

PROFESSIONAL PRACTICE)

1. INTRODUCTION (1 hour)

[Introduction]

General

Technology has a pervasive and profound effect on the contemporary world and engineers play a central role in all aspects of technological development. Because of this, it is vital to have an understanding of the ethical implications of engineer's work. Engineers create products and process to satisfy basic needs for food and shelter – and in addition enhance the convenience, power, and beauty of our everyday lives. Engineers must be aware of their social responsibilities and equip themselves to reflect critically on the moral dilemmas they will confront.

What is Profession?

The word “profession” is used as a synonym for job or occupation. Occupation and profession are different things. Occupation is the job or services simply for livelihood (means of living i.e. bread and butter) or to earn one's living through it. For example – carpentry work, taxi cab driving, and playing football etc are counted as occupation. Without acquiring specialized training or education the occupation can not be a profession.

Attributes of Profession

Attributes of a profession include:

1. Knowledge – profession requires extensive formal education, systematic knowledge, sophisticated skills, the use of judgment, and the exercise of discretion (freedom to act according to one's own judgment). Also the work is not routine and is capable of being mechanized.
2. Organization – the public allows professional societies that are controlled by the members of the profession. Professional societies play a major role in setting standards for admission to the profession, drafting code of ethics, enforcing standards of conduct, and representing the profession before the public and the government.
3. Public good – the occupation serves some important aspect of the public good, as indicated in the code of ethics. For example – Medicine is directed toward promoting health, law toward protecting the public's legal rights, and engineering toward promoting the public's health, safety and welfare as they relate to technology.

Features of Profession

The features of profession are:

1. Profession requires a systematic knowledge and skills. For example – Medicine, Engineering and Law are considered as profession.
2. Professionals do have special rights and are honored because of their systematic knowledge and skill.
3. Professional's practices are publicly evaluated.
4. Professions are regulated through code of ethics e.g. Medical Council, Engineering Council do have certain rules and regulations.

5. Professionals do have professional culture.
6. Professionals are regarded as deserving high pay, prestige and other social benefits.

Ordinary person has to surrender before a profession. Professionals are competent to provide services to the needy person or community.

Engineering Profession

Engineering is a great profession. The great liability of the engineer compared to person of other professions is that their works are out in the open where all can see them. Engineers can not bury their mistakes in the grave like the doctors. There is a proverb “Engineer’s mistakes are exposed while the doctor’s mistakes are buried”. Engineers can not argue them into thin air or blame the judge like the lawyers. Engineers can not, like the architects, cover his failures with trees and vines. They can not, like the politicians, screen their shortcomings by blaming their opponents and hope that the people will forget.

The engineer simply can not deny that he did it. If engineer’s works do not work, he is damned. When a bridge fell, the particular engineers responsible could be easily identified. Technological progress is taken as the norm, and technological failure is blamed on the engineers.

Models of professional role

Engineering profession is aimed at promoting the public good i.e. the public safety, health and welfare. Models of professional role of engineers are:

1. **Savior** – the engineer is a savior (person who rescues or saves somebody from danger) who will redeem society from poverty, inefficiency, waste and the drudgery of manual labor.
2. **Guardian** – engineer know best the directions in which, and pace at which, technology should develop.
3. **Bureaucratic servant** – the proper role of the engineer is to be the servant who receives and translates the directives of management into concrete achievements. Engineer is the person whose special skills reside in solving problems assigned by management, within the constraints set by management.
4. **Social servant** – engineers in corporation with management, have the task of receiving society’s directives and satisfying society’s desires.
5. **Social enabler and catalyst** – service to society includes carrying out social directives. Ultimate power and authority lie with management. Engineers are needed to help management and society who plays a vital and active role.
6. **Game player** – engineers are neither servants nor master of anyone. Instead they play by the economic game rules that happen to be in effect at a given time. Their aim, like that of manager, is to play successfully within organizations, enjoying both the pleasure of technological work and the satisfaction of winning and moving ahead in a competitive world.

