

Dinama Ahmed :-

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Professional Ethics : \rightarrow is derived from Day: M T W T F S
Greek word "ethos" means conduct, habit etc
 \rightarrow Aristotle points this word for the first time
 \rightarrow Inquiry of the ways of life and principle
of human conduct.
 \rightarrow In ethics we deal with question e.g Is mercy killing
a right action or wrong.

Philosophy

\downarrow \hookrightarrow Wisdom
Love/Search \rightarrow acquisition of knowledge with sincerity &
honesty for welfare

Branches of philosophy :

- \hookrightarrow Metaphysics (Examine the nature, fundamental structure of world)
- \hookrightarrow Epistemology (Investigate the nature & scope of knowledge)
- \hookrightarrow Ethics (Explore questions about morality, principles that govern human behavior)
- \hookrightarrow Logic (Studies the principle of valid reasoning including structure of arguments and nature of inference)
- \hookrightarrow Aesthetics (Focuses on questions related to art, beauty & taste)
- \hookrightarrow Political philosophy (Examine concepts like justice, authority, ..)
- \hookrightarrow Philosophy of mind (Investigate nature of consciousness)

Ethics :

Question like: Whether we need to live according to
universal ethical principles or not?

\rightarrow Is abortion a right action or not? for humans

Deals with question like what is good or bad,
wrong or right

\cancel{x} / \checkmark \rightarrow Ethics doesn't involve the study of
for actions all human actions because we have

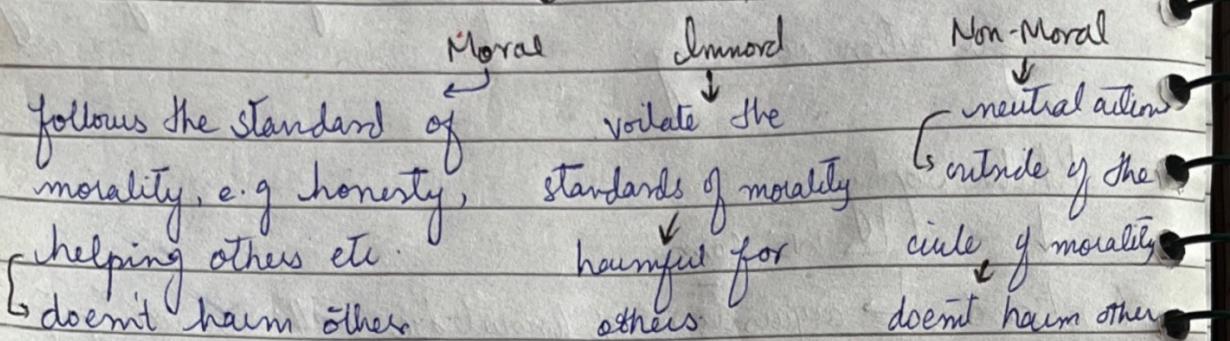
voluntary & non voluntary actions

in our control

not in our control e.g sneezing

↳ Ethics deals with voluntary actions
in our control

↳ doesn't deal with all voluntary actions



Branches of Ethics:

There are 3 main branches of ethics.

1) Meta Ethics

Theoretical & philosophical part of ethics.

↳ Study the meaning & origin of ethical terms / statement like good, bad, right & wrong.

↳ deals with the question such as: what we ought to do & ought not to do.

2) Normative

practical part of ethics.

↳ In this branch we apply theoretical part of ethics.

↳ It deals with the rightness or wrongness of social, economical, cultural, religious issues like child labor, abortion.

3) Applied

deals with philosophical

Consequentialism

That theory in which action is right action, when consequences are good or beneficial and actions are wrong if consequences are not good.

non-Consequentialism

→ claims that morality depends on aspects of an action beyond just consequence.

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Types of Consequentialism

Further divided into three types

i) Egoism: (beliefs on the result of an experiment)

↳ According to egoist an action is right if the result of action is good for that individual only.

2) Utilitarianism: (view that moral worth of an action is determined by how much happiness or suffering it brings to the world)

According to utilitarian, an action is right if the result provide max happiness for the maximum no of people including your own self.

3) Altruism:

According to altruist an action is right if the result of that action provide happiness for other people only.

e.g.: social workers.

Non Consequentialism a German philosopher

According to Imanuel Kant, consequences of action doesn't make it right or wrong, its nature make it good or bad.

e.g.: Sometimes telling a truth causes us to remain in a difficult situation but still we can't lie

It is also called Kantian ethics and deontological theory of ethics

duty
↳ that's why Kant say that its our moral duty

Applied Ethics :

↳ that branch of ethics in which we apply ethical principles into a particular or specific field e.g. business engineering etc.

→ principles & guidelines engineers follows to ensure their decision

Engineering Ethics : (activity & discipline) making is aligned with

↳ Simply It is applied ethics.

their obligations to
the public, client &
industry

Aims of E·E :

↳ To understand moral principles / moral values which ought to guide engineers & their practices.

↳ It aims to solve moral issues in engineering profession, also to guidelines.

↳ To justify moral judgments in engineering.

• deals with a set of moral problems and issues connected with engineering.

