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NOTIFICATIONS | SOLVED QUESTION PAPERS**

MODULE: 2

ENGINEERING ETHICS & PROFESSIONALISM

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

ENGINEERING ETHICS

Define Engineering ethics. (3 marks)

Ethics in engineering is the ability as well as responsibility of an engineer to judge his decisions from the context of the general wellbeing of the society. It is the study of moral issues that confront engineers and engineering organizations when some crucial decisions are taken. Engineering research and practice requires that the task being performed considers all the pros and cons of a certain action and its implementation. Professional engineering bodies like, IEEE, ASME, IEI etc., have evolved comprehensive ethics codes relevant to their respective professions, based on the rich experience of their members. Independent organizations like NSPE have prepared value based ethical codes applicable to all engineering professions.

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Explain the factors that influence the ethical standards? (7 marks)

ETHICAL STANDARDS IN ENGINEERING ARE INFLUENCED BY MANY FACTORS

- 1. Engineering as an experimentation for the good of mankind is a notable factor involving far reaching consequence,**
- 2. Ethical dilemmas make engineering decisions relatively difficult to make.**
- 3. Risk and safety of citizens as a social responsibility is a prime concern of an engineer,**
- 4. Technological advancement can be very demanding on the engineering skill in the global context,**
- 5. Moral values and responsible conduct will play a crucial role in decision making.**

PROFESSIONAL ETHICS

- Profession is a commitment to a designated and organized occupation by virtue of being an authority over a body of knowledge with requisite skills acquired through specialized training. An occupation becomes a profession when a group of people sharing the same occupation work together in a morally acceptable way with members setting and following a certain ethics code.
- A professional is a practitioner belonging to a specific profession. Professional ethics, as opposed to personal values and morality, is a set of ethical standards and values a practicing engineer is required to follow. It sets the standards for professional practice, and is only learned in a professional school or while practicing one's own profession. Today, it is an essential part of professional education because it helps students deal with issues they will face.

PROFESSIONAL CODE OF ETHICS

- A code of ethics prescribes how professionals are to pursue their common ideal so that each may do the best at a minimal cost to oneself and those they care about. The code is to protect each professional from certain pressures (for example, the pressure to cut corners

to save money) by making it reasonably likely (and more likely than otherwise) that most other members of the profession will not take advantage. A code is a solution to a coordination problem. A professional has obligations to the employer, to customers, to other professionals- colleagues with specific expectations of reciprocity.

The scope of professional ethics envelopes diverse activities like

- 1. Engineering as a social experimentation**
- 2. Engineers responsibility for safety**
- 3. Role of engineers, managers, consultants etc.**
- 4. Rights of engineers**
- 5. Moral reasoning and ethical theories**
- 6. Responsibility to employers**
- 7. Global issues and concerns**

Define Senses of engineering Ethics. (5 marks)

SENSES OF ENGINEERING ETHICS

- The word ethics has different meanings but they are correspondingly related to each other. In connection with that, engineering ethics has also various senses which are related to one another.
- There are two different senses (meanings) of engineering ethics, namely the Normative and the Descriptive senses. The normative sense includes:
 - Knowing moral values, finding accurate solutions to moral problems and justifying moral judgments in engineering practices,
 - Study of decisions, policies, and values that are morally desirable in the engineering practice and research, and
 - 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 an act, without justifying their beliefs or actions.

Differentiate Ethics & Engineering Ethics. (5 marks)

Comparison of the Senses of Ethics & Engineering Ethics

Ethics	Engineering Ethics
Ethics is an activity which concerns with making investigations and knowing about moral values, finding solutions to moral issues and justifying moral issues and justifying moral judgments.	Like the ethics, engineering ethics also aims at knowing moral values related to engineering, finding accurate solutions to the moral problems in engineering and justifying moral judgments of engineering.
Ethics is a means of contrasting moral questions from non-moral problems.	Engineering Ethics gives a total view of the moral problems and how to solve these issues specifically related to engineering field.
Ethics is also used as a means of describing the beliefs, attitudes and habits related to an individual's or group's morality. Eg. : Ethics given in the Bhagavat Gita or the Bible or the Quran.	Engineering ethics is also using some currently accepted codes and standards which are to be followed by group of engineers and engineering societies.
As per the definition of dictionaries – "moral principles" is about the actions and principles of conduct of the people. i.e. ethical or unethical.	Engineering ethics also concerns with discovering moral principles such as obligation, rights and ideals in engineering and by applying them to take a correct decision.

Explain the variety of moral/ethical issues related to engineering? (9 marks)

VARIETY OF MORAL ISSUES

- The word morality is concerned with:
 - **What morally ought or ought not to be given in a given situation;**
 - **What is morally right or wrong an out the handling of the situation; and/or**
 - **What is morally good or bad about the people, policies, and ideals involved in it?**

According to the Oxford dictionary, morality means principles concerning right and wrong or good and bad behavior. Moral reasons are required to support an act (or an ideal) to be called as morally right act (or an ideal is moral).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 is listed as follows

1. Resource Crunch: Due to pressure, through time limits, availability of money or budgetary constraints, and technology decay or obsolescence. Pressure from the government to complete the project in time (e.g., before the elections), reduction in the budget because of sudden war or natural calamity (e.g., Tsunami) and obsolescence due to technology innovation by the competitor lead to manipulation and unsafe and unethical execution of projects. Involving individuals in the development of goals and values and developing policies that allow for individual diversity, dissent, and input to decision-making will prevent unethical results.

- **2. Opportunity:**
 - a) Double standards or behavior of the employers towards the employees and the public. The unethical behaviours 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
 - d) Management by objectives, without focus on empowerment and improvement of the infrastructure. This is best encountered by developing policies that allow 'conscience keepers' and whistle blowers and appointing ombudsman, who can work confidentially with people to solve the unethical problems internally.

3. Attitude: 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.

- **4. Organization oriented issues:** Being an employee to firm, the engineer has to work towards the achievement of the objectives of his/her organization. Engineers have to give higher priority to the benefits of the organization than one's own benefits. Engineers should be able to work collectively with colleagues and other members in order to achieve firm's goals.
- **5. Clients or customers oriented issues:** As we know, the purpose of any business is to reach and satisfy the end users. Therefore the customers 'requirements should be met. In this regard, engineers have a major role to play in identifying the customer voice', and incorporating the voice of the customer into the product design and manufacture. Apart from engineering technicality issues, engineers also should face other moral and ethical issues with clients/customers.
- **6. Law, Government and Public agencies oriented issues:** The engineers should obey and voluntarily comply with all the governmental rules and regulations related to them. They should also respect and honestly practice all other similar laws, policies, and regulations.
- **7. Professional Societies Oriented Issues:** The engineers should follow strictly the various codes of ethics by various professional societies such as National Society of Professional Engineers (NSPE), the Institute of Electrical and Electronics Engineers (IEEE), and American Society of Mechanical Engineers (ASME), in order to perform standard professional behavior. Professional codes of ethics reflect basic norms' of conduct that exist within a particular profession and provide general guidance relating to a variety of issues.
- **8. Social and Environmental Oriented Issues:** Since the works of engineers have a direct and vital impact on the quality of life for all people, the engineers should be dedicated to the protection of the public health, safety and welfare. Also engineers need to be aware their role as agents of experimenters. They should have a united commitment in protecting the environment. They should not involve in any unethical environmental issues such as misusing scarce resources, and fouling environment.

