

UNIT II ENGINEERING ETHICS

Senses of “Engineering Ethics” – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg’s theory – Gilligan’s theory – Consensus and Controversy – Models of professional roles - Theories about right action – Self-interest – Customs and Religion – Uses of Ethical Theories

Engineering Ethics

OVERVIEW

Engineering Ethics is the activity and discipline aimed at

- Understanding the moral values that ought to guide engineering profession or practice,
- Resolving moral issues in engineering, and
- Justifying the moral judgments in engineering. It deals with set of moral problems and issues connected with engineering.

Engineering Ethics...

- Engineering ethics is defined by the codes and standards of conduct endorsed by engineering (professional) societies with respect to the particular set of beliefs, attitudes and habits displayed by the individual or group.
- Another important goal of engineering ethics is the discovery of the set of justified moral principles of obligation, rights and ideals that ought to be endorsed by the engineers and apply them to concrete situations. Engineering is the largest profession and the decisions and actions of engineers affect all of us in almost all areas of our lives, namely public safety, health, and welfare

Scope

The scope of engineering ethics is twofold:

1. Ethics of the workplace which involves the co-workers and employees in an organization.
2. 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.

Approach

There are conventionally two approaches in the study of ethics:

1. Micro-ethics which deals with decisions and problems of individuals, professionals, and companies.
2. Macro-ethics which deals with the societal problems on a regional/national level. For example, global issues, collective responsibilities of groups such as professional societies and consumer groups.

SENSES OF ENGINEERING ETHICS

There are two different senses (meanings) of engineering ethics, namely the Normative and the Descriptive senses. The normative sense include:

- (a) Knowing moral values, finding accurate solutions to moral problems and justifying moral judgments in engineering practices,
 - (b) Study of decisions, policies, and values that are morally desirable in the engineering practice and research, and
 - (c) Using codes of ethics and standards and applying them in their transactions by engineers.
- The descriptive sense refers to what specific individual or group of engineers believe and act, without justifying their beliefs or actions.

VARIETY OF MORAL ISSUES

- It would be relevant to know why and how do moral issues (problems) arise in a profession or why do people behave unethically?
- The reasons for people including the employer and employees, behaving unethically may be classified into three categories:
 1. Resource Crunch
 2. Opportunity
 3. Attitude

1.Resource Crunch

- Poor attitude of the employees set in due to
 - (a) Low morale of the employees because of dissatisfaction and downsizing,
 - (b) Absence of grievance redressal mechanism,
 - (c) Lack of promotion or career development policies or denied promotions,
 - (d) Lack of transparency,
 - (e) Absence of recognition and reward system, and
 - (f) Poor working environments.
- Giving ethics training for all, recognizing ethical conduct in work place, including ethics in performance appraisal, and encouraging open discussion on ethical issues, are some of the directions to promote positive attitudes among the employees. To get firm and positive effect, ethical standards must be set and adopted by the senior management, with input from all personnel.

2. Opportunity

- (a) Double standards or behavior of the employers towards the employees and the public. The unethical behaviors of World Com (in USA), Enron (in USA as well as India) executives in 2002 resulted in bankruptcy for those companies,
- (b) Management projecting their own interests more than that of their employees. Some organizations over-emphasize short-term gains and results at the expense of themselves and others,
- (c) Emphasis on results and gains at the expense of the employees, and

3. Attitude

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TYPES OF INQUIRIES

The three types of inquiries, in solving ethical problems are: normative inquiry, conceptual inquiry, and factual or descriptive inquiry.

1. Normative Inquiry
 2. Conceptual Inquiry
 3. Factual or Descriptive Inquiry
- The three types of inquiries are discussed below to illustrate the differences and preference.

1. Normative Inquiry

It seeks to identify and justify the morally-desirable norms or standards that should guide individuals and groups. It also has the theoretical 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 situation?
2. When, if ever, should engineers be expected to blow whistle on dangerous practices of their employers?
3. Whose values ought to be primary in making judgment about acceptable risks in design for a public transport system or a nuclear plant? Is it of management, senior engineers, government, voters or all of them?
4. When and why is the government justified in interfering with the organisations?
5. What are the reasons on which the engineers show their obligations to their employees or clients or the public?