2. MAN AND SOCIETY (2 hours)

[Introduction to society and social change

Theories of social change – evolution theory, functionalist theory and conflict theory
Characteristics of developing countries]

Community and society

Community

Man cannot live in isolation. Man is linked in many ways to his fellows in many ways who form a group. By living together for years in a definite part of territory, a sort of relation with people or social likeness is established. This fact of social living, likeness among these in specific area gives birth to community. Community is a cluster of people living with a narrow territorial radius, who share a common way of life.

According to Bogardus, community is “a social group with some degree of feeling and living in a given area”. Blaire and Meeca said, “A human community is a functionally related aggregate of people who live in a particular geographic locality at a particular time, share a common culture, are arranged in a social structure, and exhibit an awareness of their uniqueness and separate identity as a group”. According to Ginsberg, “Community is a group of social being living a common life including all the infinite variety and complexity of relations which result from that common life or constitute it”.

Elements of community

Followings are the elements of community:

1. A community is essentially the group of people sharing the common feeling and basic conditions of a common life.
2. Group of people residing in a definite locality form a community. It occupies a territorial area.
3. Feeling of community sentiments is another important characteristic of a community. It means a feeling of belonging together. In cities and towns feeling of sentiments lacks drastically. In village one can still find feeling of community sentiments.
4. Unlike crowd, community is of permanent nature.
5. Community is not created and made by an act of will but its emergence is quite natural.
6. Likeness in language and customs is significant elements of community.
7. Ends and objectives of community are wider and natural not artificial.
8. A community has no legal status. It can neither sue nor to be sued.
9. Every community has some specific and particular name.

Society

The term society is derived from the Latin word “socius” which means companion, associate, comrade or business partner. It indicates that man lives in company of other people. Man is a social animal. It is difficult to live without society. No infant could reach maturity without the care of other people. According to Maclver, family was the first form of the society. Society means collection of individuals united by certain relations or modes of behavior which make them off from others who do not enter into these relations.

Aristotle said “Man is a social animal”. Man needs society for his living, working and enjoying life. Society refers to the group of people, but to the complex pattern of the

norms of interaction that arise among them. For the health of society it is essential that there must be a like minded and unlike minded people. Likeness brings recognition whereas unlike mindness helps in generating new ideas. Invisible likeness and active cooperation is the backbone of society. Man forms the society and develops standard and norms.

The world system is a network of many nations and societies. A society is an organization of people who share a common territory, govern themselves, and cooperate to secure the survival of the group. Not all societies are nations; there may be several societies within a single nation. Nepal and India share the society of Hindus. Iraq and Iran share the society of Kurds. The presence of many societies within a single nation can become a source of serious conflicts and sometimes war.

Although nations may contain several societies, not all these societies are necessarily equal in power or benefit equally from social, political, and economic arrangements. For example, The Kurds in Iraq were oppressed by a more powerful prevailing society under Saddam Hussein. And although blacks in South Africa are now in political majority, for many years they were exploited and oppressed economically, socially, and politically by the dominant white society in that country.

Definition of society

Society has been defined differently by different scholars.

According to Giddings – “Society is the union itself, the sum of formal relations which associating individuals are bound together”

J.F.Cuber has defined society, as a group of individuals who have lived together long enough to become organized and consider themselves distinct from others.

Most appropriate definition of the term society given by MacIver is that “The society is the system of usages and procedures, of authority and mutual aid, of many groupings and divisions of controls of human behaviors and liberties. It is the web of social relationship”.

Society gives content, direction, and meaning to our lives, and we in turn, in countless ways, reshape the society that we live to the next generation. **Sociology** is the scientific, or academic, study of society and human behavior.

