GE8076 — Professional Ethics in Engineering.
GE8705

<u>Unit-II</u>.

1. <u>What is moral autonomy? Discuss the theories of moral autonomy by kohlberg and Gilligan.</u>

<u>Moral Autonomy</u> :

⇒ It is the quality of

→ Self-determining
→ Independent
→ personal Involvement
→ Exercised based on the moral concern for

other people and recognition of good moral reasons.

<u>Moral Development theories</u> :

1. <u>kohlberg Theory</u> :

⇒ Moral development in human being occurs overage and experience. kholberg suggested there are three levels of moral development, namely:

• Pre - Conventional
• Conventional, and
• Post - Conventional,

⇒ Based on the type of reasoning and motivation of the individuals in response to moral questions.

• <u>Pre - Conventional level</u>: right conduct for an individual is regarded as whatever directly benefits oneself.

⇒ At this level, individuals are motivated by obedience or the desire to avoid punishment to satisfy their own needs or by the influence by power on them. All young children exhibit this tendency.

• <u>Conventional level</u> : People respect the law and authority. Rules and norms of one's family or group or society is accepted, as the standard of morality.

⇒ Individuals in this level want to please or satisfy, and get approval by others and to meet the expectations of the society, rather than their self interest (eg., good boy, good girl). Loyality is regarded as most important. Many adults do not go beyond this level.

• <u>post conventional level</u> : People are called autonomous. They think originally and want to live by universally good principles and welfare of others. They have on self-interest.

⇒ They live by principled conscience. They follow the golden rule ' Do unto others as you would have them do unto you'. They maintain moral integrity, self-respect and respect for others.

⇒ Kohlberg believed that individuals could only progress through these stages; one stage at a time. He believed that most of the moral development occurs through social interactions.

2. Gilligan's Theory :

Pre conventional level : which is same as that Kohlberg's first one, Right conduct is viewed in a selfish manner solely as what is good for oneself.

Conventional level : The importance is on not hurting others, and willing to sacriffice one's own interest and help others. This is the characteristic feature of women.

post conventional level : A reasoned balance is found between caring about others and pursuing the Self intrest. The balance one's own need and the needs of others, is aimed while maintaining relationship based on mutual caring. This is achieved by context-oriented reasoning, rather than by hierarchy of rules.

Kohlberg's Theory	Carol Gilligan's Theory.
1. Is based on the study on men.	1. Is based on the study on men and women.
2. Men give importance to moral rule	2. Women always want to keep up the personal relationships with all the persons involved in the situations.
3. Ethics of rules and rights.	3. Women give attention to circumstance leading to critical situations rather than rules. (context-oriented and ethics of care)

2. <u>Enumerate on moral issues and types of inquiries.</u>

The reasons for people including the employer and employees, behaving unethically may be classified into three categories:

   1. Resource Crunch
   2. Opportunity
   3. Attitude.

<u>Variety of moral issues</u>

  1. organization oriented issues
  2. Clients are customer issues
  3. Competitions oriented issues
  4. Law government and public agencies oriented issues
  5. Professional societies oriented issues
  6. Social and environmental oriented issues.
  7. family oriented issues.

<u>Types of Inquiries</u>

There are three types of inquiries, in solving ethical problems are:

  • Normative Inquiry
  • Conceptual Inquiry
  • Factual or descriptive Inquiry.

• Normative Inquiry:
It seeks to identify and justify the morally desirable norms or standards that should guide individuals and groups. It also has the

theoritical goal of justifying particular moral judgments.

Normative questions are about what ought to be and what is good, based on moral values.

For example :

1. How far does the obligation of engineers to protect public safety extend in any given situations?

2. When, if ever, should engineers be expected to blow whistle on dangerous practices of their employers?

- **Conceptual Inquiry :**

It is directed to clarify the meaning of concepts or ideas or principles that are expressed by words or by questions and statements.

For examples :

a) what is meant by safety?

b) How is it related to risk?

c) what is a bribe?

d) what is profession?

When moral concepts are discussed, normative and conceptual issues are colosely inter connected.

- **factual or Descriptive Inquiry :**

It is aimed to obtained facts needed for understanding and resolving value issues. Researchers conduct factual inquiries using mathematical or statistical techniques.