2. 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 example,

- (a) What is meant by safety?
- (b) How is it related to risk?
- (c) What is a bribe?
- (d) What is a profession?

When moral concepts are discussed, normative and conceptual issues are closely interconnected.

3. Factual or Descriptive Inquiry

It is aimed to obtain 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 effectiveness of professional societies in fostering moral conduct, the procedures used in risk assessment, and psychological profiles of engineers. The facts provide not only the reasons for moral problems but also enable us to develop alternative ways of resolving moral problems. For example,

1. How were the benefits assessed?
2. What are procedures followed in risk assessment?
3. What are short-term and long-term effects of drinking water being polluted? and
4. Who conducted the tests on materials?

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. For example, a person promised to meet a friend and dine, but he has to help his uncle who is involved in an accident — one has to fix the priority.

There are some difficulties in arriving at the solution to the problems, in dilemma. The three complex situations leading to moral dilemmas are:

MORAL DILEMMAS.....

1. The problem of vagueness: One is unable to distinguish between good and bad (right or wrong) principle. Good means an action that is obligatory. For example, code of ethics specifies that one should obey the laws and follow standards. Refuse bribe or accept the gift, and maintain confidentiality
2. The problem of conflicting reasons: One is unable to choose between two good moral solutions. One has to fix priority, through knowledge or value system.
3. The problem of disagreement: There may be two or more solutions and none of them mandatory. These solutions may be better or worse in some respects but not in all aspects. One has to interpret, apply different morally reasons, and analyze and rank the decisions. Select the best suitable, under the existing and the most probable conditions.

Steps to Solve Dilemma

1. The logical steps in confronting moral dilemma are:
2. Identification of the moral factors and reasons. The clarity to identify the relevant moral values from among duties, rights, goods and obligations is obtained (conceptual inquiry). The most useful resource in identifying dilemmas in engineering is the professional codes of ethics, as interpreted by the professional experience. Another resource is talking with colleagues who can focus or narrow down the choice of values.
3. Collection of all information, data, and facts (factual inquiry) relevant to the situation.

Steps to Solve Dilemma.....

3. Rank the moral options i.e., priority in application through value system, and also as obligatory, all right, acceptable, not acceptable, damaging, and most damaging etc. For example, in fulfilling responsibility, the codes give prime importance to public safety and protection of the environment, as compared to the individuals or the employers (conceptual inquiry).
4. Generate alternate courses of action to resolve the dilemma. Write down the main options and sub-options as a matrix or decision tree to ensure that all options are included.
5. Discuss with colleagues and obtain their perspectives, priorities, and suggestions on various alternatives.
6. Decide upon a final course of action, based on priority fixed or assumed. If there is no ideal solution, we arrive at a partially satisfactory or 'satisfying' solution.

MORAL AUTONOMY

- Moral autonomy is defined as, decisions and actions exercised on the basis of moral concern for other people and recognition of good moral reasons.
- Alternatively, moral autonomy means ‘self determinant or independent’. The autonomous people hold moral beliefs and attitudes based on their critical reflection rather than on passive adoption of the conventions of the society or profession.
- Moral autonomy may also be defined as a skill and habit of thinking rationally about the ethical issues, on the basis of moral concern.
- Viewing engineering as social experimentation will promote autonomous participation and retain one’s professional identity.

MORAL AUTONOMY.....

- Periodical performance appraisals, tight-time schedules and fear of foreign competition threatens this autonomy.
- The attitude of the management should allow latitude in the judgments of their engineers on moral issues.
- If management views profitability is more important than consistent quality and retention of the customers that discourage the moral autonomy, engineers are compelled to seek the support from their professional societies and outside organizations for moral support.
- It appears that the blue-collar workers with the support of the union can adopt better autonomy than the employed professionals.
- Only recently the legal support has been obtained by the professional societies in exhibiting moral autonomy by professionals in this country as well as in the West.

MORAL AUTONOMY.....