Social structure (institution)

To survive, every society must successfully address the same fundamental social needs. Talcot Parsons identified six basic fundamental social needs as follows:

1. All societies must organize the activities of the members to obtain the basic goods and services necessary for survival (such as food, clothing, shelter, fuel, potable water).
2. Societies must protect their members from both external and internal threats. External threats includes invasion by other societies and destructive natural disasters like hurricanes, tornadoes and earthquakes. Internal threats include crime like robbery, murder, rape and health epidemics like AIDS, measles, polio, and the flu.
3. All societies must replace members lost by death or emigration.
4. Whenever societies gain new members, they must transmit knowledge of the rights, obligations, responsibilities, and expectations of appropriate behavior to the

new members. New members must also be taught the skills they will need to participate as productive member of the society.

5. All society must motivate both new and continuing members to fulfill their responsibilities and conform to expected behaviors.
6. Finally, societies must develop mechanisms for solving conflicts.

Five basic institutions can be found in all known societies. They are: the family, religion, economy, education, and the state. Each institution is intended to address one or more of the basic needs determining society's survival.

Institutions may even provoke or exacerbate systemic inequalities between groups within society. For example, when the U.S. went to war against Iraq in early 1991, the state was fulfilling its function of protecting U.S. society from external threats. Indeed, President Bush argued that it was necessary to go to war "to protect our way of life", because Iraq's invasion of Kuwait threatened U.S. access to Mideast oil.

1. **The Family:** The family is the institution whose manifest function is to contribute new members to society. Family also teaches the new members what is expected of them, and they try to motivate members to fulfill those expectations. Families may reinforce race, gender, and class inequalities in the way they transmit expectations regarding appropriate behaviors and goals.
2. **The Religion:** Religion manifestly motivates members to comply with their responsibilities and obligations by assigning meaning and purpose to such activities. Religion attempts to reinforce the family's transmission of appropriate behaviors and goals to new members of society, and it parallels the family's role as a mechanism of conflict resolution.
3. **The Economy:** In U.S. the institutions of the economy includes corporations, organized markets, the banking community, international trade associations, labor unions, and consumer organizations. The purpose of economic institutions is primarily to produce and distribute goods and services throughout society. They also discipline and motivate members of society to perform their role in the production, distribution, and consumption of goods and services.
4. **Education:** The manifest function of education is to transmit the skills that all young members of society need to become productive members of the economy as adults. Educational institutions can also be powerful mechanisms for social change. When skills taught by school include independent, critical, and creative thinking, they produce the potential for challenges to society to alter inequalities and discrimination.
5. **The State:** State protects society's members from both external and internal threats. The state also establishes penal and codes to formally define standards of acceptable and unacceptable behaviors, responsibilities and obligations, and it specifies sanctions for violations of these standards. Finally, the state aid the economy by developing social welfare programs that distribute goods and services to individuals the economy can not support. By enhancing the ability of the poor to consume goods and services, state directly support the private producers and the economy. The state may reinforce other inequalities as well.

Essential elements of society

1. **Plurality:** Society is composed of population of all ages and of the both the sexes.

2. **Stability:** A society is permanent in character. The social life is organized mainly on the basis of division of labor.
3. **Likeness:** In earlier societies, the sense of likeness was focused on kinship i.e. blood relationships. In modern societies, the concept has been broadened by the principle of nationality. A society would not be possible without some mutual understanding and that understanding depends on the likeness which each apprehends (understand) in the others.
4. **Differences:** Society also includes differences. All our social systems involve relationship in which differences complement one another. For example: In a family, apart from biological differences of gender, there are other differences of opinions, diversities of interests and etc. In social life, there is an indefinite interplay of likeness and differences of cooperation and conflict of agreement and dissent.
5. **Interdependence:** It is also an essential element to constitute a society. Family is an example of interdependency. Today, even the countries depend on each other.
6. **Cooperation:** Without cooperation no society can exist. The members of a family cooperate with each other to live happily.

Features of society

1. Society is universal having no assigned boundary and limits.
2. Members of the society are interdependent and family is the force of biological inter-dependence of society.
3. Society is invisible whose existence can only be felt. It is a mutual interaction of individuals and groups.
4. Liberty is an essential element of society.
5. Active cooperation is the backbone of society.
6. Likeness of members is an essential pre-requisite of society.

