

PROFESSIONAL ETHICS IN ENGINEERING

Unit - I

UNIT – I HUMAN VALUES

- a) Morals, values and Ethics
- b) Integrity
- c) Work ethic
- d) Service learning
- e) Civic virtue
- f) Respect for others
- g) Living peacefully
- h) Caring
- i) Sharing
- j) Honesty
- k) Courage
- l) Valuing time
- m) Cooperation
- n) Commitment
- o) Empathy
- p) Self confidence
- q) Character
- r) Spirituality
- s) Introduction to Yoga and meditation for professional excellence and stress management.

Morals, values and Ethics

- **Morals** are the welfare principles enunciated by the wise people, based on their experience and wisdom.
- They were edited, changed or modified or evolved to suit the geography of the region, rulers (dynasty), and in accordance with development of knowledge in science and technology and with time.

Morals, values and Ethics

- **Morality** is concerned with principles and practices of morals such as:
- (a) *What ought or ought not to be done in a given situation?*
- (b) *What is right or wrong about the handling of a situation? And*
- (c) *What is good or bad about the people, policies, and ideals involved?*

Moral vs Ethics

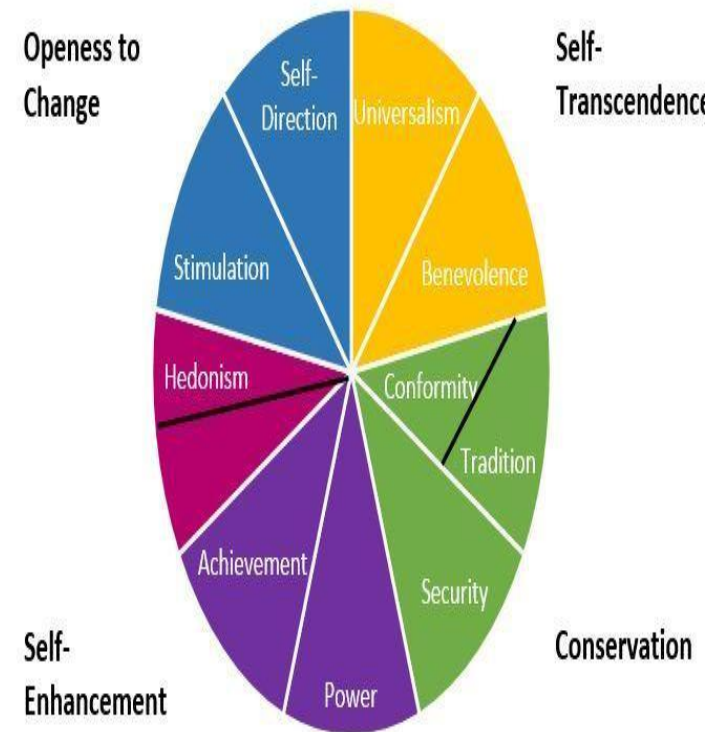
Moral	Ethics
1. More general and prescriptive based on customs and traditions.	1. Specific and descriptive. It is a critical reflection on morals.
2. More concerned with the results of wrong action, when done.	2. More concerned with the results of a right action, when not done.
3. Thrust is on judgment and punishment, in the name of God or by laws.	3. Thrust is on influence, education, training through codes, guidelines, and correction.
4. In case of conflict between the two, morality is given top priority, because the damage is more. It is more common and basic.	4. Less serious, hence second priority only. Less common. But relevant today, because of complex interactions in the modern society.
5. Example: Character flaw, corruption, extortion, and crime.	5. Example: Notions or beliefs about manners, tastes, customs, and towards laws.

Values

- Values are the rules by which we make decisions about right and wrong, should and shouldn't, good and bad. They also tell us which are more or less important, which is useful when we have to trade off meeting one value over another.
- beliefs of a person or social group in which they have an emotional investment (either for or against something); "he has very conservatives values".
- *"Values are the scales we use to weigh our choices for our actions, whether to move towards or away from something."*

Organized by
motivational similarities
and dissimilarities

Theory of Basic Human Values



Values

- A value is defined as a principle that promotes well-being or prevents harm.”
- Another definition is: Values are our guidelines for our success—our paradigm about what is acceptable.”
- Personal values are defined as: “Emotional beliefs in principles regarded as particularly favorable or important for the individual.”
- Our values associate emotions to our experiences and guide our choices, decisions and actions.

Types of Values

- Right Conduct

- (a) **SELF-HELP SKILLS:** Care of possessions, diet, hygiene, modesty, posture, self reliance, and tidy appearance
- (b) **SOCIAL SKILLS:** Good behavior, good manners, good relationships, helpfulness, No wastage, and good environment, and
- (c) **ETHICAL SKILLS:** Code of conduct, courage, dependability, duty, efficiency, ingenuity, initiative, perseverance, punctuality, resourcefulness, respect for all, and responsibility

- Peace

- – Attention, calmness, concentration, contentment, dignity, discipline, equality, equanimity, faithfulness, focus, gratitude, happiness, harmony, humility, inner silence, optimism, patience, reflection, satisfaction, self-acceptance, self-confidence, self-control, self-discipline, self-esteem, self-respect, sense control, tolerance, and understanding

Types of Values

- Truth

- Accuracy, curiosity, discernment, fairness, fearlessness, honesty, integrity (unity of thought, word, and deed), intuition, justice, optimism, purity, quest for knowledge, reason, self-analysis, sincerity, spirit of enquiry, synthesis, trust, truthfulness, and determination.