- The engineering skills related to moral autonomy are listed as follows:
- 1. Proficiency in recognizing moral problems in engineering and ability to distinguish as well as relate them to problems in law, economics, and religion,
- 2. Skill in comprehending, clarifying, and critically-assessing arguments on different aspects of moral issues,
- 3. Ability to form consistent and comprehensive view points based on facts,
- 4. Awareness of alternate responses to the issues and creative solutions for practical difficulties,
- 5. Sensitivity to genuine difficulties and subtleties, including willingness to undergo and tolerate some uncertainty while making decisions,
- 6. Using rational dialogue in resolving moral conflicts and developing tolerance of different perspectives among morally reasonable people, and
- 7. Maintaining moral integrity.

MORAL AUTONOMY.....

- Autonomy which is the independence in making decisions and actions, is different from authority. Authority provides freedom for action, specified within limits, depending on the situation.
- Moral autonomy and respect for authority can coexist.
- They are not against each other.
- If the authority of the engineer and the moral autonomy of the operator are in conflict, a consensus is obtained by the two, upon discussion and mutual understanding their limits.

Kohlberg Theory

- Moral development in human being occurs over age and experience. Kohlberg 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.
- In the pre-conventional level, 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 or to satisfy their own needs or by the influence by power on them. All young children exhibit this tendency.
- At the conventional level, 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 (e.g., good boy, good girl). Loyalty is regarded as most important. Many adults do not go beyond this level.

Kohlberg Theory.....

- At the post-conventional level, people are called autonomous.
- They think originally and want to live by universally good principles and welfare of others. They have no 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.

Gilligan's Theory

- Carol Gilligan found that Kohlberg's theory had a strong male bias. According to Gilligan's studies, men had a tendency to solve problems by applying abstract moral principles.
- Men were found to resolve moral dilemma by choosing the most important moral rule, overriding other rules.
- In contrast, women gave importance to preserve personal relationships with all the people involved.
- The context oriented emphasis on maintaining personal relationships was called the ethics of care, in contrast with the ethics of rules and rights adopted by men.
- Gilligan revised the three levels of moral development of Kohlberg, as stages of growth towards ethics of caring.

Gilligan's Theory....

- The pre-conventional level, which is same as that of Kohlberg's first one, right conduct, is viewed in a selfish manner solely as what is good for oneself.
- The second level called conventional level, the importance is on not hurting others, and willing to sacrifice one's own interest and help others.
- This is the characteristic feature of women. At the post-conventional level, a reasoned balance is found between caring about others and pursuing the self-interest.
- 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.
- The theories of moral development by Kohlberg and Gilligan differ in the following respects.

Kohlberg Theory and Gilligan's Theory

<i>Kohlberg's Theory</i>	<i>Carol Gilligan's Theory</i>
A. Basic Aspects	
<ol style="list-style-type: none"> 1. Is based on the study on men. 2. Men give importance to moral rule. 3. Ethics of rules and rights. 	<ol style="list-style-type: none"> 1. Is based on the study on men and women 2. Women always want to keep up the personal relationships with all the persons involved in the situations. 3. Women give attention to circumstances leading to critical situations rather than rules: (context-oriented and ethics of care)
B Characteristic Features	
<ol style="list-style-type: none"> 1. Justice 2. Factual 3. Right or wrong 4. Logic only 5. Logic and rule-based 6. Less of caring 7. Matter of fact (practical) 8. Present focus 9. Strict rules 10. Independence 11. Rigid 12. Taking a commanding role 13. Transactional approach 	<ol style="list-style-type: none"> 1. Reason 2. Emotional 3. Impact on relationships 4. Compassion too 5. Caring and concern 6. More of caring 7. Abstract 8. Future focus 9. Making exceptions 10. Dependence 11. Human-oriented 12. Shying away from decision-making 13. Transformational approach

MODELS OF PROFESSIONAL ROLES

- 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. For example, 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 expertise to determine what is best suited to the society. For example, 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 achievements. For example, Jamshedji Tata.