In view of the above features, a society is web of social relationship. MacIver opined that family was the first form of society. As the time elapsed numerous social groups of different types came into existence. Presently, society constitutes many types of associations, institutions and communities engaged in the welfare of humanity.

Characteristics of society

1. Society is invisible whose existence can only be felt.
2. Status is very essential aspect of society and groups.
3. Society consists of people: Society is composed of people. No people no society.
4. Mutual interaction and mutual awareness: Individuals are in continuous interaction with other individuals of the society. Social interaction takes through mutual awareness.
5. Society depends on likeness, mutual understanding (earlier based on kinship – blood relationship, now nationality).
6. Society rests on differences in opinion, interest and gender etc.
7. Society implies interdependence.
8. Society is dynamic. No society can ever remain constant for any length of time; changeability is the inherent quality of society.

9. Society has its own ways of controlling the behavior of its members.

Interdependencies and cooperation are important elements of society. Members of the society depend to each other in many ways and extend cooperation. Family is an example of interdependency.

Types of societies

Thousands of societies have existed on this planet since time immemorial. But these societies have been classified into a limited number of basic types depending on the technologies they adopted to exploit the natural environment. The existence of present day societies has a trend of socio-cultural evolution. Different societies have used different subsistence strategies while exploiting the food resources. Types of societies are as follows:

- | | |
|----------------------------|---------------------------|
| 1. Tribal societies | 4. Agricultural societies |
| 2. Pastoral societies | 5. Industrial societies |
| 3. Horticultural societies | |

Tribal societies

A few thousands years ago, human being relied on hunting and gathering for their survival. This was the subsistence strategy of these societies. Even today one can find this handful of isolated people living in the Australian deserts and in the deep interiors of India. Their needs are simple and easily satisfied spending less time working for their food than the average inhabitants of any other type of society. The family is the only defined institution in these societies.

Tribal societies have common territory, a sense of unity, common language, blood relationship, endogamous (customs permitting a man to marry within the tribe), worship common god. A tribal is a primitive society which existed in the early period of human history. Each tribe knows the norms and standards of behavior and is watched that younger learn the proper way of behaving.

Pastoral societies

Some ten to twelve thousands years ago a few hunting and gathering tribal started domestication of herds of animals. This strategy of subsistence (existence) gave birth to pastoral societies. They usually believe in a god or gods who take an active interest in human affairs and look after the people who worship them. A few religions such as Judaism (the religion of the Jewish people), Christianity and Islam originated among pastoral people.

Horticultural societies

These societies specialize in the domestication of plants which they cultivate manually with hoes. Horticulture became necessarily alternative to pastoral people. Horticulture provided an assured supply of food and surplus that enabled some individuals wealthy and more powerful than others. Many horticultural societies are still in existence in Africa, Asia, South America and Australia.

Agricultural societies

The agricultural wealth of the society was unevenly distributed with a small majority of people enjoying the surplus produce by the working society. Political institutions were more elaborated. Power was concentrated in the hands of a single individual and hereditary monarchy prevailed. The religions of agricultural societies often include a belief in a 'family' of gods. One of these is a high god regarded as more powerful god than other god. Trade is more elaborated in agricultural society. Money is used as medium of exchange. Agricultural societies tend to be at war constantly. These conditions create the need of military set up. The need for efficient communication and transportation was developed in these large societies.

Industrial societies

Application of scientific knowledge to the technology of production is the basis of industrial society. Industrial revolution gave birth to industrial societies. New technologies – such as steam engine, electrical power tend to bring about social change. This society produced bulk quantity to feed the majority. This society was found practicing a new system of production and distribution. Division of labor in factories and in management predominates in industrial society. Growth and development of trade unions is also an important characteristic of industrial society.