The inquiry provide important information on business realities, engineering practice, and the effective-ness of professional societies in fostering in fostering moral conduct, the procedures used in risk assessment, and psychological profiles of engineers.
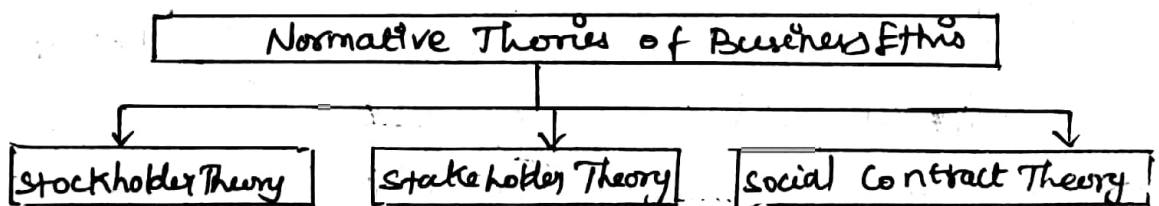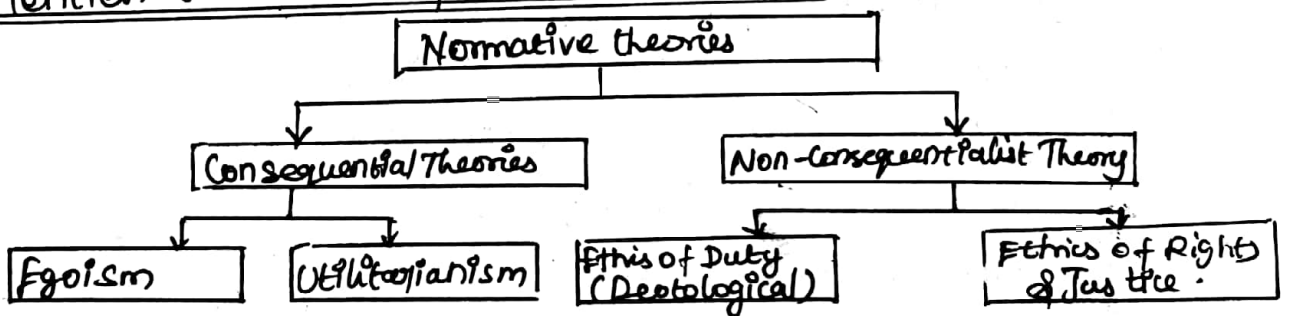
The fact provide not only the reasons for moral problems but-also enable us to develop alternative way of resolving moral problems.

for examples:

  a) How were the benifits assessed?

  b) what are procedures followed in risk assessment?

  c) what are short-term and long term effects of drinking water being polluted.?

  d) Who conducted the tests on material?

3. **Name and describe the theories of right action. Mention the uses of ethical theories.**

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                    │  Normative theories  │
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              ┌────────────────┴────────────────┐
              ▼                                  ▼
  ┌──────────────────────┐          ┌──────────────────────────┐
  │ Consequential Theories│          │ Non-Consequentialist Theory│
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  ┌────────┐  ┌──────────────┐   ┌──────────────┐  ┌────────────────┐
  │ Egoism │  │Utilitarianism│   │Ethics of Duty│  │Ethics of Rights│
  └────────┘  └──────────────┘   │(Deontological)│  │ & Justice .    │
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          ┌──────────────────────────────────────┐
          │ Normative Theories of Business Ethics │
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┌──────────────────┐ ┌──────────────────┐ ┌──────────────────────┐
│Stockholder Theory│ │Stakeholder Theory│ │Social Contract Theory│
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Ethical Theories / Approaches :

Several ethical theories have been developed over different times, each of them stressing certain ethical principles or features.

Each stresses a view and many times, we find that these theories converge and reinforce the ethics, in deciding upon the actions and justifying the results.

1. Utilitarian Theory : "Most good for the Most people".

Right actions are the ones that produce the greatest satisfaction of the preferences of the affected persons. In analysing an issue in this approach, we have to consider the following :

    a) Identify the various courses of action available to us.

    b) Ask who will be affected by each action and what benefits or harms will be derived from each.

    c) Choose the action, that will produce the greatest benefits and least harm. The ethical action is the one that provides the greatest good for the greatest number.

The Act utilitarian theory : (J.S. Mill 1806 −73)

An action is right, if it generates the most overall good for the most people involved.

