy that asserts that no action can be called absolutely moral. Actions need to be judged against the cultural and individual contexts. For instance, when designing infrastructure projects, engineers might face differing ethical views regarding environmental preservation. A moral relativist engineer might prioritize the preferences and values of the local community where the project is situated, adapting environmental standards to align with the community's cultural beliefs. This approach acknowledges that ethical

considerations can vary based on cultural context, leading to a more flexible approach in decision-making within engineering ethics.

- **Moral Pluralism Approach/Theory**: Moral, ethical pluralism is the idea that there are many human values, which are equally good but can come into conflict with each other in a given situation. An example could be designing a new energy-efficient product: engineers must consider not only the safety of the product for users but also its environmental impact in terms of resource consumption and waste generation, as well as its affordability for consumers. Moral pluralism allows engineers to navigate complex ethical dilemmas by weighing and integrating various moral principles to make well-rounded decisions.
- **Ethical Egoism Approach/ Theory**: This theory deals with self-interest. One's actions are ethical if they promote the interest of the person who acts.

For instance, if an engineer is presented with a choice between two projects—one that offers substantial personal financial gain but involves cutting corners on safety standards, and another that prioritizes safety but offers less financial reward—an engineer adhering to ethical egoism might choose the former to maximize their own benefit, disregarding potential harm to others. This approach prioritizes self-interest over the well-being of others, which contradicts many ethical principles commonly upheld in engineering ethics, such as prioritizing public safety and welfare.

- **Feminist Consequentialism Approach/ Theory**: Evaluating consequences should take care of those aspects that affects women. They argue that the existing utilitarianism often tends to neglect this aspect, and is biased against and insensitive to women.

#### 4 Case studies

A) Aisha, a resident of Newtown, Kolkata, has been working as a freelance graphic designer for the past few years, juggling multiple small projects to make ends meet. She has a close friend, Rohan, who works as a project manager at a local advertising agency. Rohan has recently offered Aisha a full-time position at the agency, which would provide a stable income and better benefits. However, Aisha had previously agreed to help a small, local startup, "Eco-Prints," with their branding and marketing materials, promising to complete the project by the end of March. Eco-Prints is a small business focused on sustainable products, and Aisha is passionate about their mission.

What is the dilemma in the case? Explain

Ans: Aisha is now faced with a difficult choice: take the full-time job at the advertising agency, which would allow her to secure her financial future, or honor her promise to Eco-Prints, potentially jeopardizing her own livelihood. If she takes the full-time job, she won't be able to complete the Eco-Prints project on time, potentially damaging her reputation and the startup's prospects. If she stays with Eco-Prints, she risks being financially unstable, and she may have to decline the more secure job offer.

What is the moral consideration in the situation.

Ans: The moral considerations in the situation are:

- Loyalty and Trust:

Aisha must consider the importance of upholding her word and the potential damage to her reputation if she breaks her promise to Eco-Prints.

- Financial Stability:

Aisha must weigh the importance of securing a stable income against the moral implications of potentially abandoning her commitment to Eco-Prints.

- Personal Values:

Aisha must consider her own values and priorities, deciding whether financial security or upholding her word is more important.

Mention the possible courses of action in the situation

Ans: Possible Courses of Action:

- Option 1: Take the Job and Break the Promise:

Aisha could take the full-time job and inform Eco-Prints that she can no longer fulfill her commitment. This would secure her financial future but could damage her reputation and potentially harm Eco-Prints.

- Option 2: Decline the Job and Honor the Promise:

Aisha could decline the job offer and focus on completing the Eco-Prints project. This would allow her to uphold her promise but could jeopardize her financial stability.

- Option 3: Negotiate a Solution:

Aisha could try to negotiate with both parties, potentially finding a way to complete the Eco-Prints project while also exploring part-time work at the advertising agency or finding a way to complete the Eco-Prints project after securing the full-time position.