- Love

- Acceptance, affection, care, compassion, consideration, dedication, devotion, empathy, forbearance, forgiveness, friendship, generosity, gentleness, humanness, interdependence, kindness, patience, patriotism, reverence, sacrifice, selflessness, service, sharing, sympathy, thoughtfulness, tolerance and trust

- Non – violence

- (a) PSYCHOLOGICAL: Benevolence, compassion, concern for others, consideration, forbearance, forgiveness, manners, happiness, loyalty, morality, and universal love
- (b) SOCIAL: Appreciation of other cultures and religions, brotherhood, care of environment, citizenship, equality, harmlessness, national awareness, perseverance, respect for property, and social justice.

PERSEVERANCE

- PERSEVERANCE is defined as persistence, determination, resolution, tenacity, dedication, commitment, constancy, steadfastness, stamina, endurance and indefatigability.
- To persevere is described as to continue, carry on, stick at it (in formal), keep going, persist, plug away, (informal), remain, stand firm, stand fast, hold on and hang on.
- Perseverance builds character.



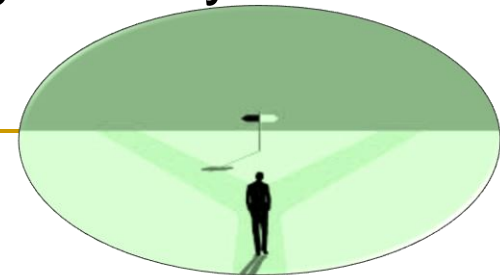
ACCURACY



- ACCURACY means freedom from mistake or error; conformity to truth or to a standard or model and exactness.
- Accuracy is defined as correctness, exactness, authenticity, truth, veracity, closeness to truth (true value) and carefulness.
- The value of accuracy embraces a large area and has many implications.
- Engineers are encouraged to demonstrate accuracy in their behavior through the medium of praise and other incentives.
- Accuracy includes telling the truth, not exaggerating, and taking care over one's work.

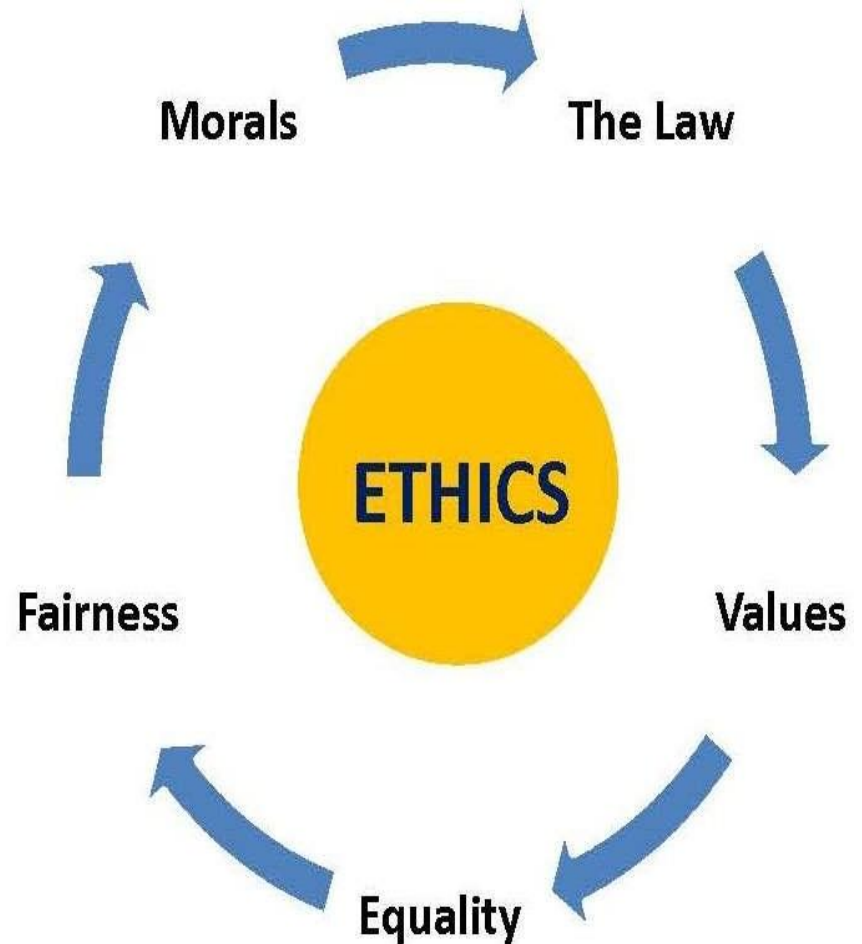
DISCERNMENT (விவாதம்)

- DISCERNMENT means discrimination, perception, penetration, and insight.
- Discernment means the power to see what is not obvious to the average mind.
- It stresses accuracy, especially in reading character or motives.
- Discrimination stresses the power to distinguish or select what is true or genuinely excellent.
- Perception implies quick and often sympathetic discernment, as of shades of feelings.
- Penetration implies a searching mind that goes beyond what is obvious or superficial.
- Insight suggests depth of discernment



Ethics

- Refers to moral, values and beliefs of the individuals, family or the society.
- It is an activity and process of inquiry.
- It is different from non-moral problems, when dealing with issues and controversies.
- Refers to a particular set of beliefs, attitudes, and habits of individuals or family or groups concerned with morals.
- it is used to mean 'morally correct'.