↳ Its aim is the discovery of a set of justified moral principles of obligations, rights & ideals that to be followed by engineers and apply them into situation - ↗

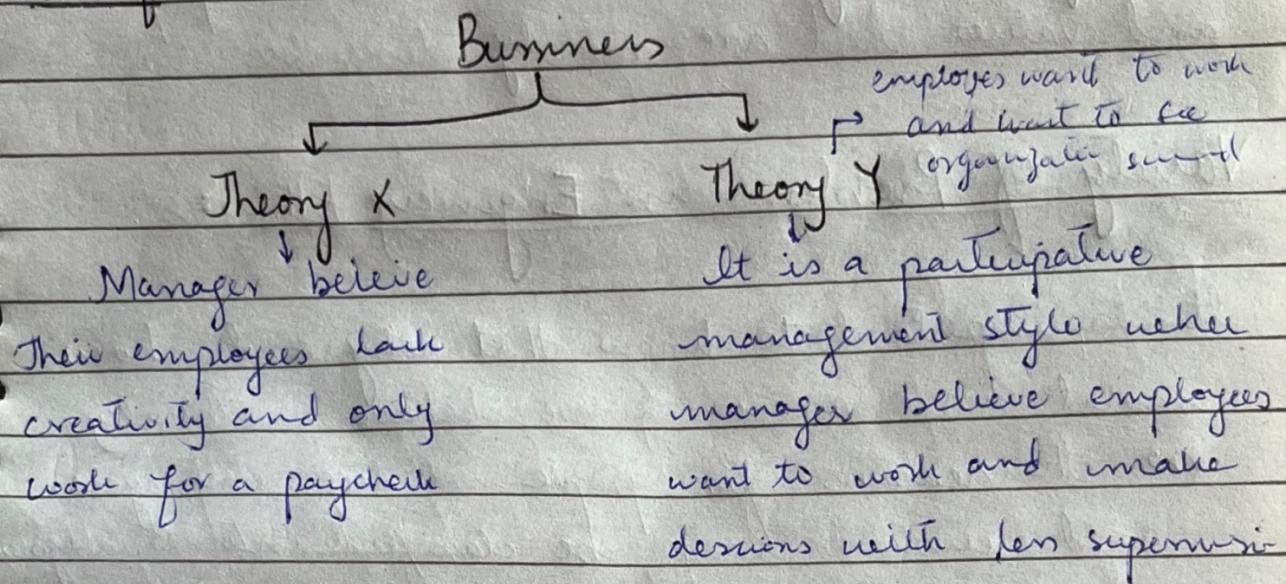
Scope of E·E :

The scope is of two types :

1) Ethics of workplace: which involves co-workers & employees of organization

2) Ethics related to the products or work which involves the transportation, warehousing & its uses.

Side info:



Approach of E·E:

↳ Micro
deals with the problems
{ decision of individual
professionals } companies

↳ Macro
which deals with problem
{ decision of regional, nation
} international level { global
issue }

Senses of E·E :

There are two type of senses in engineering ethics:

↳ Normative:

↳ knowing moral values, finding amicable solution to problems and justifying moral judgements in Engineering

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Descriptive:

refers to what specific individual or group of professional belief and act without justifying their actions & beliefs

- Secondly to study moral actions, decisions & policies and values that are morally desirable

Variety of Problems in Engineering Ethics:

It is important to know that why and how moral issue arises if we behave unethically. so the reasons for people including employees, and workers may be classified into 3 categories

1) Resource Crunch:

(due to pressure either from organization, e.g. a product or software required), time limitations (e.g. 1-2 days), availability of money (due to owners of money), budget problem (we use low quality things) and due to technological decay.

2) Opportunity:

(Double Standards or behaviour of employees towards the employees & public, secondly, management projecting their own interest over than that of employees).

Norms = rules or expectations that are socially enforced.

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3) Attitude

The poor attitude employees set because of

- low morals of employees.
- lack of promotion & career opportunities
- lack " Transparency.
- poor working environment.
- technological decay / lack of technological equipments
- favoritism of employees.

Profession:

→ type of occupation / job reserved for a recognized specific career. e.g., Teacher, doctor, engineer, Lawyer etc.

↳ is a job type which regime to full fill following 3 criteria :

→ complete knowledge of particular field

1) Advance Expertise:

↳ a person have a sound knowledge about both technical aspects and liberal arts. In general we can say that, continuing education and updating knowledge as well as humanity should be known

2) Self Regulation:

The organization that provide a job plays an important role in setting standards for the admission of employees, setting ethical principles and norms and tradition, e.g., coming for work on time, behaviour, dress etc.

3) Public Good:

Every profession serves some public good by

maintaining high ethical standards throughout the profession - and the basic aim of every profession is to work for the welfare of society.

Professionalism:

A set of behaviors and attitude which is considered to be appropriate to a particular occupation.

- ↳ It can be applied to almost any job.

Professional:

A person who is paid for getting involved into a particular occupation to earn money for their living as well to satisfy the laws of that profession as well.

Examples (Profession & Professionalism)

- ↳ As a computer operator, I write a program. It is called profession. and if I write it without any errors, it is professionalism.