MODELS OF PROFESSIONAL ROLES

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. For example, Sir M. Viswesvarayya.
5. **Social Enabler and Catalyst :** One who changes the society through technology. The engineer must assist the management and the society to understand their needs and make informed decisions on the desirable technological development and minimize the negative effects of technology on people and their living environment. Thus, he shines as a social enabler and a catalyst for further growth. For example, Sri Sundarlal Bahuguna.
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. For example, Narayanamurthy, Infosys and Dr. Kasthurirangan, ISRO.

THEORIES ABOUT RIGHT ACTION (ETHICAL THEORIES)

Uses and Criteria

The ethical theories are useful in many respects.

1. In understanding moral dilemma. They provide clarity, consistency, systematic and comprehensive understanding.
2. Ethical theories aid in identifying the moral considerations or reasons that constitute a dilemma.
3. Ethical theories provide a more precise sense of what kinds of information are relevant to solving moral dilemmas.
4. It provides helpful practical guidance in moral issues towards the solution. sometimes it offer ways to rank the relevant moral considerations in order of importance and thereby provide at least rough guidance in solving moral problems

THEORIES ABOUT RIGHT ACTION (ETHICAL THEORIES).....

5. The theories suggest a general priority of the obligation to protect the public
 - i) The special importance of rights to life and to informed consent concerning risks to one's life.
 - ii) the importance of duties to protect the vulnerable public
 - iii) The degree of immorality involved in death and risk of death compared to economic benefits to corporations.
6. Justifying professional obligations and decisions, and
7. By providing frameworks for development of moral arguments ,the theories strengthen our ability to reach balanced and insightful judgments.
8. In relating ordinary and professional morality. The theories augment the precision with which we use moral terms and they provide frame works for moral reasoning when discussing moral issues
9. It provides a systematic framework for comparing the alternatives.

Different criteria may be applied for evaluating various ethical theories and deciding upon the best

1. The theory must be clear and (coherent) formulated with concepts that are logically connected.
2. It must be internally consistent, i.e., none of its principles conflicts with any other
3. The theory and its defense must depend, only upon facts.
4. It must organize basic moral values in systematic and comprehensive manner. It is to fix priority of values and provide guidance in all situations
5. It must provide guidance compatible with our moral convictions (judgments) about concrete situations. For example, if an ethical theory says that it is all right for engineers to make explosive devices without the informed consent of the public, we can conclude that the theory is inadequate.

- Theories and judgments are continually adjusted to each other until we reach a reflective equilibrium. Most of the theories converge towards the welfare of the humanity.
- The duty ethics and right ethics differ in great extent on their emphasis. But they remain complementary always.

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

1. Utilitarian Theory

- The term Utilitarianism was conceived in the 19th century by Jeremy Bentham and John Stuart Mill to help legislators determine which laws were morally best.
- They suggested that the standard of right conduct is maximization of good consequences. Good consequences mean either 'utilities' or the 'balance of good over evil'.
- This approach weighs the costs and benefits. Right actions are the ones that produce the greatest satisfaction of the preferences of the affected persons. In analyzing an issue in this approach, we have to:
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1. Utilitarian Theory.....

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 - (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 the least harm. The ethical action is the one that provides the greatest good for the greatest number.
- The ACT UTILITARIAN theory proposed by J.S. Mill (1806-73) focuses on actions, rather than on general rules. An action is right, if it generates the most overall good for the most people involved.
- The RULE UTILITARIAN theory, developed by Richard Brandt (1910-97), stressed on the rules, such as 'do not steal', 'do no harm others', 'do not bribe', as of primary importance. He suggested that individual actions are right when they are required by set of rules which maximizes the public good.

1. Utilitarian Theory.....

- The act utilitarian theory permitted a few immoral actions. Hence, there was need to develop rule utilitarian theory to establish morality and justice, in the transactions.
- 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'.
- In another example, some undisciplined engineers are terminated with the blame for the mistakes they have not committed.
- The process is unfair although this results in promotion of overall good.

2. Duty Ethics theory

A. The duty ethics theory, 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 promises' etc. The stress is on the universal principle of respect for autonomy i.e., respect and rationality of persons. As per Kant we have duties to ourselves, as we are rational and autonomous beings. We have a duty not to commit suicide; a duty to develop our talents and a duty to avoid harmful drugs. Kant insisted that moral duties are categorical imperatives.