- **9. Family Oriented Issues:** As a human being and the member of a family, the engineers do have family obligations to take care the needs of their family members. But they should not take any decisions for their own benefits at the cost of public, clients, or employers.

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.

Thus the above discussion explains how the ethical problems often arise in the engineering profession.

Explain the types of enquiry? (6 marks)

TYPES OF INQUIRY

- Inquiry means an investigation. Like general ethics, engineering ethics also involves investigations into values, meaning and facts. Several moral issues constitute the strong basis for **inquiries** for their **identification** and **rectification** by the concerned authorities. These inquiries in the field of engineering ethics are of three types.
- The **three types of inquiries** which focus on values and facts of the moral issues, that are prevalent in engineering ethics are:
- **Normative Inquiries**
- **Conceptual Inquiries**
- **Factual or Descriptive Inquiries**

1. NORMATIVE INQUIRIES

- These inquiries are mostly helpful to identify the values which guide the individuals and groups in taking a decision. These are meant for identifying and justifying some norms and standards of morally desirable nature for guiding individuals as well as groups. In most of the cases, the normative questions are given below:
- How do the obligations of engineers protect the public safety in given situations?

- When should an engineer have to alarm their employers on dangerous practices?
- Where are the laws and organizational procedures that affect engineering practice on moral issues?
- Where are the moral rights essential for engineers to fulfill their professional obligations?

From these questions, it is clear that normative inquiries also have the theoretical goal of justifying moral judgments.

2. CONCEPTUAL INQUIRIES

- These are meant for describing the meaning of concepts, principles, and issues related to Engineering Ethics. These inquiries also explain whether the concepts and ideas are expressed by single word or by phrases. The following are some of the questions of conceptual inquiries:
 - What is the safety and how it is related to risk?
 - What does it mean when codes of ethics say engineers should protect the safety, health and welfare of the public?
 - What is a “bribe”?
 - What is a “profession” and „professional“?

3. FACTUAL / DESCRIPTIVE INQUIRIES

- These help to provide fact for understanding and finding solutions to value based issues. The engineer has to conduct factual inquiries by using scientific techniques. These help to provide information regarding the business realities such as engineering practice, history of engineering profession, the effectiveness of professional societies in imposing moral conduct, the procedures to be adopted when assessing risks and psychological profiles of engineers. The information about these facts provides understanding and background conditions which create moral problems. These facts are also helpful in solving moral problems by using 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?

Define Moral Dilemma. (3marks)

MORAL DILEMMA

- 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.
- Moral dilemmas are situations in which two or more moral obligations, duties, rights, goods, or ideals come into conflict with each other. The crucial feature of a moral dilemma is that all the moral principles cannot be fully respected in a given situation. Also solving one moral principle can create two or more conflicting applications for a particular situation.

Explain the causes of moral dilemma? (6 marks)

CAUSES OF MORAL DILEMMAS

Moral dilemmas are situations, mostly, due to the following three problems.

- **Problem of Vagueness;**
- **Problem of Conflicting reasons;**
- **Problem of Disagreement.**

- **1.Problem of Vagueness:** Vague means not clearly expressed or perceived; not specific or exact. For a given situation, sometimes it is unclear to the engineers to apply the most appropriate moral considerations or principles. They may not know how and which moral principles to be used in resolving a moral problem. This situation creates a typical moral dilemma. Example: consider an engineer, starting a new assignment as quality inspector checking the incoming raw materials/spare parts from the suppliers. Supplier offers (on behalf of some festival, say, Deepavali) him an expensive DVD player as a gift. Now this situation is a moral dilemma. Because the engineer is unclear about: what to do?; whether to accept the gift or not?; whether the thing offered is a gift or a bribe?; will it create a conflict of interest? Thus the problem of vagueness i.e., unclarity causes a moral dilemma.
- **2. Problem of Conflicting Reasons:** This is a situation where two or more moral problems conflicting each other, each of which seems to be correct. In other words, this is a situation where two or more moral obligations, duties, rights or ideals come into conflict with each other; independently each one is good and correct. But when they come together it is very difficult choice to choose the good one. This situation is another moral dilemma.
 - Example: let us examine the space shuttle Challenger explosion, focusing on the dilemma faced by the engineering manager, Bob Lund. He had the following conflicts:
 - Launching the challenger space shuttle despite there was an unknown probability that the shuttle would explode; which will kill all the persons on the board.
 - Postponing the launch, which may lead to loss of future contracts from NASA, the loss of job to many workers, etc?
 - Now, the job of Bob Lund is to make the best choice out of these two conflicts. At last, he chose to risk the launching of shuttle. This situation is one of the good illustrations for the moral dilemma due to the problem of conflicting reasons.
- **3.Problem of Disagreement:**It is quite obvious that individuals and groups may have different views, suggestions, interpretations, and solutions on a moral problem in particular situations. This disagreement among individuals and groups on interpreting moral issues will create a situation of another moral dilemma. Example: In most

corporations, there are disagreements among managers regarding whether customer can be allowed to inspect their plants and procedures, as a confidence building measure.

STEPS IN FACING MORAL DILEMMA:

- 1. Identifying the relevant moral factors and reasons.
- 2. Collecting and gathering all the available facts which are relevant to the moral factors while resolving.
- 3. Ranking the moral considerations or principles on the basis of importance as applicable to the situation.
- 4. Considering alternative courses of action for resolving the problems and tracing the full implications of each. i.e. conducting factual inquiries.
- 5. Having talked with the colleagues, friend about the problem getting their suggestions and alternative ideas on resolving that dilemma and
- 6. Arriving at a careful and reasonable judgment or solution by taking into consideration of all important moral factors and reasons on the basis of the facts or truths. But it seems to be difficult.

Define Moral Autonomy.(3marks)

MORAL AUTONOMY

- Moral Autonomy is the philosophy which is self-governing or self-determining, i.e., acting independently without the influence or distortion of others. The moral autonomy relates to the individual ideas whether right or wrong conduct which is independent of ethical issues. The concept of moral autonomy helps in improving self-determination. Moral Autonomy is concerned with independent attitude of a person related to moral/ethical issues. This concept is found in moral, ethical and even in political philosophy.
- The moral autonomy is the ability to think critically and independently about moral issues and apply this moral thinking to situations that arise during the professional engineering practice. It is understood that an individual personality depends on the integration of his moral benefits and attitude. When one's labor and skills are sold, then it is an illusion to think that the person is not morally autonomous.

- As an experimenter, an engineer has to undergo an extensive and updated training to form his identity as a professional. There will be a personal involvement in one's work. The magnitude of moral autonomy to be experienced by engineering is highly influenced by the attitude of company's managements. Where there is a treat for engineers 'moral autonomy, then engineers can look for moral support from their professional societies and outside organization.
- Viewing engineering as social experimentation will promote autonomous participation and retain one's professional identity. 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.

Explain the skills needed for moral autonomy? (7 marks)

MORAL AUTONOMY – SKILLS NEEDED

- **1. Ability to relate the problems with the problems of law, economics and religious principles:** It is essential to have the ability to analyze a problem and finding the relation with the existing law or the topic of issue with the existing principles on that topic. The ability to distinguish between both of them and finding the moral reasons.
- **2. Skill to process, clarify and understand the arguments against the moral issues:** If the issue is against some moral values or the ethical values to be followed in the society, then clarity should be maintained about the differences and similarities. Both of these

differences and similarities are to be judged based on why they are a matter of concern and in what aspect.