- ↳ As a singer sing a song which is professional and I sing so that everyone hear me this is professionalism.

Professional Engineers: Degree & PEC license.

Professional Virtues: Team Work (collaborative working), Public Spirit (society, well being/welfare) courage, honesty

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Dilemma:

→ A common form of argument.

Types of Dilemma :

It is a conflict in which you have to choose b/w two or more actions and have moral reasons for choosing each action.

↳ Moral Dilemma: In common form of argument in ordinary language in which it is claimed that a choice must be made b/w two alternatives both of which are bad usually.

↳ Simple Dilemma:

An argument design to push the person to choose b/w two alternatives, which are usually undesirable and the conclusion is ~~is~~ an either case a single categorical proposition

"declarative sentence, must describe facts (true or false)"

↳ Complex Dilemma:

An argument consisting of a disjunction to conditional statements linked by conjunction - and conclusion is not a single categorical proposition but a disjunction

Proposition: Declarative sentence which must be either true or false

Types of Proposition:

↳ Simple: only have one sentence

↳ Compound: in which there are more than one proposition (Conjunction, Disjunction, conditional statements)

e.g. Ali is ill
e.g. Ali is in hospital

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Conjunction: two statements join with "and"

Disjunction: " " " " " or "

Conditional: " " are connected with "if, then"

Categorical Proposition.

relation b/w two classes

e.g.: all apples are fruits

Subject class

Predicate class

Arguments:

e.g.: There are 40 students in a class
no conclusion can be drawn

"A group of proposition" in which an inference is drawn/made" and that group of proposition in which some proposition claimed that they give support to some other proposition - So these proposition which provide support is called "premises" and the proposition which is supported by other proposition is called conclusion.

e.g.

→ universal claim

All men are mortal → (premises)

Socrates is a man, therefore he is mortal

premises

conclusion

e.g.:

conditional

If you increase the price ^{conjunction} then sales will be slumped and if you decrease the quality, then the sales will be slumped ^{disjunction}

Either you increase the price or decrease the quality. Therefore sales will be slumped ⁱⁿ categorical proposition

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e.g (complex dilemma)

If it is rainy then you'll be wet and if it is cold you will be shivering
both are undesirable.

Preventions from bad result of dilemma :

- ① Going b/w the horns : Consider conjunction false
- ② Taking by the horns : disjunction false
- ③ Rebuilding dilemma by a counter dilemma
conclusion opposite to original dilemma

Arguments :

- ① If the students are fond of learning then they need no stimulation and if they dislike learning then no stimulus is of any avail.
- ② Either students are fond of learning or they dislike learning, therefore stimulus is either needless or of no avail (It's alternative is going b/w the horns)

Argument : 3rd dilemma :

If you say just then people will hate you and if you say unjust the God'll hate you
Either you say just or unjust, therefore you'll be hated
↳ Counter dilemma :

- if i say just then God'll love me and i say unjust the people'll love me
- Either i say just or unjust, i'll be loved.

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KOHLBERG (Theory of Moral Development)

moral psychologist

According to him "moral development of humans occur during age & experience"

According to him there are three levels of moral development which are based on type of reasoning of that individual.

- Moral development is effected by social interaction of that individual as well.

Three levels are:

↳ Pre-Conventional : in this level the right conduct for individuals is considered what directly benefits one self - For that individual the right conduct is to avoid punishment to full-fill their own self interest - They are motivated by the desire of obedience etc. so all young children exhibit this tendency.

↳ Conventional : in this level people respect authority rules and norms of one's family and society is accepted as the standards of morality so people at this level want to please & respect others - loyalty is considered to be the most imp part of this level and most of the people don't go beyond this stage.

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Post-conventional: people are called autonomous that they think originally and live according to universally accepted principles - They work for the welfare & wellbeing of society. They have no self interest. There is a golden rule for them "choose for others whatever you choose for yourself".

Engineering as Experimentalism of Engineers as a responsible Experimentees.

Engineering As Experimentation:

Before manufacturing a product or providing a project, we make several assumptions and trials, design & redesign and test several times till the product is observed to be functioning satisfactorily - We try different materials & experiments. From the test data obtained we make detailed design and retest. Thus design as we as engineering is iterative process.

Several redesigns are made upon the feedback information on the performance or failure in the field or in the factory. Beside the tests, each engineering project is modified during execution hence development of product or project as a whole may be considered as an experiment.

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Engineers As Experimenters:

Although engineers facilitate experiments, they are not alone in the field - their responsibility is shared with the organization, people and others. No doubt that engineers share a greater responsibility while monitoring the projects, identifying the risks and informing the clients and the public with facts. Based on this, they can take stand to participate, protest or promote.

The engineer as an experimenter, owe several responsibilities to the society, namely

- ↳ A conscientious commitment to live by moral values.
- ↳ A comprehensive perspective on relevant information.
- ↳ Un-restricted free-personal involvement in all steps of project/product development (autonomy)
- ↳ Be accountable for results of project (accountability)

In short, engineers ~~as~~ must possess open eyes, open ears & open minds (i.e moral vision, moral listening, moral reasoning)

This makes the engineer as social experimenters