The Rule Utilitarian Theory : Richard Brandt (1910-97)

It stressed on the rules such as 'do not steal', 'do no harm others', 'do not bribe', as of primary Importance.

For example:

Stealing an old computer from the employer will benefit the employee more than the loss to the employer.

As per Act, utilitarian this action is right. But rule utilitarian observes this as wrong, because the employee should act as 'faithful agent or trustee of the employees'.

2. Duty Ethics:

The duty ethics theory:

The duty ethics proposed by Immanuel Kant (1724-1804) states, that actions are consequences of performance of one's duties such as 'being honest', 'not cause suffering of others', 'being fair to others including the meek and week', being grateful, 'keeping promise' etc.

Duty ethics that reflect our moral convictions namely:

1. **Fidelity:** Duty to keep promise

2. **Reparation:** Duty to compensate others when we harm them.

3. **Grattitude:** Duty to thank those who help us.

4. **Justice:** Duty to recognize merit

5. **Beneffonce:** Duty to recognize inequality and improve the condition of other.

6. **Self-Improvement:** Duty to impove the virtues and Intelligence.

7. **Non-malfesance:** Duty not to injure others.

Draw back of duty ethics: Duty ethics does not always lead to a solution which maximizes the public good.

3. Rights Theory :

Human rights : Human rights are explained in two forms, namely liberty rights and welfare rights. Liberty rights are rights to exercise one's liberty and stresses duties on other people not to interfere. with one's freedom.

Economic rights : In the free-market economy, the very purpose of the existence of the manufacture; the sellers and the service providers is to serve the consumer. The consumer is eligible to exercise some rights. .

4. The Virtue Theory :

This emphasizes on the character rather than the rights or duties. The character is the pattern of virtues (morally - desirable features).

The theory advocated by Aristotle, stressed on the tendency to act at proper balance between extremes of conduct, emotion, desire, attitudes to find the golden mean between the extreme of 'excess' or 'difficiency'.

5. Self - Realization Ethics :

Right action consists in seeking self-fulfillment. In one version of this theory, the self to be realized is defined by caring relationships with other individuals and society. In another version called ethical egoism,

the right action consists in always promoting what is good for oneself. No caring and society relationships are assumed.

6. Justice (fairness) Theory:

The Justice or fairness approach to ethics has its roots in the teaching of the ancient Greek philosopher Aristotle, who said that equals should be treated equally and unequals unequally.

The basic moral question in this approach is: How fair is an action? Does it treat everyone in the same way, or does it shown favoritisms and discrimination?

Uses of ethical theories:

1. In understanding moral dilemma. They provide clarity, consistency, systematic and comprehensive understanding.

2. It provides helpful practical guidance in moral issues towards the solution.

3. Justifying professional obligations and decisions and

4. In relating ordinary and professional morality.

4. Describe the professional roles played by an Engineer. What is professionalism? Discuss the motives for professionalism and models for professional Engineers.

Professionalism :-

It is the status of a professional which implies certain attitudes or typical qualities that are expected to be a professional.

The criteria for achieving and sustaining professional status or professionalism are :

1. Advanced expertise
2. Self regulation
3. public good

Motives for professionalism :

"Engineering is a great profession ..... It elevates the standards of living and adds to the comforts of life. That is the engineer's high privilege.

— Herbert Hoover.

"The main existential pleasure of the engineer will always be to contribute to the well-being of this fellow man".

Models of professional Roles : (Professional Engineers role)

promotion of public good is the primary concern of the professional Engineers. There are several role models to whom the engineers are attracted. These models provoke their thinking attitudes and actions.

1. **Savior :** The engineer as a Savior, save the society from poverty, illiteracy, wastage, inefficiency, ill health, human (labor) dignity and lead it to prosperity, through technological development and social planning.

   Eg : R.L. Stevenson.

2. **Guardian :** He guards the interests of the poor and general public. As one who is conversant with technology development, is given the authority befitting his expertice to determine what best suited to the society.

   Eg : Lawrence of Arabia (an engineer)

3. **Bureaucratic Servant :** He serves the organization and the employers. The management of an enterprise fixes its goals and assigns the job of problem solving to the engineer, who accepts the challenge and shapes them into concrete achievement.

   Eg : Jamshedji Tata.

4. **Social Servant :** It is one who exhibits social responsibility. The engineer translates the interest and aspirations of the society into a reality, remembering that his true master is the society at large.