They are commands that we impose on ourselves as well as other rational beings. For example, we should be honest because honesty is required by duty. A businessman is to be honest because honesty pays — in terms of profits from customers and from avoiding jail for dishonesty.

B. On the other hand, the DUTY ethics theory, as enunciated by John Rawl, gave importance to the actions that would be voluntarily agreed upon by all persons concerned, assuming impartiality. His view emphasized the autonomy each person exercises in forming agreements with other rational people. Rawl proposed two basic moral principles; (1) each person is entitled to the most extensive amount of liberty compatible with an equal amount for others, and (2) differences in social power and economic benefits are justified only when they are likely to benefit everyone, including members of the most disadvantaged groups. The first principle is of prime importance and should be satisfied first. Without basic liberties other economic or social benefits cannot be sustained for long. The second principle insists that to allow some people with great wealth and power is justified only when all other groups are benefited. In the business scenario, for example, the free enterprise is permissible so far it provides the capital needed to invest and prosper, thereby making job opportunities to the public and taxes to fund the government spending on the welfare schemes on the poor people.

2. Duty Ethics theory.....

C.W.D. Ross, the British philosopher introduced the term prima facie duties, which means duties might have justified exceptions. In fact, most duties are prima facie ones; some may have obligatory or permissible exceptions. Ross assumed that the prima facie duties are intuitively obvious (self-evident), while fixing priorities among duties. He noted that the principles such as 'Do not kill' and 'protect innocent life' involve high respect for persons than other principles such as, 'Do not lie' (less harmful). This theory is criticized on the fact, that the intuitions do not provide sufficient guideline for moral duty. He has listed various aspects of Duty Ethics that reflect our moral convictions, namely:

1. Fidelity : duty to keep promises.
2. Reparation : duty to compensate others when we harm them.
3. Gratitude : duty to thank those who help us.
4. Justice : duty to recognize merit.
5. Beneficence : duty to recognize inequality and improve the condition of others.
6. Self-improvement : duty to improve virtue and intelligence.
7. Non-maleficence : duty not to injure others.

3. Rights Theory

- Rights are entitlement to act or to have another individual act in a certain way. Minimally, rights serve as a protective barrier, shielding individuals from unjustified infringement of their moral agency by others. For every right, we have a corresponding duty of noninterference.
- ❑ The RIGHTS approach to ethics has its roots in the 18th century philosopher Immanuel Kant, who focused on the individual's right to choose for oneself. People are not objects to be manipulated; it is a violation of human dignity to use people in ways they do not freely choose. Other rights he advocated are:
 1. The right to access the truth: We have a right to be told the truth and to be informed about matters that significantly affect our choices.
 2. The right of privacy: We have the right to do, believe, and say whatever we choose in our personal lives so long as we do not violate the rights of others.
 3. The right not to be injured: We have the right not to be harmed or injured unless we freely and knowingly do something to deserve punishment or we freely and knowingly choose to risk such injuries.
 4. The right to what is agreed: We have a right to what has been promised by those with whom we have freely entered into a contract or agreement.

3. Rights Theory.....

- The RIGHTS theory as promoted by John Locke states that the actions are right, if they respect human rights of every one affected. He proposed the three basic human rights, namely life, liberty, and property. His views were reflected in the modern American society, when Jefferson declared the basic rights as life, liberty, and pursuit of happiness.
- As per **A.I. Melden's** theory based on rights, nature mandates that we should not harm others' life, health, liberty or property. Melden allowed welfare rights also for living a decent human life. He highlighted that the rights should be based on the social welfare system.
- 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. The four features of liberty rights (also called moral rights), which lay the base for Government Administration, are:

3. Rights Theory.....

- 1. Rights are natural in so far as they are not invented or created by government.
- 2. They are universal, as they do not change from country to country.
- 3. They are equal since the rights are the same for all people, irrespective of caste, race, creed or sex.
- 4. They are inalienable i.e., one cannot hand over his rights to another person such as selling oneself to slavery.
- ❑ Economic rights: In the free-market economy, the very purpose of the existence of the manufacturer, the sellers and the service providers is to serve the consumer.
- The consumer is eligible to exercise some rights.
- The consumers' six basic rights are: Right to Information, Right to Safety, Right to Choice, Right to be Heard, Right to Redressal, and Right to Consumer Education.