Ethics

- The study on ethics helps to know the people's beliefs, values, and morals, learn the good and bad of them, and practice them to maximize their well-being and happiness.
- It involves the inquiry on the existing situations, form judgments and resolve the issues.
- tells us how to live, to respond to issues, through the duties, rights, responsibilities, and obligations.

Integrity



- Integrity is defined as the unity of thought, word and deed (honesty) and open mindedness.
- It include the capacity to communicate the factual information so that others can make well-informed decisions.
- It yields the person's 'peace of mind', and hence adds strength and consistency in character, decisions, and actions.
- It enthuse people not only to execute a job well but to achieve excellence in performance. It helps them to own the responsibility and earn self-respect and recognition by doing the job.
- Moral integrity is defined as a virtue, which reflects a consistency of one's attitudes, emotions, and conduct in relation to justified moral values.

Work Ethics

- Work ethic is a value based on hard work and diligence.(Attendiveness)
- A work ethic may include being reliable, having initiative, or pursuing new skills.
- Work ethic is basically the belief that work is a good moral. Its also refers to a sets of values that are defined and characterized by diligence and hard work. Work ethic can as well be defined as the inherent ability of work to strengthen character.

The Importance of a Good Work Ethic

- Work Ethics For Successful Careers
- Work ethics is a plus for achieving a successful career. Holding key traits such as attendance, character, teamwork, appearance, and attitude add value to both you as a person and your company.
- Appearance is one work ethic that really shows.
- A professional attitude towards yourself and your chosen career is critical.
- Combining work ethics with professional skills invites success to a celebration, and that celebration is all about you.

social problems exist in the industrial/business scenario, because:

1. The people desire to be recognized as individuals and treated with dignity.
 2. Economic independence
 3. Exploitation and bargained pay should be discouraged.
 4. Privacy (personal freedom) of the employee, including women, is to be protected.
 5. Security during job and upon retirement:
 6. Recognition to non-work activities, such as leisure, paid holiday on the day of visit of a worthy, social service, and other developmental activities.
 7. Hard work and productivity are very essential for the success of an industry. The quality of work life deserves to be improved.
 8. Employee separation.
 9. A different view of work ethics:
 10. As per the Protestant Work Ethics, the financial success is a sign that is favored by God.
- By work ethics, duties to the self, family, society, and nation are fulfilled
 - Values and virtues are cultivated and enjoyed by all human beings

SERVICE LEARNING

- Service learning refers to **learning the service policies**, procedures, norms, and conditions, other than 'the technical trade practices'.
- **includes the characteristics of the work, basic requirements, security of the job, and awareness of the procedures**, while taking decisions and actions.
- helps the individuals to interact ethically
- ***Service Learning may be defined as the non-paid activity, in which service is provided on voluntary basis to the public (have-nots in the community), non-profitable institutions, and charitable organizations.***
- The service learning is a methodology falling under the category of experiential education.

SERVICE LEARNING

1. *Connection to curriculum*

- – Academic ties should be clear and built upon existing
- disciplinary skills.

2. *Learner's voice*

- Beyond being actively engaged in the project, trainees have the opportunity to select, design, implement, and evaluate their service activity.

3. *Reflection*

- Structured opportunities are created to think, talk, and write about the service experience.

4. *Partners in the community*

- *Partnership with community agencies are used to identify genuine needs, provide mentorship, and contribute input such as labor and expertise towards completing the project.*

Civic Virtues

- Civic virtues are the moral duties and rights, as a citizen of the village or the country or an integral part of the society and environment.
- The duties are:
 - a) To pay taxes to the local government and state, in time.
 - b) To keep the surroundings clean and green
 - c) Not to pollute the water, land, and air by following hygiene and proper garbage disposal.
 - d) To follow the road safety rules.
 - e) To vote the local or state government.
 - f) To contest in the elections to the local or state government.
 - g) To seek a public welfare facility for the residents.
 - h) To establish a green and safe environment, pollution free, corruption free.
 - i) People have inalienable right to accept or reject a project in their area.

Civic Virtues

1. *Civic Knowledge*
2. *Self-Restraint (Control)*
3. *Self-Assertion*
4. *Self-Reliance (Independence)*

RESPECT FOR OTHERS

- This is a basic requirement for nurturing friendship, team work, and for the synergy it promotes and sustains
 - Recognize and accept the existence of other persons as human beings
 - Respect others' ideas (decisions), words, and labor (actions).
 - Show 'goodwill' on others. Love others. Allow others to grow.

LIVING PEACEFULLY

- Install Peace Within...
- Only who are at peace can spread peace.
- War or peace can be won only by peace, and *not by wars* !
- Adopt:
 - **Nurture (Care For)**
 - Order in one's life (self-regulation, discipline, and duty).
 - Pure thoughts in one's soul
 - Creativity in one's head
 - Beauty in one's heart
 - **Get**
 - Good health/body
 - **Act**
 - Help the needy with head, heart, and hands.
 - Not hurting and torturing others either physically, verbally, or mentally.

LIVING PEACEFULLY

- Factors that promote living, with internal and external peace:
 - i. **Conducive environment** (safe, ventilated, illuminated (Lighted) and comfortable).
 - ii. **Secured job** and motivated with 'recognition and reward'.
 - iii. **Absence of threat** or tension by pressure due to limitations of money or time.
 - iv. **Absence of unnecessary interference** or disturbance, except as guidelines.
 - v. **Healthy labor relations** and family situations.
 - vi. **Service to the needy** (physically and mentally-challenged) with love and sympathy.