- **3. Ability to suggest the solutions to moral issues on the basis of facts:** If the moral issues are not fulfilling and needs to be, then the solutions are to be suggested according to the moral issues based on the facts and truths of the issue. These suggestions must be consistent and must include all the aspects of the problem. No partiality is to be allowed in any such aspect.
- **4. Must have the imaginative skill to view the problems from all the viewpoints:** After having known about the facts and illusions of the issue, a clear understanding is attained in viewing the problem in all kinds of viewpoints. This enables one to be able to suggest a proper alternative solution.
- **5. Tolerance while giving moral judgment, which may cause trouble:** When the whole analysis is made considering all the viewpoints of the issue, the final output might be or might not be pleasing to the persons involved.

Hence while declaring the judgment or the decisions taken, a detailed description of the actions done should be given, while the actions ought to be done should be presented in a better way, to ensure others that the decisions have been taken without any partialities towards any party.

- Moral autonomy reflects the concept of individuality. This relates to the idea of building one's self with the moral values one has while developing psychologically. To have moral autonomy in all the aspects, one should have a lot of patience and interest. One should adhere to the basic principles of humanity and should be strict with the Don'ts he has in mind and liberal with his Do's. The kindness towards his fellow beings is also an important concept to be kept in mind. Inculcation of all these important qualities, enhances the skills of Moral autonomy in a person.
- A Person must have adequate knowledge and understanding about the use of ethical language so as to defend or support his views with others. He must have better knowledge in understanding the importance of suggestions and better solutions while resolving moral problems and also about the importance of tolerance on some critical situations.

- Above all, one must understand the importance of maintaining moral honesty and should be liberal to understand the human behavior under certain circumstances.

Explain Kohlberg's theory of moral development? (7 marks)

Explain Gillian's theory of moral development? (7 marks)

MORAL DEVELOPMENT THEORIES

KOHLBERG'S THEORY

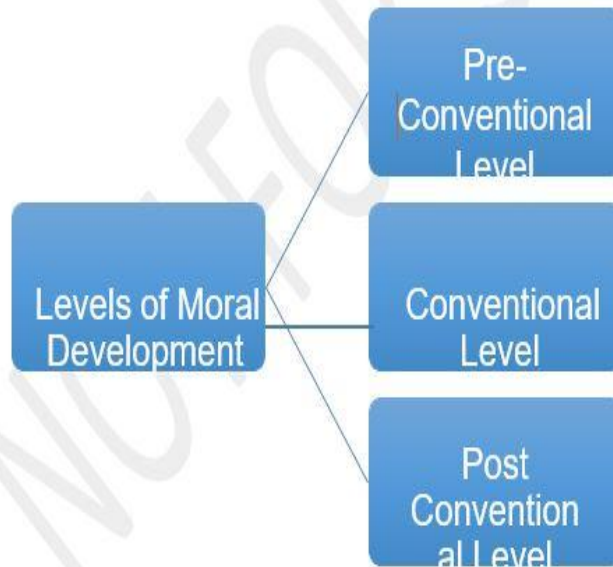
- Lawrence Kohlberg was a professor at Harvard University during the early 1970s and was famous for his works on developmental psychology. He conducted many studies at Harvard University during the early 1970s and was famous for his work which is popularly known as **Kohlberg's theory**. Moral development in human being occurs coverage and experience

LAWRENCE KOHLBERG'S THEORY

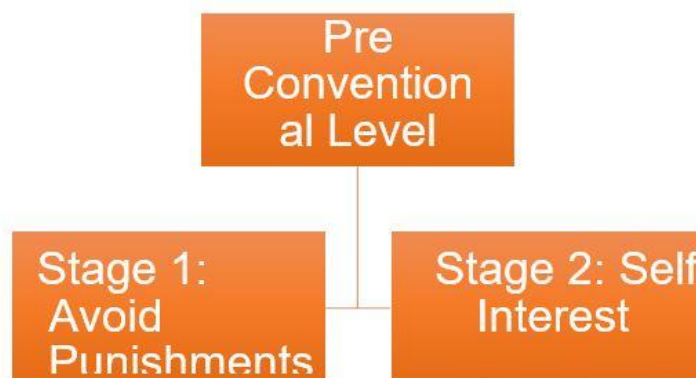
- Kohlberg proposed that people progress in moral reasoning based on their ethical behavior. He postulated this theory based on the thinking of younger children throughout their growing period as adults. He conveyed that younger children make judgment based on the consequences that might occur and the older children make judgment based on their institutions. He believed that there are **six stages** of moral development which are further classified into **three levels**. The following illustration shows the different levels. The process being discussed here is about the judgment made by the **thinker** about the **protagonist** in a given situation. The steps of the thinking process show the moral development of the thinker.
- **Kohlberg's theory** is closely related with the moral autonomy in terms of psychological theories regarding **moral development**. This theory was presented by the combined efforts of **Lawrence Kohlberg and Carol Gilligan**. Kohlberg's theory mainly emphasizes on the concept of **moral development** that is distinguished by factors such as **reasoning and motivation** of an individual.

According to Kohlberg's theory, three main levels of moral development are recognized. They are illustrated as below:

Lawrence Kohlberg's Theory



1.Pre-conventional Level



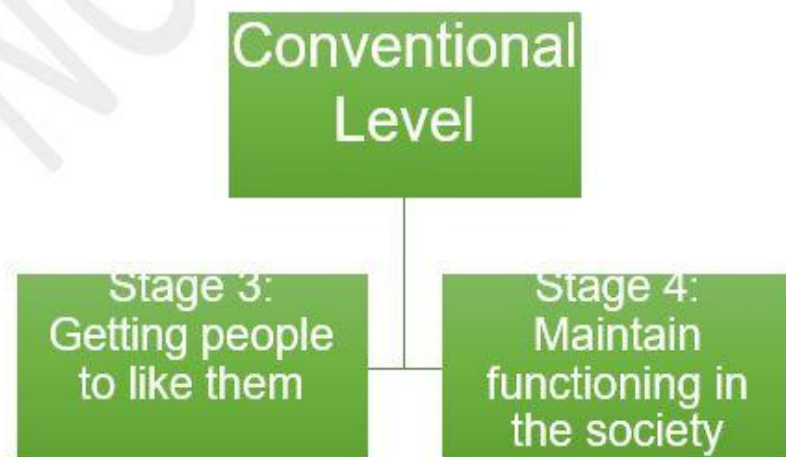
Pre-conventional Level

This can be understood as the first level of moral thinking, which is generally found at Elementary school level. The thinker at this stage tends to think and behave based on the **direct consequences** that might occur. There are two sub-stages in this

Avoid Punishments: A thinker at this stage generally thinks and believes that the judgments are to be made as per the socially acceptable norms as they are said so by some higher official (a teacher or a parent). This is a child-like obedience, in order to avoid punishments. These thoughts are based on the idea that the protagonist should not disobey the law or rules

Self thought: A thinker at this stage, shows interest in making decisions according to the rewards they get in exchange. This second stage is characterized by a view that right behavior means acting in one's own best interests. In this stage, they tend to follow the rules of authority because they believe that this is necessary to ensure positive relationships and societal order. **Right conduct** is much focused in this **primitive level** in which **motivation of individuals** occupies the primary status. This level of development is commonly observable in young children and few adult people in order to cater their basic needs.

CONVENTIONAL LEVEL



This can be understood as the second level of moral thinking, which is generally found at the primary and high school level. The thinker at this stage tends to think and behave based on the **want to please others**. There are two sub-stages in this.