   Eg : Sir M. Viswesvarayya.

5. **Social Enabler and catalyst :** One who changes the society to understand their needs and informed decisions on the desirable technological development and minimize the negative effects of technology on people and their living environment.

   Eg : Sri Sundarlal Bahuguma.

6. **Game player:** He is neither a servant nor master. An engineer is an assertive player, not a passive player who may carry out his master's voice.

He plays a unique role successfully within the organization, enjoying the excitement of the profession and having the satisfaction of surging ahead in a competitive world.

Eg: Narayanamurthy, Infosys and Dr. Kasthurirangan, ISRO.

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5. Explain the scope and importance of professional ethics in engineering.

Scope of Engineering Ethics.

a) Ethics of the workplace which involves the co-workers and employees in an organization.

b) Ethics related to the product or work which involves the transportation, warehousing and use, besides the safety of the end product and the environment outside the factory.

Importance of professional ethics in engineering.

The study of engineering ethics is necessary for all engineering students because of the following reasons:

1. Simulating the moral imagination

The engineering ethics course is to simulate the moral imagination of engineering students.

Imagination is necessary for engineers in anticipating the consequences of actions as professionals

and in finding solutions to ethical problems encountered in their professional life.

2. Recognizing ethical issues:

The ethical problems encountered in engineering practice, often, are very complex. Also they involve conflicting ethical principles.

The engineering ethics course helps engineers in recognizing various ethical issues.

3. Developing analytical skills; required for analyzing moral issues are quite different than that for exercising good engineering practice.

While analyzing moral issues, one requires clear thinking about concepts such as utility, justice rights, duties and respects for persons.

The aim of engineering ethics is to train the engineers to analyze complex problems.

4. Drawing out a sense of responsibility

It promotes a sense of responsibility and the moral autonomy of future engineers.

5. Addressing unclarity, uncertainty, and disagreement

It helps the engineers in addressing unclarity uncertainty & disagreement about moral issues.

6. Write a short note on :

i) Moral dilemmas :

Definition : Dilemmas are situations in which moral reasons come into conflict, or in which the application of moral values are problems, and one is not clear of the immediate choice or solution of the problems.

Moral reasons could be rights, duties, goods or obligations. These situations do not mean that things had gone wrong, but they only indicate the presence of moral complexity. This makes the decision making complex.

Steps to solve dilemma :

Step 1 : Identifying the pertinent moral factors and reasons.

Step 2 : Collecting all available moral consideration.

Step 3 : Ranking the above collected moral considerations

Step 4 : Making factual inquires.

Step 5 : Inviting discussions & suggestions from colleagues.

Step 6 : Taking the final decision.

ii) Consensus and controversy :

Consensus and controversy are factors relevant to moral autonomy.

Consensus — means agreement

Controversy — means conflict / disagreement

Many reasonable solutions are possible to a given ethical problem. The ethics make the engineers realize the importance of tolerance among the agreement and disagreement over a problem.

7. <u>Write a short note on :</u> (i)

(i) <u>Self - Intrest</u>

Self-Interest is being good and acceptable to oneself. It is pursuing what is good for oneself. It is very ethical to posses Self-Intrest.

⇒ As per utilitarian theory, this interest should provide for the respect of others also.

⇒ Duty ethics recognizes this aspects as duties to us.

⇒ Virtue ethics also accepts the importance of self - respects as link to social practices.

⇒ In ethical Egoism, the self is conceived in a highly individualistic manner.

⇒ The ethical egoists hold that the society benefits to maximum when.

 a) the individual purpose their personal good

and

 b) The individual organizations pursue maximum profit in a Competitive enterprise.

(ii) <u>Customs</u>.

<u>Ethical Pluralism!</u>

Ethical pluralism is the view that there may be alternative moral perspectives that are reasonable, but not one of which must be accepted completely by

all rational and morally concerned persons.

Ethical Relativism:

According to this principle, actions are considered morally right when approved by law or custom, and wrong when they violate the laws or customs. The deciding factor is the law or the customs of the society.

iii) Religion:

Religions have played major role in shaping moral views and moral values, over geographical regions.

Religions support moral responsibility. They have set high moral standards.

Faith in the religions provides trust and this trust inspires people to be moral. The religions insist on tolerance and moral concern for others.

Many professionals who possess religious beliefs are motivated to be morally responsible. Each religion lays stress on certain high moral standards.