CARING

- Caring is feeling for others.
- It includes showing respect to the feelings of others.
- Caring is reflected in activities such as friendship, membership in social clubs and professional societies, and through various transactions in the family, fraternity, community, country and in international councils.

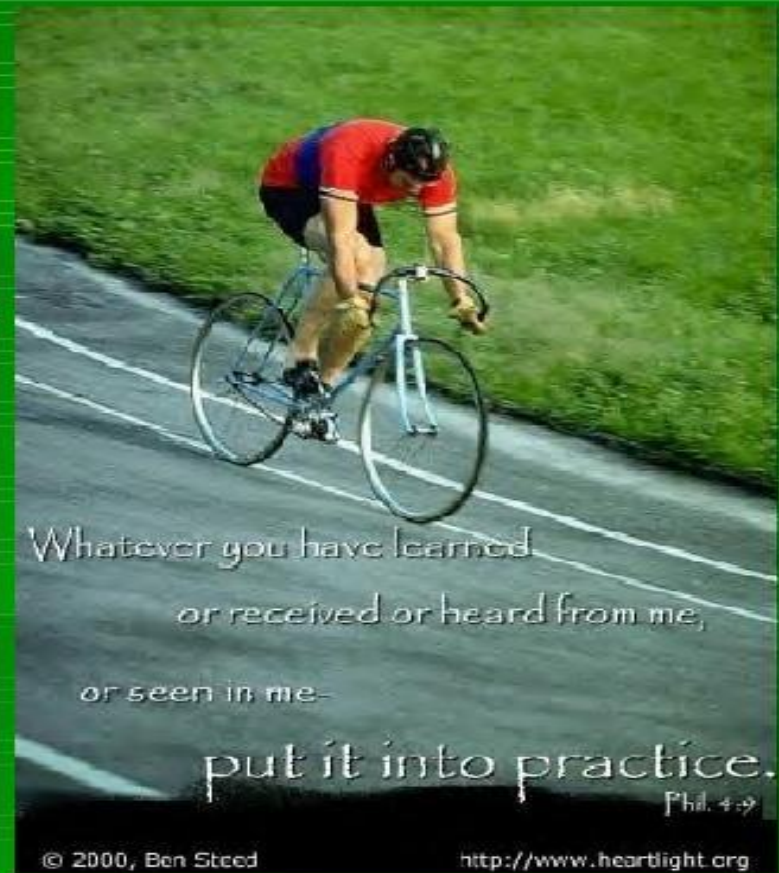
SHARING

- Sharing is a process that describes the transfer of knowledge (teaching, learning, and information), experience (training), commodities (material possession) and facilities with others.
- is voluntary
- Sharing is 'charity'.
- sharing' is a *culture*.

Honesty

Honesty

- Truthfulness, sincerity and candor require that a person be honest in words and in conduct.
- An honest person will not steal, cheat, commit fraud, or trickery, because these actions are dishonest in themselves, are **anti-values**.
- A dishonest person deceives in order to take advantage of others.
- Dishonesty is a violation of trust, justice, and truth.



Truthfulness
Trustworthiness.

Truthfulness

- Truthfulness is to face the responsibilities upon telling truth.
- Trustworthiness is maintaining integrity and taking responsibility for personal performance.
- Honesty is mirrored in many ways. The common reflections are:
 - *Beliefs (intellectual honesty).*
 - Communication (writing and speech).
 - Decisions (ideas, discretion).
 - Actions (means, timing, place, and the goals).
 - Intended and unintended results achieved.

Dishonesty actions

- *Lying*
- *Deliberate deception (Purposeful Tricks)*
- *Withholding the information*
- *Not seeking the truth*
- *Not maintaining confidentiality*
- Giving professional judgment under the influence of extraneous factors such as personal benefits and prejudice

COURAGE

- tendency to accept and face risks and difficult tasks in rational ways.
- Self-confidence is the basic requirement to nurture courage.
- three types
 - Physical courage
 - Social courage
 - Intellectual courage
- Look before you leap.

characteristics

- Perseverance (sustained hard work)
- Experimentation
- Involvement
- Commitment

VALUING TIME

- Time is rare resource. Once it is spent, it is lost for ever.

COOPERATION

- team-spirit present with every individual engaged in engineering.
- is activity between two persons or sectors that aims at integration of operations.
- Willingness to understand others, think and act together and putting this into practice, is cooperation.
- cooperation should exist or be developed, and maintained
- The absence of cooperation leads to lack of communication, misinformation.