Getting people to like them: At this stage, the ideas of the society are considered. This level can be that where the protagonist behaves on account of the moral grounds which people decide for decision making. This decision may or may not support the law. Whatever the result is, the thinking process is based on how to impress others or society and on how to please the people around.

Maintain functioning in society: A thinker at this stage, considers to follow the rules for the good of the society. The moral grounds on how people in the society will consider the job done will be the priority, because the thinker believes that a social order is maintained by abiding by the rules. Hence a thinker sticks to the idea that the protagonist should

follow the moral values. The thinker's behavior is driven by the authority while his thinking conforms to the social order. **The correct norms or conventional values** are sincerely followed in this level. Motivation of individuals to please or satisfy others and to meet the expectations of the society is the features of conventional level. Kohlberg's theory strongly points out that most of the adult individuals **never mature** much beyond this stage.

Post-Conventional Level



Reject rigidity of laws: In this level, the thinker uses his moral thinking skills at a commendable pace. He starts to feel for the protagonist based on moral grounds. He also might have an opinion that the rules have to be changed according to humanitarian values. The thinker rejects the rigidity of the existing laws and rules at this stage.

Sense of justice: This is the pinnacle stage of Moral development where the thinker feels a sense of justice for the protagonist. The thinker has great moral values that he keeps himself free from the external factors that might influence his thinking process.

- When an individual becomes capable of **distinguishing right and wrong principles** with a welfare-minded approach, this Post conventional level is reached.
- These self-thinking individuals are named as **autonomous** by Kohlberg. These individuals have the attitude of following the '**Golden rule**' through moral reasons and principles.
- These personalities possess the well-balanced capability to maintain their moral integrity, self-respect and due respect to other autonomous individuals by their matured mental motivation. Moral responsibility combined with moral reasoning is considered to be the

two unique qualities that could be cultivated through **sustained training and parental culture**. These individuals who are specially trained in this direction tend to develop the mental attitude of respecting the customary practices and rights of other people.

- According to Kohlberg's theory, only a selective set of people could reach the post conventional level by developing **moral maturity and perceptive organization**. Kohlberg had strongly emphasized in his theory that moral autonomy is the desirable factor for achieving these three levels thereby inheriting valuable characters along with moral responsibility and commitment towards the well-being of the society.
- Kohlberg strongly believed that the moral autonomy could be achieved through moral reasoning and training by means of **parental care and social culture**. He had the further contention that the advanced stages *such as post* conventional level would be suitable for the perfect achievement of one's perspective goals. But, he was not very certain about the exact stage to specify the moral development. However, he was confident that although it was very difficult to reach the post conventional level, moral autonomy could be cultivated as an valuable character to acquire the moral responsibility.

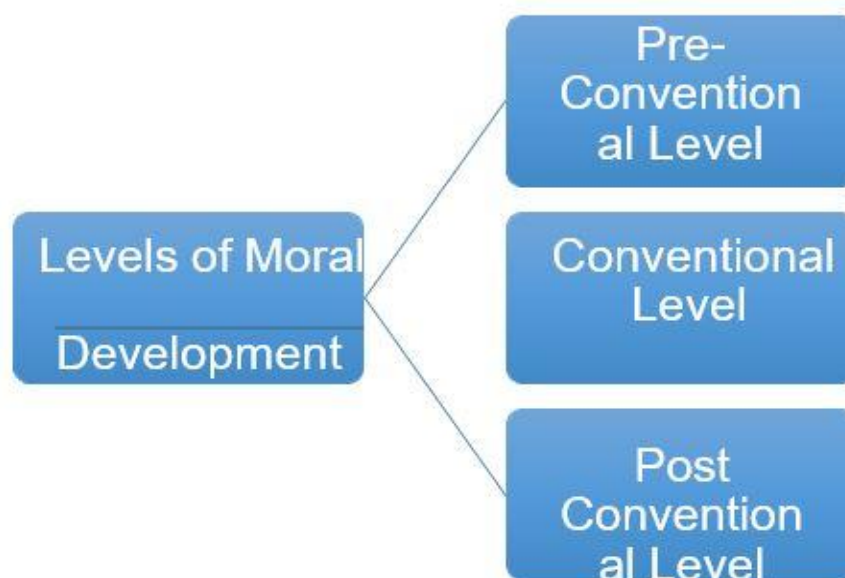
GILLIGAN'S THEORY

- This is an advancement of Kohlberg's theory. It had been observed that Kohlberg's theory was proposed based on the moral thinking of privileged white men and boys. Hence this theory was popularized by taking both male and female thinking capabilities into account.
- **Carol Gilligan**, a psychological theorist was born on Nov 28, 1936 in the New York city. She pursued her doctorate degree in Social Psychology from the Harvard University. Gilligan was a research assistant for Lawrence Kohlberg, but she eventually became independent and criticized some of his theories. Kohlberg's theory was much opposed and criticized by Gilligan's theory. Gilligan's theory state that Kohlberg's theory was mainly based on information collected from **male - subjects** and focused primarily on their general rules and rights.
- According to Gilligan, Kohlberg seemed to have studied only **privileged men and boys**. She believed that **women** face a lot of psychological challenges and they are not moral widgets. The women's point of view on moral development involves **caring** which shows

its effect on human **relationships**. Gilligan's theory further argues that men seem to **preserve the personal relationships** in solving moral problems and moral dilemmas **more than women**. Strong emphasis on **ethics of care against the ethics of rules and rights** is the salient feature of Gilligan's theory.

- This theory focused on the strong criticism on one of an example called **Heinz's dilemma** in Kohlberg's theory.
- A man by name Heinz had stolen a expensive drug for treating and saving the life of his wife who was suffering from cancer. He resorted to the final act of stealing the drug, after his persistent and prolonged efforts failed to get the drug at the affordable and cheap cost Gilligan's theory questioned whether the **act of Heinz, was morally right or wrong**.
- Hence she proposed a theory which has the same three stages of Kohlberg but with different stages of moral development. Though the names of the stages are the same, the stages differ in this method. The moral development in Gilligan's theory are based on pro-social behaviors such as Altruism, caring and helping and the traits such as honesty, fairness and respect.

Gilligan's Theory



- **Pre-Conventional Level**

- A person in this stage cares for oneself to ensure survival. Though the person's attitude is selfish, this is the transition phase, where the person finds the connection between oneself and others

- **Conventional Level**

- In this stage, the person feels responsible and shows care towards other people. Carol Gilligan believes that this moral thinking can be identified in the role of a mother and a wife. This sometimes leads to the ignorance of the self.

- **Post-Conventional Level**

- This is the stage, where the principle of care for self as well as others, is accepted. However, a section of people may never reach this level.
- According to the Carol Gilligan's theory of moral development, changes occur due to the **change of self** rather than the **critical thinking**.
- It was stated that the post-conventional level of Kohlberg is not attained by women. But Carol Gilligan researched and found that the post-conventional level of thinking is not being easy for women to go through because they **care** for the relationships.

Levels of Thinking

- Carol Gilligan states that the post-conventional level of moral thinking can be dealt based on the **two types of thinking**. Gilligan's theory is based on the two main ideas, the care-based morality (usually found in women) and the justice-based morality (usually found in men).

CARE-BASED MORALITY

Care-based morality is the kind of thinking found in women. This is based on the following principles.

- More emphasis is given to inter-connected relationships and universality.
- Acting justly focuses on avoidance of violence.

- Women with this are usually interested in helping others.
- More common in girls because of their connections to their mothers.
- Because girls remain connected to their mothers, they are less inclined to worry about issues of fairness.