## **5 Case Study**

Industrial chemicals are produced on a big scale by a conglomerate. It suggested establishing a second unit. Due to its negative impact on the environment, many states rejected this proposal. But one state government acceded to the request and permitted the unit close to a city, brushing aside all opposition. Further, the unit was set up 10 years ago and was in full swing till recently. The pollution caused by the industrial effluents was affecting the land, water, and crops in the area. It was also causing serious health problems to human beings and animals. This gave rise to a series of agitations demanding the closure of the plant. In a recent agitation, thousands of people took part, creating a law-and-order problem necessitating stern police action. Following the public outcry, the State government ordered the closure of the factory. The closure of the factory resulted in the unemployment of not only those workers who were engaged in the factory but also those who were working in the ancillary units. It also very badly affected those industries which depended on the chemicals manufactured by it.

As a senior officer entrusted with the responsibility of handling these issues, how are you going to address it? Discuss the course of action

**Answer:** My course of action:

- My plan would be to look for solution that will keep the factory running under better environmental conditions as well as keep the jobs of the people.
- I would firstly visit the factory to analyze what were the issues that led to the factory closure. I would try to see if the factory could be modified with advance equipment that does not harm the nearby environment.
- If the conditions are good for modification, I would request for a special group of experts who can look for solutions for developing the factory under acceptable conditions.
- When the plans of modification worked well and environmental degradation is reduced, then I would need to convince the people for

their approval for this project to go ahead. I would then provide them with proof so that they trust the administration.

- The factory administration would need to make the changes according to the environmental standards. If the factory does not have any funds, I would consider providing them with necessary resources in short term as a loan so that they can go ahead with the approved plan.
- In a scenario where no modification can be undertaken, then I would brainstorm alternative plans, so that people do not suffer. This can be done through setting up of another industry that is less polluting.
- If no such industry is set up, I would have to take steps that can allow the job losers to attain financial security. This can be done through transferring them to other industries as per their requirements and further, supporting them with self-employment opportunities by providing them with loans to set up small cooperative industries or small business.
- I would be conducting an investigation to find out whether environmental rules were flouted while giving permission to set up factory ten years back or there are any loopholes in the state's Environmental Impact Assessment norms which were used by company. At the same time the inspection should be done to find out that other companies are not flouting norms and polluting the environment.
- Alternatively, I may order the shutdown of the industrial unit due to public outcry, then it would be short sighted solution as, it would shift the problem to some other place and consequently putting the health of people there at risk rather than providing a sustainable solution for the existing problem.

Write down the stakeholders involved in this case study

Answer: Stakeholders involved in the case are as under:

- Me as a senior officer who is responsible to solve this case,
- People living in the area,
- Employee of the closed factory, Ancillary units,
- State government which gave permission to set up industrial unit,
- MLA/MP of the area

What human attribute for an officer is important in this case to solve the issue?

- **Emotional Intelligence:** It would help senior officer in handling the difficult situation arising from the above case.
- **Empathy:** It is an awareness of the needs and feelings of others both individually and in groups and being able to see things from the point of view of others.

## 6 Discuss the type of Inquiry in Engineering ethics?

Answer: Inquiry means an investigation: - Engineering ethics involves investigations into values, meaning and facts.

**Normative Inquiries:** 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 Inquiries:** These are meant for describing the meaning of concepts, principles, and issues related to Engineering Ethics.

Examples are:

- A. What is SAFETY and how is it related to RISK
- B. Protect the safety, health and welfare of public-What does this statement mean?
- C. What is a bribe?
- D. What is a profession and who are professionals?

**Factual or 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.



## 7. What is profession. Describe the key characteristics of profession. Explain the model of professional roles.

Answer: A profession is characterized by a body of knowledge acquired through education and training, requiring specialized skills and expertise. Professionals are expected to uphold ethical standards and act in the best interests of the public or their clients. Examples of professions include medicine, law, engineering, teaching, and social work.

### Key Characteristics of a Profession:

**Specialized Knowledge and Skills:** Professionals possess in-depth knowledge and skills in their field, acquired through formal education and training.