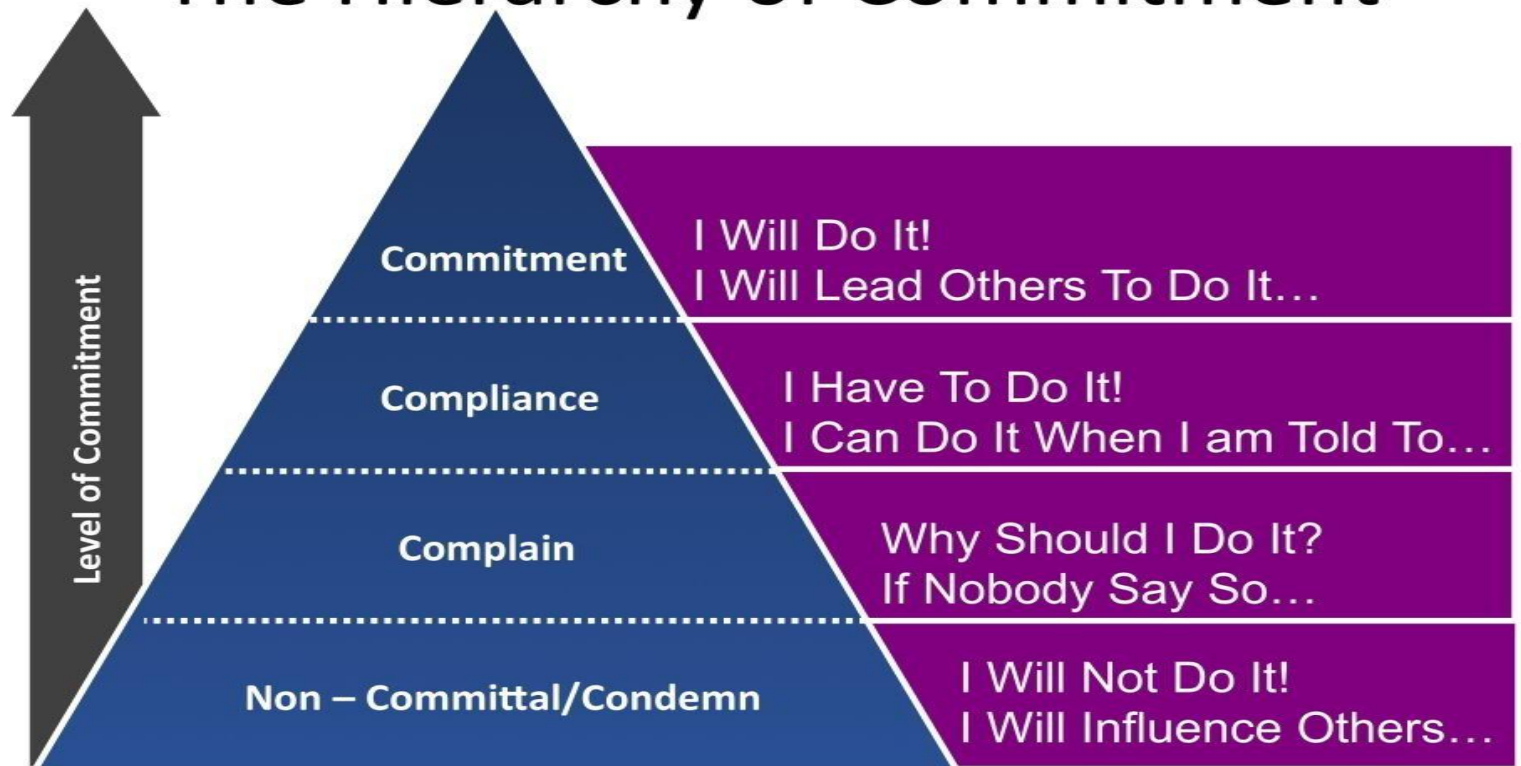
impediments to successful cooperation are:

- Clash of ego of individuals.
- Lack of leadership and motivation
- Conflicts of interests, based on region, religion, language, and caste.
- Ignorance and lack of interest.