JUSTICE-BASED MORALITY

Justice-based morality is the kind of thinking found in men. This is based on the following principles.

- They view the world as being composed of autonomous individuals who interact with one another.
- Acting justly means avoiding inequality.
- Individuals with this are usually interested in protecting individuality.
- Thought to be more common among boys because of their need to differentiate between themselves and their mothers.
- Because they are separated from their mothers, boys become more concerned with the concept of inequality.

EXAMPLE OF GILLIGAN'S THEORY

- In order to understand Gilligan's theory, a popular example is usually considered. A group of moles give shelter to a porcupine. But they are being continuously stabbed by the porcupine's quills. Now, what should they do?

The **Pre-conventional** level of thinking states that to think for the good of oneself, either the moles or the porcupine only can live there. The other has to leave the place.

According to the **Conventional** level of thinking, which brings a transition, from self to the good of others and which might even lead to sacrifice, either the moles or the porcupine has to sacrifice or again this leads to a stage where only moles or the porcupine can live in the burrow.

According to the **Post-conventional** level of thinking, which states that the good of both the parties has to be considered, both the moles and the porcupine come to an agreement that both will have separate places in the same burrow, where they limit to behave themselves and will not cause any trouble to other. This helps both of them to live in the same place with peace.

- The researchers found that the solution to this scenario is different with different individuals; gender also plays an important role. The thinkers were observed viewing the problem in two different perspectives, the care-based and the justice- based.

In a **Justice-based perspective**, the solution to the problem is viewed as a conflict between two individual groups. Only one of them can have the property. Either moles or the porcupine will get the place in the burrow. Hence the solution to the dilemma, is not a resolution of the conflict, it is a verdict.

- In a **Care-based perspective**, the approach differs. The problem is viewed as a difficult situation faced by both the parties together, rather than a fight between both of them. Hence the solution is sought in a way around the problem or to remove the problem completely. The solution may sound compromising but not damaging. The relationship will still be the same, after the resolution.

- *Researchers found that Justice-based perspective is pre-dominant among males while Care-based prospective is among females.*

A. Basic Aspects	
1. Is based on the study on men. 2. Men give importance to moral rule. 3. Ethics of rules and rights.	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	
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	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

Differentiate Consensus & Controversy.(6 marks)

CONSENSUS & CONTROVERSY

- The provision of moral autonomy to professional engineers is the fascinating concept of engineering ethics. When the modalities of ethical values are being implemented in practical terms, some **consensus and controversial** implications and issues arise. The harmonious interaction between engineers and managements and in turn between engineers and public individuals is the crucial factor for the manifestation of consensus and controversy. When individuals carry out the practices of moral autonomy, they may not be able to obtain similar results and effects as that of other people.

- Proper provisions should be made available for teaching the essence of **engineering ethics** and the **responsible engineering**. Particularly, **authority** should be inducted both in classrooms of engineering teachings and engineer's work place. Authority of teachers on students and authority of managers on engineers, would much focus on the values of moral autonomy and ethics. A common line of agreement should be reached on the specific role of authority. More precautionary steps need to be taken for not degrading and diluting the agreement by the strong emphasis of moral autonomy of individuals in expressing their moral views. The moral judgment may lead to conflicts if they are not delivered properly without hurting the feelings of the persons involved. There are two stages after the judgment. The stages are described below –

- **CONSENSUS**

- This is that state where people come into agreement with the judgment given by getting convinced with the moral reasons. This will leave the persons with a feel that justice has been done, the verdict may favor any party.

- **CONTROVERSY**

- This is that state where the persons involved in an issue are not satisfied by the verdict and might feel that it was decided on partial interests. This will leave the people with a sense of dissatisfaction that justice was not done, which might lead to another conflict.
- Literally, consensus means ‘agreement’, and controversy means ‘disagreement’
- Some controversial conflicts are due to arise between **autonomy** and **authority**, when powers of authority are encroached and abuses. Certain cases of abuses of authority occur inheritably, when the discussions of students are discouraged by a section of teaching faculties. Such sensitive issues confronted by the authorities, could be easily sorted out by proper planning strategies to maintain the concept of moral autonomy and also the balanced academic atmosphere inside the classrooms of institutions.

Differentiate Profession & Professionalism? (4 marks)

PROFESSION & PROFESSIONALISM

- The words “Profession” and “Professionalism” are often referred in the moral issues. It is true to admit that any individual who possesses the true **sense of commitment, involvement and dedication**, could mould into a competent professional. Especially, engineering professionals with, **personnel creativity and accountability** are liable to be subjected to the public scrutiny. Their professional competence and integrity are doubted and questioned in terms of any technological failure thereby affecting their dominant images.
- The term profession refers to a **job or occupation** and the term **professional** refers to any **activity** to earn for living. Players, workers, drivers and engineers come under the category of professionals, since they **derive income sources** unlike the case of amateur people. Certain common criteria that are to be fulfilled to be a professional, are as follows:
- **Advanced expertise**: The criteria of a profession is to have sound knowledge in both technical aspects and liberal arts as well. In general, continuing education and updating knowledge are also important. Application of knowledge requires technical skill, theoretical background, discretionary judgment and strategic planning. **Continuous exposure to advancements** in the technical curriculum is basically required for acquiring a thorough knowledge.
- **Self-regulation** : An organization that provides a profession, plays a major role in setting standards for the admission to the profession, drafting codes of ethics, enforcing the standards of conduct and representing the profession before the public and the government.
- **Public good**: Any occupation serves some public good by maintaining high ethical standards throughout a profession. This is a part of professional ethics where each occupation is intended to serve for the welfare of the public, directly or indirectly to a certain extent.

Membership Criteria

- Since any professional individual is subjected for any screening for any lapses or disputes, the following criteria have been put forth in US for professional engineers.
- A **bachelor's degree** from any distinguished institution that is recognized and approved by the Accreditation Board for Engineering and Technology, is the basic requirement.
- Working in a well-recognized organization is preferable.
- Some technical training should be acquired in a **registered and licensed engineering** institute after graduation.
- Discharge of duties with **moral concern** and is essential **responsibility** as per the specified code of engineering ethics is essential.
- Because of the above mentioned criteria, engineering professionals with technical skill and knowledge are duly respected with higher emoluments and other social benefits. It is observed that engineering profession is not given the **dignified status** as that of medicine in several countries such as US. Several countries have stipulated strict norms that the engineering professional, whose jobs are directly concerned with public safety should be registered as **Professional Engineers** (PE).

PROFESSIONALS

- A person who is paid for getting involved in a particular profession in order to earn a living as well as to satisfy the laws of that profession can be understood as a Professional. The basic concept of professionalism is closely linked with **independence and freedom** that are **free from any compulsion**. The definition of a professional is given differently by different experts in the field. Let us see the following definitions.
- *“Only consulting engineers who are basically independent and have freedom from coercion can be called as professionals.”* – **Robert L. Whitelaw**
- *“Professionals have to meet the expectations of clients and employers. Professional restrains are to be imposed by only laws and government regulations and not by personal conscience.”* – **Samuel Florman**

PROFESSIONALISM

- Professionalism covers comprehensively all areas of practice of a particular profession. It requires skills and responsibilities involved in engineering profession. Professionalism implies a certain set of attitudes. The art of **Professionalism** can be understood as the practice of doing the right thing, not because how one feels but regardless of how one feels. Professionals make a profession of the specific kind of activity and conduct to which they commit themselves and to which they can be expected to conform. Moral ideals specify virtue, i.e., desirable feature of character. Virtues are desirable ways of relating to other individuals, groups and organizations. Virtues involve motives, attitudes and emotions.
- According to Aristotle, virtues are *the “acquired habits that enable us to engage effectively in rational activities that defines us as human beings.”*

Explain the various professional ideals & virtues? (9 marks)

PROFESSIONAL IDEALS & VIRTUES

- The virtues represent excellence in core moral behavior. The essentials for any professional to excel in the profession are behavior, skills and knowledge. The behavior shows the moral ideology of the professional.
- The moral ideals specify the virtue, i.e., the desirable character traits that talk a lot about the **motives, attitude** and **emotions** of an individual.