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 extremes of ‘excess’ or ‘deficiency’

<i>Virtue</i>	<i>Excess</i>	<i>Golden mean</i>	<i>Deficient</i>
Truthfulness (governs communication)	Revealing all in violation of tact and confidentiality	Necessary and sufficient, to proper person	Secretive
Courage (face danger, risk)	Roguishness, bold	Firm and humble	Cowardice
Generosity (giving)	Wasting resources	Give, in appropriate measure	Miserly
Friendliness (governs relationship)	Without anger, effusive	Within decent limits	Bad-tempered
Green environment	Exploitation	Protection	Neglect
Work and earn	Tiresome work (strained)	Balance of work and leisure	Lazy (no work) and more pay

6. Justice (Fairness) Theory

- The justice or fairness approach to ethics has its roots in the teachings 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 show favoritism and discrimination?
- Issues create controversies simply because we do not bother to check the fairness or justice.
- Favoritism gives benefits to some people without a justifiable reason for singling them out; discrimination imposes burdens on people who are no different from those on whom burdens are not imposed.
- Both favoritism and discrimination are unjust and wrong.

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

Self-interest

- Self-interest is being good and acceptable to oneself. It is pursuing what is good for oneself.
- It is very ethical to possess self-interest.
- As per utilitarian theory, this interest should provide for the respect of others also.
- Duty ethics recognizes this aspect as duties to ourselves.
- Then only one can help others. Right ethicist stresses our rights to pursue our own good.
- Virtue ethics also accepts the importance of self-respect as link to social practices.

Religion

- Religions have played major roles in shaping moral views and moral values, over geographical regions. Christianity has influenced the Western countries, Islam in the Middle-East countries, Buddhism and Hinduism in Asia, and Confucianism in China.
- Further, there is a strong psychological link between the moral and religious beliefs of people following various religions and faiths. 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.

Religion

- Each religion lays stress on certain high moral standards. For example, Hinduism holds polytheistic (many gods) view, and virtues of devotion and surrender to high order.
- Christianity believes in one deity and emphasizes on virtues of Love, Faith, and Hope. Buddhism is non-theistic and focuses on compassion and Islam on one deity and adherence of ishan (piety or pursuit of excellence) and prayer.
- Judaism stresses the virtue of 'tsedakah' (righteousness). But many religious sects have adopted poor moral standards, e.g., many religious sects do not recognize equal rights for women.
- The right to worship is denied for some people.
- People are killed in the name of or to promote religion.
- Thus, conflicts exist between the 'secular' and religious people and between one religion and another.

47 Hence, religious views have to be morally scrutinized.

References

1. <https://sites.google.com/site/drtgnanasekaran/course-materials>
2. Mike W. Martin and Roland Schinzinger, “Ethics in Engineering”, Tata McGraw Hill, New Delhi, 2003.
3. Govindarajan M, Natarajan S, Senthil Kumar V. S, “Engineering Ethics”, Prentice Hall of India, New Delhi, 2004.
4. Charles B. Fleddermann, “Engineering Ethics”, Pearson Prentice Hall, New Jersey, 2004.
5. Charles E. Harris, Michael S. Pritchard and Michael J. Rabins, “Engineering Ethics – Concepts and Cases”, Cengage Learning, 2009
6. John R Boatright, “Ethics and the Conduct of Business”, Pearson Education, New Delhi, 2003
7. 4. Edmund G Seebauer and Robert L Barry, “Fundamentals of Ethics for Scientists and Engineers”, Oxford University Press, Oxford, 2001
8. Laura P. Hartman and Joe Desjardins, “Business Ethics: Decision Making for Personal Integrity and Social Responsibility” Mc Graw Hill education, India Pvt. Ltd., New Delhi 2013. \
9. World Community Service Centre, „Value Education“, Vethathiri publications, Erode, 2011

Other presentations

<http://www.slideshare.net/drgst/presentations>

Thank You

Questions and Comments?