Commitment

- *alignment to goals and adherence to ethical principles during the activities*

The Hierarchy of Commitment

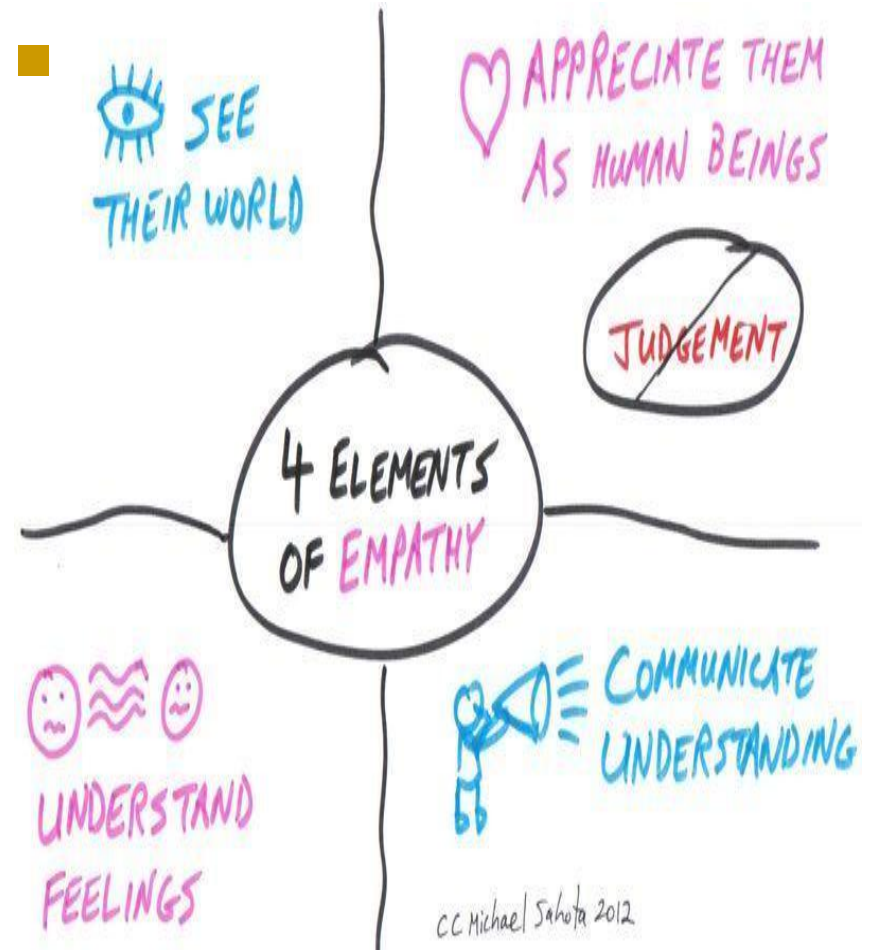


EMPATHY

- Empathy is social radar.
- Sensing what others feel about, without their open talk, is the essence of empathy
- defined as the ability to put one's self into the psychological frame or reference or point of view of another, to know what the other person feels.

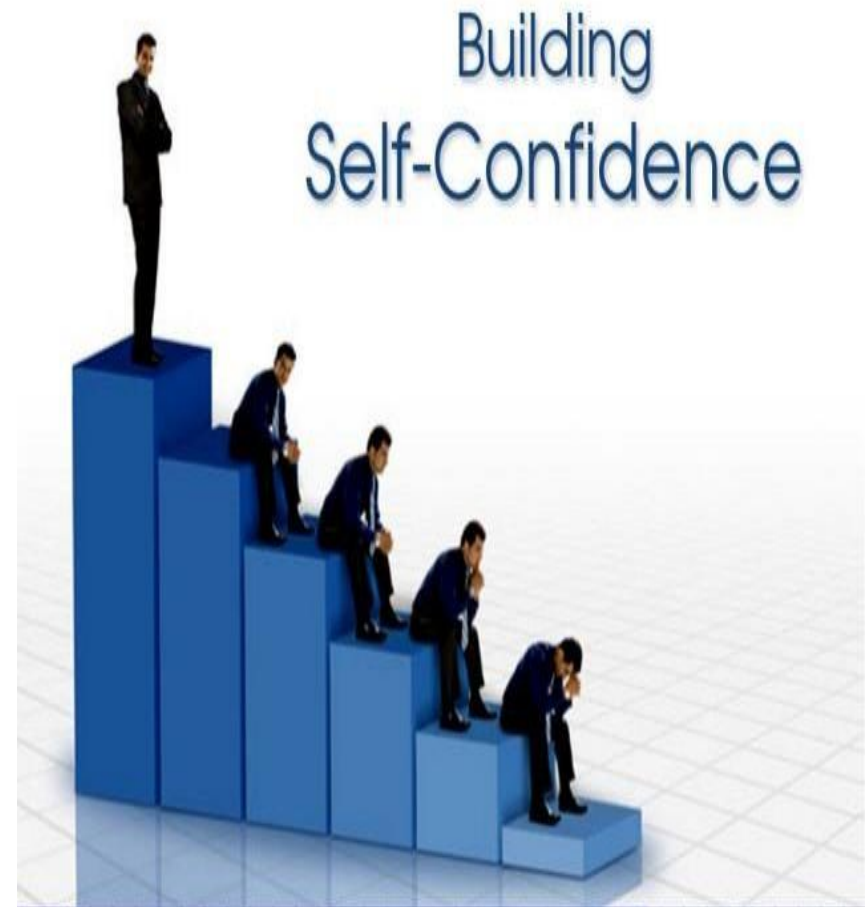
To practice 'Empathy', a leader must have or develop in him, the following characteristics.....

- *Understanding others*
- *Service orientation*
- *Developing others*
- *Leveraging diversity*
- *Political awareness*
- benefits of empathy include:
- Good relations



SELF-CONFIDENCE

- positive thinking, flexible and willing to change.
- is positive attitude, wherein the individual has some positive and realistic view of himself, with respect to the situations in which one gets involved.



SELF-CONFIDENCE

- people with self-confidence have the following **characteristics**:
 - A self-assured standing,
 - Willing to listen to learn from others and adopt
 - Frank to speak the truth,
 - respect others' efforts and give due credit.
- **factors** that shape self-confidence in a person are:
 - Heredity and family environment
 - Friendship
 - Influence of superiors/role models,
 - Training in the organization

CHALLENGES IN THE WORK PLACE

- The biggest workplace challenge is said to be the employee's work ethics.
- interest in work and attendance
- Punctuality
- commitment to the job, and getting along with others
- Demands inculcation of **good character** in the workplace by employees.

CHALLENGES IN THE WORK PLACE

- good character
- The Four Temperaments
- Types of Character
 - the sensitive
 - the active (great and the mediocre)
 - the apathetic (purely
 - apathetic or dull),
 - the intelligent.
- Ethics and Character
- Education and Character
- Building Character in the Workplace

Building Character in the Workplace

1. Employee Hiring, Training, and Promotion Activities

- Institute and adopt an organization policy statement to positive character in the workplace.
- Prominently and explicitly include character considerations in recruiting procedures
- Emphasize the importance of character and adherence to the 'six pillars' of character(trustworthiness, respect, responsibility, fairness, caring and citizenship)
- Include evaluation of fundamental character values
- Institute recognition and reward system for the employees
- Think of your employees

Building Character in the Workplace

■ 2. Internal Communication

- ❑ to create a friendly environment that praises positive role modeling
- ❑ Through Internal newsletters, Workplace posters in canteens and recreation rooms, Mailers,

■ 3. External Communication

- ❑ In relations with customers, vendors and others.
- ❑ Advertise and market honoring consensual values (the six pillars),
- ❑ Assure that none of your products and services undermines character building,
- ❑ Include positive messages about voluntarism and celebrate, and
- ❑ 'Character counts' week in advertising, billings and other mailers.