- **Public spirited virtues**

- **Proficiency virtues**

- **Team work virtues**

- **Self-governance virtues**

The virtues mentioned above show the professional responsibility of an individual. Hence, the professionalism that comes in with these virtues is called **Responsible Professionalism**. Let us now understand each virtue in detail.

PUBLIC-SPIRITED VIRTUES

- An engineer should focus on the good of the clients and the public at large, which means no harm should be done intentionally. The code of professional conduct in the field of

engineering includes avoiding harm and protecting, as well promoting the public safety, health and welfare. Maintaining a sense of community with faith and hope within the society and being generous by extending time, talent and money to professional societies and communities, an engineer can maintain the public-spirited virtue. Finally, justice within corporations, government and economic practices becomes an essential virtue that an engineer should always possess.

PROFICIENCY VIRTUES

- These refer to the virtues followed in the profession according to the talent and intellect of an engineer. The moral values that include this virtue are competence and diligence. The **competence** is being successful in the job being done and the **diligence** is taking care and having alertness to dangers in the job. Creativity should also be present in accomplishing the assigned task.

TEAMWORK VIRTUES

- These virtues represent the coordination among team members which means working successfully with other professionals. These include cooperative nature along with loyalty and respect towards their organization, which makes the engineers motivate the team professionals to work towards their valuable goals.

SELF-GOVERNANCE VIRTUES

- These virtues are concerned with moral responsibilities which represent integrity and self-respect of the person. The integrity actually means the moral integrity which refers to the actions, attitude and emotions of the person concerned during his professional period. The self-governance virtues center on commitment, courage, self-discipline, perseverance, self-respect and integrity. The truthfulness and trustworthiness which represent his honesty are the crucial moral values to be kept up by a professional.

Explain the various professional roles played by an engineer? (6 marks)

**MODELS OF PROFESSIONAL ROLES (PROFESSIONAL ROLES TO BE
PLAYED BY AN ENGINEER)**

- It is understood that an engineer has to play many roles while exercising his professional obligations. Some of the professional roles or models are given below:
- **Engineers as Saviors:** It is believed that engineers hold the key for any improvements in society through technological developments. Thus some people consider engineer as a savior because they redeem society from poverty, inefficiency, waste and the hardships drudgery of manual labor.
- **Engineers as Guardians:** Engineers know the direction in which technology should develop and the speed at which it should move. Thus many people agree the role of engineers as guardians, as engineers guard the best interests of society.
- **Engineers as Bureaucratic Servants:** The engineers' role in the management is to be the servant who receives and translates the directives of management into solid accomplishments. Thus the engineers act as a bureaucratic servants i.e., loyal organizations set by the management.
- **Engineers as Social Servants:** As we know, engineers have to play the role of social servants to receive society's directives and to satisfy society's desires.
- **Engineers as Social Enablers and Catalysts:** Besides merely practicing the management's directives, the engineers have to play role of creating a better society. Also they should act as catalysts for making social changes. Sometimes engineers have to help the management and the society to understand their needs and to make decisions about desirable technological development.
- **Engineers as Game Players:** In actual practice, engineers are neither servants nor masters of anyone. In fact, they play the economic game rules, which may be effective at a given time.

Like managers, the engineers' aim is also to play successfully within the organization and moving ahead in a competitive world.

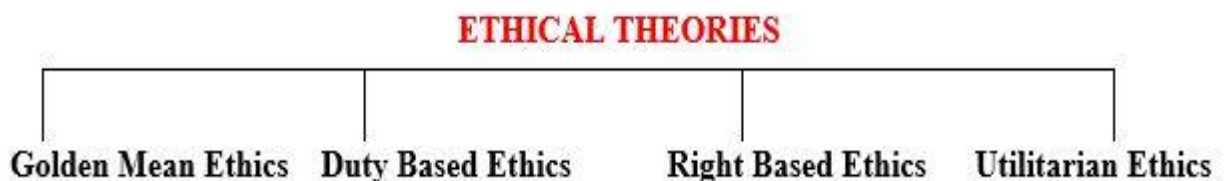
THEORIES ABOUT RIGHT ACTION

- An engineer with ethics is a person who is expected to possess the moral integrity with rich ethical values. The ethics are mainly divided into two categories depending upon the morality of humanity.

Explain the various types of ethical theories? (9 marks)

TYPES OF ETHICAL THEORIES

- Depending upon the ethics a person is intended to follow, four theories were postulated by four different philosophers. These theories help to create the fundamentals of obligation suitable and applicable to professional and personal conduct of a person in his everyday life.



- **1. GOLDEN MEAN THEORY:** The Golden Mean ethical theory was proposed by Aristotle. According to this the solution to a problem is found by analyzing the reason and the logic. A “Mean value of solution” which will be between the extremes of excess and deficiency. For example, the solution to the problem of environment pollution is neither by avoiding industrialization and civilization, nor by neglecting the environment completely. A mean solution that will work towards controlling the pollution and protecting the environment will also help.

Problem in Application: The application of this theory varies from one person to another with their powers of reasoning and the difficulty in applying the theory to ethical problems.

What is Golden Mean?: The Golden Mean virtue can be understood as the virtue of reaching a proper balance between extremes in conduct, emotion, desire and attitude. This theory phrased by Aristotle states that virtues are tendencies to find the **golden mean** between the extremes of too much (excess) and too little (deficiency) with regard to particular aspects of our lives. The most important virtue is **practical wisdom**, i.e., morally good judgment, which enables one to discern the mean for all the other virtues. There are internal goods such as products, activities and experiences should never clash with the external goods such as money, power self-esteem and prestige. The standards of excellence enable internal goods to be achieved. The external goods when extremely concerned, though by individuals or by organizations, threaten the internal goods.

- **2. RIGHTS-BASED ETHICAL THEORY:** The Rights based ethical theory was proposed by John Locke. According to this theory, the solution to a problem is by realizing that every person has a right to live. Live and let live is the philosophy behind this theory. The rights of a person towards life, health, liberty, possession, etc. are taken care of under this theory.
- For example, any action in terms of Capital punishment, Jails, Income taxes and Medical charges etc. come under this category.
- **Problem in Application:** One rights of a person may be in conflict with rights of the other.
- **What does it mean?:** Rights-based ethics is the recognition of human dignity at its most basic form. The ethics refer to the basic human rights whether they are positive or negative. Everyone has a right to live, liberty and the pursuit of happiness. Beauchamp and Childress, authors and ethical theorists, have defined the term "right" to be a "justified claim that individuals and groups can make upon other individuals or upon society; to have a right is to be in a position to determine by one's choices, what others should do or need not do." The natural law states that human laws are defined by morality and not by some authority. This law is derived from the belief that human morality comes from nature. Any action done by a person that would prevent a fellow being from living a good and happy life, is considered immoral or unnatural. Any law should have some morals. Moral duty is the obligation to act based on ethical beliefs.