**Ethical Standards:** Professions have a code of ethics that guides their conduct and ensures accountability.

**Public Service:** Professionals are expected to serve the public interest and prioritize the needs of their clients or patients.

**Autonomy and Independence:** Professionals often have a degree of autonomy in their work, allowing them to make decisions based on their expertise.

**Professional Organizations:** Many professions have professional bodies or associations that set standards, provide continuing education, and advocate for the profession.

### Models of Professional Roles:

***Savior:*** This model views professionals as having the power to save or fix problems, often seen in fields like medicine or social work.

***Guardian:*** Professionals in this model act as protectors of the public or their clients, ensuring their well-being and safety.

***Bureaucratic Servant:*** This model emphasizes following rules and procedures, often seen in fields like government or law enforcement.

***Social Enabler:*** Professionals in this model work to create positive social change and empower individuals or communities.

***Game Player:*** This model views professionals as strategic actors who navigate complex systems and situations to achieve their goals.

## 8. What is Emotional Intelligence. Discuss the theories related to Emotional Intelligence.

Answer: Emotional intelligence refers to the ability to identify and manage one's own emotions, as well as the emotions of others. Emotional intelligence is generally said to include a few skills: namely emotional awareness, or the ability to identify and name one's own emotions; the ability to harness those emotions and apply them to tasks like thinking and problem solving; and the ability to manage emotions, which includes both regulating one's own emotions when necessary and helping others to do the same.

### **Daniel Goleman's Theory of Emotional Intelligence**

Daniel Goleman popularized the concept of Emotional Intelligence (EI) in the 1990s, especially through his book *Emotional Intelligence: Why It Can Matter More Than IQ* (1995). According to Goleman, Emotional Intelligence is a key factor for success in life and at work — sometimes even more important than IQ.

He breaks EI into five core components:

#### **1. Self-Awareness**

- Recognizing your own emotions and how they affect your thoughts and behavior.
- Knowing your strengths and weaknesses.
- Having self-confidence.

#### **2. Self-Regulation**

- Managing your emotions in healthy ways.
- Controlling impulsive feelings and behaviors.
- Being adaptable, keeping your cool under pressure.
- Showing trustworthiness and integrity.

#### **3. Motivation**

- Being driven to achieve for the sake of achievement.
- Commitment to personal and organizational goals.
- Optimism, even in the face of challenges.

#### **4. Empathy**

- Recognizing, understanding, and considering other people's feelings, especially when making decisions.

- Crucial for leading and managing teams.
- Helps with developing others and managing diversity.

## **5. Social Skills**

- Building good relationships.
- Managing conflict effectively.
- Inspiring and influencing others.
- Working well in teams.

## **Salovey Mayer Theory of Emotional Intelligence**

Salovey and Mayer define Emotional Intelligence as:

*“The ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional meanings, and to regulate emotions reflectively to promote emotional and intellectual growth.”*

They view EI as part of intelligence — something you can develop over time. They proposed a **four-branch model**, which focuses on how we process emotional information.

### **The Four Branches of Salovey and Mayer’s EI Model:**

#### **1. Perceiving Emotions**

- Recognizing emotions in yourself and others.
- Reading emotional cues like facial expressions, tone of voice, and body language.
- The foundation of EI: if you can't recognize emotions, you can't manage them.

#### **2. Using Emotions to Facilitate Thinking**

- Harnessing emotions to prioritize what we pay attention to.
- Using emotions to guide decision-making and problem-solving.
- Emotions help us to think more creatively and flexibly.

#### **3. Understanding Emotions**

- Comprehending emotional language and the signals emotions convey.

- Understanding complex feelings (like feeling both happy and sad about something).
- Recognizing how emotions evolve over time and predict emotional outcomes.

#### **4. Managing Emotions**

- Regulating emotions in yourself and others.
- Staying open to feelings but also managing emotional responses in a productive way.
- Helps with emotional recovery and maintaining emotional balance.