Building Character in the Workplace

4. Financial and Human Resources

- Support local and national ‘character’ projects and the activities of the members
- Sponsor ‘character’ movement through financial support.

5. Community Outreach

- Use public outreach structures to encourage mentoring and other character-building programs.
- Encourage educational and youth organizations to become active in character building.
- Use corporate influence to encourage business groups and other companies to support ‘character’ building.

SPIRITUALITY

- Spirituality is a way of living that emphasizes the constant awareness and recognition of the spiritual dimension (mind and its development) of nature and people, with a dynamic balance between the material development and the spiritual development.
- spirituality includes the faith or belief in supernatural power
- Spirituality includes creativity, communication, recognition of the individual as human being, respect to others, acceptance, vision, and partnership
- Spirituality is motivation as it encourages the colleagues to perform better. Creativity in spirituality means conscious efforts to see things differently, to break out of habits and outdated beliefs to find new ways of thinking, doing and being.

Spirituality in the Workplace

- is promoted in the workplace by adhering to the following activities:
 - Verbally **respect the individuals as humans** and recognize their values in all decisions
 - Get to **know the people with whom you work and know what is important to them**. Know their goals
 - **State your personal ethics and your beliefs clearly.**
 - **Support causes outside the business.**
 - **Encourage leaders** to use value-based discretion in making decisions.
 - **Demonstrate your own self-knowledge** and spirituality in all your actions.
 - Do unto others as you would have them do unto you.`

Spirituality for Corporate Excellence

- The spiritual traits to be developed for excellence in corporate activities are listed as follows:
 - *Self-awareness*
 - *Alertness in observation and quickness in decision making,*
 - *Being visionary and value based*
 - *Holism*
 - *Compassion*
 - *Respect for diversity*
 - *Moral Autonomy*
 - *Creative thinking and constant reasoning*
 - *Ability to analyze and synthesize*
 - *Positive views of adversity*
 - *Humility*
 - *Sense of vocation*

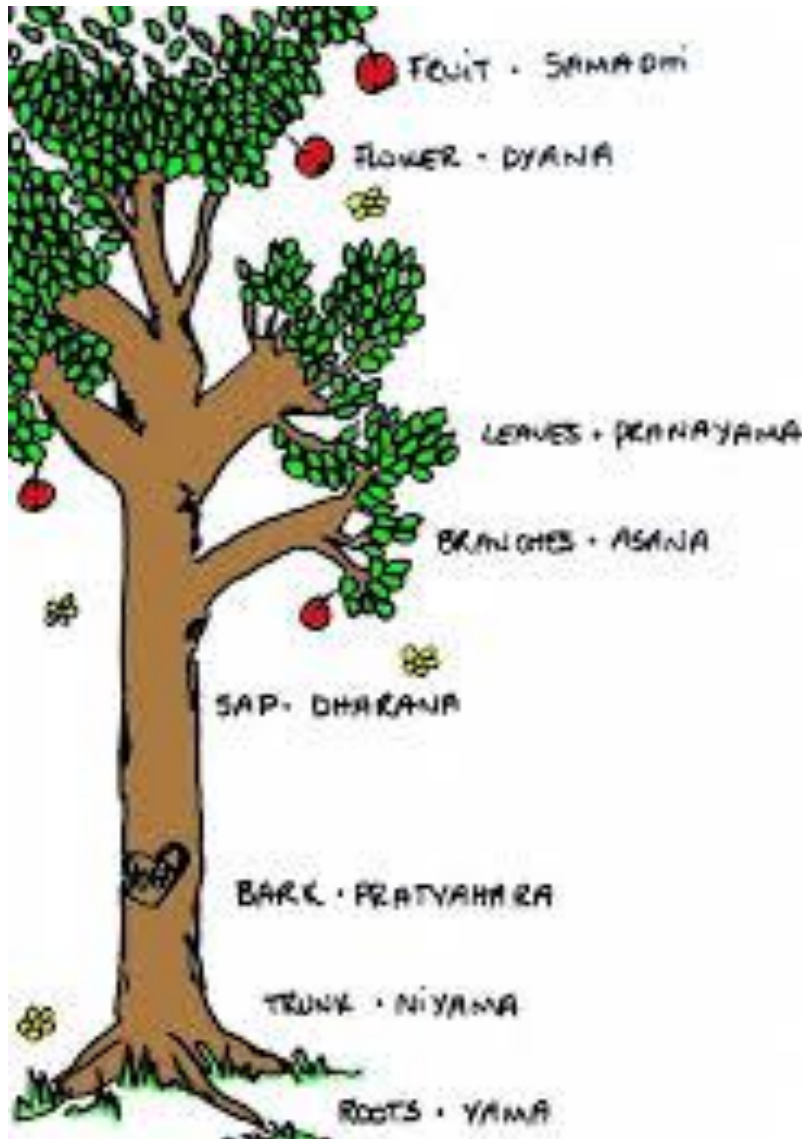
Yoga

- Yoga originated in India
- From sanskrit word “yuj” meaning union between mind ,body and spirit.
- *Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual, when adopted as a way of life, yoga improves physical, mental, intellectual, and spiritual health.*
- Yoga offers an effective method of managing and reducing stress, anxiety, and depression, and numerous studies demonstrate the efficacy of yoga on mood-related disorders.