- **3.DUTY-BASED ETHICAL THEORY:** The duty-based ethical theory was proposed by Immanuel Kant. According to this theory, every person has a duty to follow which is accepted universally, with no exceptions.
- An example of this can be expecting all to be honest, kind, generous and peaceful.
- **Problem in Application:** The universal application of this theory can be misleading.
- **What are these ethics?:** Kant observed that everyone is bound to follow some moral laws. It is the choice we make to be morally sound though we have chances to do anything. This theory can also be called as Deontological theory or the Absolutist theory. According to this, it is our duty to obey the categorical imperative rules. To have good will, is to perform one's duty for the sake of duty and for no other reason. The categorical imperative law states that "Act only according to that maxim by which you can at the same time will that it should become a universal law."

Kant's theory seems to contain the following three important criteria:

- **1. Act of showing respect** to persons for the principles of duty.
- **2. Application of moral principles** in an universal manner.
- **3. Expression of certain actions** in terms of hypothetical and moral imperatives for duty ethics.

To be more healthy, stop overeating, to be happy, find good friendship are some of the examples for this category.

There are **four virtues** that come under this law, which have to be discussed here

- **Prudence:** The quality of prudence states that every individual has a life that should be respected and every individual has duties which should be done without any exception. One should always be cautious to perform one's duties.
- **Temperance:** Temperance is the voluntary self-restrain from the attractions. The temptations that might lead to the violation of duties and ethics have to be restrained. No false promises are to be made as they contradict the principles of duties.

- **Fortitude:** Fortitude is the sense of having tolerance. No perfection can be maintained if happiness alone is sought and no happiness is achieved if perfection alone is sought. Both may or may not go with each other.
- **Justice:** Every individual is a human being with a set of intrinsic values and morals. Truth and fairness are the aspects one should always bear in mind. People should be treated as separate individuals but never as a mere means of existence.

A free will and a will under moral laws are one and the same. We are free only when we act in accordance with our own best natures, while we are slaves whenever we are under the rule of our passions and wills. There should be a universally valid will, under which everyone can be free.

- **4. UTILITARIAN ETHICS:** The Utilitarian ethics was proposed by John Stuart. According to this theory, the happiness or pleasure of a greatest number of people in the society is considered as the greatest good. According to this philosophy, an action is morally right if its consequences lead to happiness of people and wrong if they lead to their unhappiness. An example of this can be the removal of reservation system in education and government jobs, which can really benefit the talented. But this can have an impact on the rights of the minorities.

Problem of Application: Qualification of the benefits can be difficult.

- **What are these ethics?:** Consider the cost-benefit analysis in engineering. A typical cost-benefit analysis identifies the good and bad consequences of some action or policy in a monetary aspect. It weighs the total good against total bad and then compares the results to similar tallies of the consequences of alternative actions or rules. This supports the idea of maximizing benefits against cost.

There are two main types of Utilitarianism. They are as follows:

- **Act Utilitarianism:** The Act Utilitarianism focuses on each situation and the alternative actions possible in the situation. Act Utilitarianism states that “A particular action is right if it is likely to produce the higher level of good for the most people in a given situation, compared to alternative choices that might be made.” In accordance with this theory, the good done is only considered but not the way how it is done. For example, looting the

richer to feed the poor, can satisfy and make a group of poor people, happy. But looting is not a way of morality. Hence act- utilitarianism seems to justify the wrong-doing.

- **Rule Utilitarianism:** The Rule Utilitarianism states that “Right actions are those required by rules that produce the higher level of good for the most people.” We need to consider a set of rules, where they interact with each other. This was developed to clear the problem that occurs with act-utilitarianism. Engineers with ethics should follow the rule-utilitarianism considering the point, “Act as faithful agents or trustees of employers”. So, engineers should abide by it even when an exception might happen to be beneficial. Like in the above example, one should seek the help of law and order to prove the guilt of richer and let see that the poor get benefitted.

TESTING ETHICAL THEORIES

- The theory should be **very clear** with the coherent and applicable concepts.
- The theory should be highly **consistent** without any internal contradiction.
- The theory should not depend upon **false information and implications**.
- The theory should provide a **comprehensive guidance** to a specific problem.
- The theory should be **more suitable and applicable** with certain moral convictions such as judgments about specific and complex issues.

Explain the various uses of ethical theories? (7 marks)

USES OF ETHICAL THEORIES

Ethical theories help in the following areas

- Understanding moral dilemmas.
- Justifying professional obligations and ideas.
- Relating ordinary and professional morality.
- Ethical theories aid in identifying the moral considerations or reasons that constitute a dilemma.

- They provide a precise sense of what kinds of information are relevant to solving moral development.
- The theories augment the precision with which we use moral terms and they provide frame works for moral reasoning when discussing moral issues with colleagues.
- By providing frame works for development of moral arguments, the theories strengthen our ability to reach balanced and insightful judgments in their engineering problem.

Write a note on self interest. (5 marks)

SELF-INTEREST

Self-interest is nothing but one's personal good. It refers to the goodness of oneself in the long run. Each of the ethical theories recognizes the importance of self-respect.

Utilitarian considers one's own good as well as the good of others. Duty ethicists stresses duty to ourselves and for our well-being. Ethicists of right emphasize our rights to pursue our own good.

Virtue ethicists accent the importance of self-respect. Each of these theories insists that the pursuit of self-interest must be balanced and kept under control by moral responsibilities to other people. Now let us consider a view called "ethical Egoism" which challenges all the ethical theories and it tries to reduce morality to the pursuit of self-interest. It is called 'egoism', because it says that the main duty of us is to maximize our own good.

Personal well-being generally requires taking some large interest in others. But the rational egoist insists that the only reason for showing an interest in others is for the sake of oneself.

Define ethical egoism.(3marks)

Ethical Egoists try to protect their positions by arguing that an ironic importance of everyone rationally pursuing one's self-interest is that everyone get benefited. The society benefits mostly when

- individuals pursue their private good and
- corporations pursue maximum profits in a competitive free market. The

main idea here is that leads to the improvement of economy through which benefiting everyone. Because, both the individual and the corporation know very well that what is good for them and how best to pursue that good.

As per ethical egoism, people should always and only pursue their self – interest in a very cautious manner to value the interest rationally on the basis of facts. Morality essentially needs a willingness on the part of both individuals and corporations to place some restrictions on the pursuit of private self –interests.

CUSTOMS & RELIGIONS

CUSTOMS & ETHICAL RELATIVISM

As we live in a society which is of increasingly diverse nature, it is more important to have tolerance for various customs and outlooks. Hence the concept of ethical pluralism emerges. It views that there may be alternative moral attitudes that are reasonable. But none of the moral perspectives can be accepted completely by all the rational and the morally concerned persons. Ethical pluralism allows the customs which plays an important role in deciding how we should act. Moral values are many, varied and flexible. So, these moral values allow considerable variation in how different individuals and groups understand and apply them in their day-to-day activities. In other words, to be precise, reasonable persons always have reasonable disagreement on moral issues, including issues in engineering ethics.

Ethical Relativism, an objectionable view, should not be confused with Ethical Pluralism.

As per Ethical relativism says that actions are morally right when they are approved by law or custom and they are said to be wrong when they violate laws or customs. Ethical relativism tries to reduce moral values to laws, conventions and customs of societies.