Comparison between community and society

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| 1. Population is very essential for the formation of a community. | Population is essential but more important is that the members should have feeling of oneness as well. |
| 2. For community, some locality or area is essential. | Society needs no area and the people living in far off areas can form a society. |
| 3. Its scope is narrow and localized. It is homogenous group. | It has wide scope and is thus of more heterogeneous character. |
| 4. Community came after society and in a community there can not be many communities. | Society came prior to community and its scope is wide, as it embraces many communities. |
| 5. Common objectives are loosely coordinated. | Common objectives are closely coordinated. |
| 6. Members are supposed to obey the commands and thus they have less chances of personal development. | Chances of personal development are much more as compared with the community. |

Social change

Social change is the change in the society. Change is a dynamic and on-going process. Change is a law of nature and social change is the progressive transformation of society. Man is a dynamic being. Therefore, society never remains static. Similarly, a society is subject to constant change.

Social change has taken place in all societies at all times. Society changes with the changes in the social relationship. Some societies are resistant to change but no society can prevent change.

Different writers have defined social change differently. Some of them are:

Machver: Social change is the change in the human relationship.

M.P.Jenson: Social change may be defined as modification in ways of doing and thinking of people.

When people focus their collective power and work together toward a common goal social change can happen. Social change is the change in society due to the alteration in patterns of culture, social structure, and social behavior over time. It includes the complex interaction of environment, technology, political, economic, religious and human action.

Factors affecting social change

Sociologists have identified a number of specific factors that may generate changes in all societies. Some of the major sources of social change are:

- **Cultural innovation:** Three sources of cultural innovation are invention, discovery, and diffusion. Changes in patterns of culture, social structure, and social behavior causes social change over time.
- **Physical environment:** The physical environment has a strong influence on the culture and social structures of a society. Environmental disasters like hurricanes, tornadoes, fires, earthquake causes quick social change and greenhouse effect etc causes slow change. Geographically less accessible societies or cut off from other societies by oceans, deserts, mountain ranges, jungles have tended to change less.
- **Technology:** A major source of social change is technology. The practical applications of technology for example use of computer, mobiles creates social change. Way of life has been influenced by various technologies ranging from kitchen gadgets to automobiles.
- **Population:** Significant decrease or increase in population size or growth rates may disrupt social life that causes social change.
- **Human action:** Social movements, social conflicts, collective human action like invasions, occupations by foreign powers, wars, subversions, and colonization etc causes social change.

Theories of social change

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|---------------------|-------------------------|
| 1. Evolution theory | 2. Functionalist theory |
| 2. Conflict theory | 4. Cyclical theory |

1. Evolution theory

Evolutionary process implies that societies would necessarily reach new and higher level of civilization. Socio-cultural evolution theory is based on the assumption that societies gradually develop from simple beginnings into ever more complex forms. This assumption rests on both anthropological and historical evidence.

Evolution theory assumes that social change occurs for betterment. Many simple societies like tribal, pastoral, horticultural, and agricultural societies have grown steadily larger, and some of them have been transformed into the industrial and postindustrial societies of the modern world.

2. Functionalist theory

Talcott Parsons argued that a society consists of interdependent parts each of which helps to maintain the stability of the entire social system which has a tendency to seek equilibrium and balance. Parsons viewed that social change occurs when internal or external strains such as unemployment or war through the system out of balance. This imbalance provokes adjustments that help bring the system back into equilibrium once more built the new equilibrium establishing different social arrangements and cultural components than the previous one.

Imbalances means system has to adjust to new equilibrium. In short, social change is simply a means of getting from one form of social stability to another. Movement of traditional societies from traditional to industrialization is an example of social change. Emile Durkheim laid the basis for functionalism. This theory has emphasized social order rather than social change.

3. Conflict theory

Conflict theory was developed by Karl Marx and has been modified and developed by later sociologists. Conflict theory of social change holds that many changes are caused by tensions between competing interests in the society. Conflict theorists regard conflict as inevitable and normal process. This theory assumes that the existing social conditions always contain the seeds of new social change. Based on the condition of economic production, the form of society is defined as: primitive socialist, slave, feudal, capitalist, socialist and finally communist society.