YOGA

- Include ethical discipline, physical postures, breathing control and meditation.
- Yoga is not only stretching.
- Yoga is often depicted metaphorically as a tree and comprises eight aspects, or limbs:
- There are 8 limbs of yoga.
 - **yama** (universal ethics), **niyama** (individual ethics), **asana** (physical postures), **pranayama** (breath control), **pratyahara** (control of the senses), **dharana** (concentration), **dyana** (meditation), and **samadhi** (bliss)
- Physical postures called “Asana” is just one of the eight limbs of yoga
- Majority of types more concerned with mental and spiritual well being.

Tree of Yoga



- When one thinks about Yoga today, the first thing that comes to mind is the physical practice of postures, or Asana.
- As described in Patañjali's Yoga Sutras, Asana is only 1 of the 8 limbs of Yoga
- Applying the other 7 will not only deepen our physical and spiritual practice but also help take our yoga off the mat and into our daily lives.
- To help better understand how the 8-step path comes all together, BKS Iyengar's representation of the Tree of Yoga is shown in picture

1. Roots: Foundation for living honorably and clearly - Yama

- Yama – a list of outward observances representing principles of ethical behavior
 - Ahimsa – non harming, compassion for self and others
 - Satya – truthfulness, being honest with ourselves and others
 - Asteya – non-stealing, freeing oneself from the desire to have something that has not earned or paid for
 - Brahmacharya – wise and balanced use of energy
 - Aparigraha – non-attachment, living with generosity of spirit and action

2.Trunk: Establishing a base of purity in one's body and mind - Niyama

- Niyama – Inward personal observances that improve the self and surrounding relations
 - Sauca – cleanliness in one's body, mind, and surroundings, treating our body as a temple
 - Santosha – practice of contentment, seeing the good in things, counting one's blessings
 - Tapas – heat -transformation to promote a healthy mind, Soul and Body
 - Svadhyaya – study of texts and self study
 - Isvarapranidhana – letting go of ego, a feeling of being an expression of the whole universe

*Branches: Strong and flexible to move with
the wind of life*

- Asana – physical practice of yogic postures

Leaves: Drawing in life force through the exchange of breath

- Pranayama – mastering the science of breath, breath control

*Bark: Protecting the tree from outer elements
and preventing its essence from flowing
outward*

- Pratyahara – turning awareness inward,
sense withdrawal

Sap: Juice which carries the energy on this inward journey, links the whole tree as one

- Dharana – focused state of concentration, bringing the mind to a single point of focus

8.Fruit: The essence of the tree

- Samadhi – bliss, to feel unity, peace, freedom

What is Stress?

- Hans Selye first introduced the term stress into life science. The term stress is derived from the Latin word Stringere, which means “to be drawn tight”.
- Stress is a complex, dynamic process of interaction between a person and his or her life. Stress can affect one’s health, work performance, social life, and the relationship with family members.
- Eminent behavioral scientist Stephen Robbins defines stress as that which arises from an opportunity, demand, constraint, threat, or challenge, when the outcomes of the event are important and uncertain.

Job Stress

- Job stress can lead to poor health and even injury. Hence we can say that stress is a silent killer, and prolonged exposure to stress may exert harmful effects on physical, psychological, and behavioral well-being of an individual.
- According to the National Institute for occupational Safety and Health, 80% of workers experience job stress

■

IMPACT OF STRESS

- One of the studies quoted that stress-related disorders evolve gradually through four recognizable stages.
- 1. In the first, psychological changes such as anxiety, irritability, and insomnia arise, due to over-stimulation of the sympathetic nervous system.
- 2. In the second stage symptoms such as high blood pressure, elevated heart rate, and increased intestinal motility surface.
- 3. In the third stage, a more profound physical or biochemical imbalance sets in
- 4. In the final fourth stage, irreversible symptoms that often require surgical or long-term management appear.

IMPACT OF STRESS

- Increased sympathetic activation and the release of stress hormones, including adrenaline, lead to increases in heart rate, blood pressure, breathing, body temperature, and muscle tension.
- Similar to stress in the workplace, college students are also often impacted by stress. Academic stress can result from many different imperative stressors, such as final grades, term papers, examinations, and excessive homework.

EFFECT OF YOGA IN STRESS

- certain yoga techniques may improve physical and mental health through down regulation of the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system (SNS)
- The HPA axis and SNS are triggered as a response to a physical or psychological demand (stressor), leading to a cascade of physiologic, behavioral, and psychological effects, primarily as a result of the release of cortisol and catecholamines (epinephrine and norepinephrine)

Clinical Significance of yoga

- Reduced stress
- Spiritual growth
- Sense of well being
- Reduced anxiety and muscle tension
- Increased strength and flexibility
- Slowed aging
- Sound sleep
- Improve many medical conditions:
- Lower heart rate
- Lower blood pressure
- Allergy and asthma symptom relief
- Smoking cessation help

EFFECT OF YOGA IN STRESS

- Practicing yoga can be a best thing a provider can do for himself/herself
- Doing simple “Pranayam” (breathing technique) in breaks can calm their mind.
- Practicing yoga for ½ hr. a day can make their body fit to take care of others.
- Yogic thought process- will teach not to work only for money.