Why is it necessary for a person to accept ethical relativism? (7 marks)

1. The laws and customs seem to be definite, real and clear – cut. They help to reduce the endless disputes about right and wrong. Moreover, laws seem to be an objective way to approach values. The above argument is somewhat weak. This reason underestimates the extent to which ordinary moral reasons are sufficiently objective to make possible criticism of individual prejudice and bias. Moreover, moral reasons allow objective criticism of the given laws as morally inadequate. For example, the apartheid laws (racial segregation) in

south Africa. This law violated the human rights are not given any legal protections to the majority of the blacks, but morally ought to be.

2. The second reason for accepting ethical relativism is because it believes the values are subjective at the cultural level. They also state that the moral standards are varied from one culture to another. The only kind of objectivity is relative to a given set of laws in a given society. This relativity of morality encourages the virtue of tolerance of difference among societies.

The above said argument is also confusing one. It assumes that ethical relativism is implied by descriptive relativism. i.e., values and beliefs differ from culture to culture. There is nothing self-certifying about the laws and beliefs. This can be explained by the following illustration. Ethical relativism would allow that Hitler and his followers (Nazis) acted correctly when they killed 6 million Jews, for their laws, customs, and beliefs which were based on anti – Semitism (hostile to Jews).

So, ethical relativism refers anything but for the tolerant doctrine it pretends to be. But there is nothing tolerant in accepting Nazi beliefs about morality admitting intolerant anti-Semitic beliefs is not an act of tolerance.

The supporters of ethical relativism, generally say that an action is right “for cultures” when believe it as the right one. i.e., it is right “for them” though not “for us”. So, beliefs, however customary or widely shared, are not self-certifying whether we are talking about moral beliefs or scientific beliefs.

3. The third reason is based on the moral relationalism or moral contextualism. This states that moral judgments must be made in relation to some factors which varies from case to case. Making simple and absolute rules are impossible in this way. In most of the cases, customs and laws are considered as morally important factors for making judgments.

All philosophers accepted this moral relationalism. But contemporary duty and right ethicists like ‘Kant’ do not accept. As per their views, respecting people require some sensitiveness to special circumstances. The virtue ethicists stress the role of practical wisdom in identifying the facts which are relevant to assessment of conduct based on virtual manner.

The ethical relativism was accepted by early cultural anthropologists because they had a specified tendency to overstress the scope of moral difference between cultures. Absorbed with unusual practices such as head – hunting, human sacrifices and cannibalism (cannibal is a person who eats human flesh); these persons who shifted their idea quickly form moral views differ greatly to “Morality is a simply a culture as such”. But modern anthropologists state that all cultures by virtual show some commitment to promote social co- operation and protect their members against needless death and suffering. Moral differences are based only on the circumstances and facts, not on the difference in moral attitudes. For example, we can consider the practice of human sacrifice in the Aztecs. [Members of a former Indian people who ruled Mexico before the 16th century]. This practice seems to be a sign of cruelty and lack of concern for life. But a full examination of their beliefs reveals that they believed their gods are pleased by such sacrifice to ensure the survival of their people and also it was considered an honour for the victims. Refer to the sacrifice or placing chicken and goat to God.

RELIGION & DIVINE COMMAND ETHICS

Moral responsibilities and religious belief are intertwined in many positive ways. First, they are related historically. Our moral views have been shaped by the most known central moral values within the major world religions. For example, the Judeo-Christian tradition has been influential in Western countries like England, USA etc. Islam has been having a great influence in Middle East countries such as Saudi Arabia, Kuwait, Pakistan etc. Confucianism has been influential in China and Buddhism, Hinduism and Taoism have been famous in Asian countries.

Second, most of the people still having beliefs and show some important and inevitable psychological connections between their moral and religious beliefs. Religious views frequently support moral responsibility by providing additional motivation for being moral. Faith in Religions or religious hopes implies trust. This trust gives an inspiration to be moral.

QUESTIONS (3 Marks)

1. Define Ethics? What is the need to study Ethics?
2. What is Engineering Ethics?
3. What is the scope of engineering ethics?
4. Define Engineering Ethics.
5. Explain the importance of Ethics in engineering profession.
6. Write any two basic goals of engineering ethics.
7. What are the applications of engineering ethics?
8. Differentiate the two words ethics and morals.
9. Write the technical judgements of an Engineer.
10. What are the moral aspects of an Engineer?
11. What are the technical functions involved in ethical decisions?
12. What is Micro and Macro ethics?
13. Explain how moral issues are related with
 - (i) Environment (ii) Society (iii) Employee.
14. Explain the engineer's morality related with (i) Product (ii) Supplier and (iii) Employer.
15. What are the types of enquiries in Engineering Ethics?
16. What do you mean by factual enquiries?
17. What is bribe? Explain with an example.
18. What is normative enquiry? Explain with an example
19. Define moral dilemmas. What are the types of moral dilemmas?
20. What do you mean by vagueness?
21. What are role conflicts in conflicting reasons?
22. How to analyse the moral dilemmas?
23. What are the steps in moral dilemmas?
24. Explain the concept of moral autonomy.

25. What are the factors that are influenced the moral concern.
26. Briefly explain Kohlberg's theory
27. What are the three levels of moral developments in Kohlberg's theory?
28. Define preconvention level.
29. What are the difficulties in Kohlberg's theory?
30. Explain Gilligan's theory of moral development.
31. Explain why Gilligan's theory is also called as ethics of care.
32. What do you mean by post - conventional level in Gilligan's theory?
33. What is consensus and controversy?
34. What is the relationship between moral autonomy and authority?
35. What is profession and professionalism?
36. What is professional organization?
37. What are the obstacles or impediments to responsibility in professionalism?
38. Explain the concept of professionalism and virtues.
39. Discuss the various theories of virtues.
40. What are the types of virtues?
41. What do you mean by intellectual virtues? What is integrity and honesty?
42. What is moral responsibility and Legal responsibility?
43. What are the types of ethical values?
44. What is ethical relativism?
45. What are the uses of ethical theories?

ESSAY (14 Marks)

1. Discuss the scope and importance of ethics in engineering profession.
2. Senses or Dimensions of Engineering ethics:-Discuss.

3. What are the technical judgements and moral aspects related to engineering ethics? Explain any three with examples.
4. Discuss in detail various aspects of moral issues.
5. Explain how Engineering profession is related with (i) Environment (ii) Society (iii) Government.
6. What are the types of enquiries? Explain each one with example?
7. Explain the concept of moral dilemmas.
8. What are the steps that confronting moral dilemmas?
9. What is moral autonomy? What are the factors that influenced the moral concern?
10. Explain the concept of Kohlberg's theory and give the difficulties of this theory,
11. Explain how Gilligan's theory differs from Kohlberg's theory.
12. Discuss in detail on consensus and controversy.
13. Explain the concept of profession and professionalism.
14. What are the professional roles to be played by an Engineer?
15. What is virtue ethics? Explain Aristotle's theory of the Golden mean?
16. What are the types of virtues explain any three?
17. Explain the following : (i) Integrity (ii) Honesty (iii) Self-respect.
18. What is the concept of accountability?
19. Self-interest, customs and Religion: -Discuss.
20. What are the uses of ethical theories and justify the moral claims about safety in engineering?
21. Explain are the virtue that depicts the professional responsibility of an individual?
- 22a) What are the various professional roles played by an engineer?
- b). Differentiate profession and professionalism

23 .Explain Aristotle theory of Golden mean? How far it is different from Kant's duty based ethics theory?

24a) Explain right based ethics theory?

b) . Differentiate Act Act Utilitarianism and Rule Utilitarianism.

25. Differentiate ethical egoism & ethical relativism.

26. Define ethical pluralism.