4. **Cyclical theory:** This theory assumes that each civilization is like a biological organism and has a similar life-cycle: birth, maturity, old age and death. Each society faces challenges at first from environment, internal enemies, external enemies etc. The nature of response determines the fate of society. The achievements of the civilization consist of its successful responses to challenges, if it can not mount an effective response it dies.

Development and underdevelopment

One of the most significant of all social changes is the transition from pre-industrial to an industrial type of society. Based on the socioeconomic development of the society, the societies of the world have been grouped into three categories as first world, second world, and the third world.

First world: Countries such as North America, Western Europe, Australia, Japan, Singapore etc. are grouped as first world. These countries are industrialized, stable and developed.

Second world: Countries such as Eastern Europe, Malasia etc. are grouped as second world. They are less industrialized and developed.

Third world: Countries like Nepal, Bangladesh etc. are grouped as third world. They are less industrialized and underdeveloped.

Characteristics of developing countries

Characteristics of developing countries are:

- Poverty
- Unemployment
- Limited access to education and health care
- Poor level of nutrition and health
- Immature and unbalanced economies
- Unstable political climate
- Male dominated societies
- Belief in religion
- Lack of scientific/technical infrastructure
- Less respect for time

Cultures of East and West

There is a difference between the cultures of East and West. Western culture attaches significant values to the material gains achieved by individuals. Hence, the Western culture evaluates things giving more and more comfort to the individual.

Eastern culture attaches significant values to high morality, power of truth, achieved by individuals and achievements in religious activities etc are regarded higher than those acquiring materialistic and physical objects. Eastern culture to the group of people is a family, a community and a society as a whole. Eastern culture especially exhibits due respect to the old.

Western values

1. Achievements and success
2. Activity and work
3. Moral orientation
4. Efficiency and practicability
5. Progress
6. Material comfort
7. Equality
8. Freedom
9. Use of technology
10. Individualistic
11. High concern over time

3. TECHNOLOGY AND SOCIETY (2 hours)

[Impact and consequences of technology on society]

Introduction

The term **technology** refers to how input is transferred to output. Technology is a systematic knowledge which facilitates in the use of machines and tools. One of the most distinctive of all human characteristics is that men are tool-using animals. People have used increasingly sophisticated techniques to act on the social and the natural world for thousands of years and they have done so in many ways that have transformed, and continue to transform, the very conditions of life on this planet.

Over the generations, simple tools and machines made by human beings such as the knife, the wheel, the plough, the compass, the clocks, the printing press, the steam engines, the nuclear reactors, the computer, the mobile phones, etc have dramatically influenced our social and natural surroundings. These all are the examples of technologies, the practical application of scientific or other knowledge.

Technology and social change are intimately connected, particularly in the modern world, where rapid technological and social change tends to go hand in hand. Many people in modern societies seem to implicitly assume that technological development and human progress are much the same thing.

Impact and consequences of technology on society

According to Wikipedia - Technology and society or technology and culture refers to the cyclical co-dependence, co-influence, co-production of technology and society

upon the other (technology upon culture, and vice-versa). This synergistic relationship occurred from the dawn of humankind, with the invention of the simple tools; and continues into modern technologies such as the [printing press](#) and [computers](#).

1. Modern examples of technological development

There are extraordinary number of examples how science and technology has helped us that can be seen in society today. The mobile phone is the great example of modern technology. The invention of the mobile phone, which did, and still does, greatly influence society and the way people live their lives. Now many people are accessible to talk to whoever they want no matter where any of the two people are. All these little changes in mobile phones, like Internet access, are further examples of the cycle of co-production. They in turn influenced the way we live our lives.

This is also true with today's modern media player. At the beginning, [cassettes](#) were being used to store data. However, that method was large and cumbersome so the manufactures developed compact disks, which were smaller and could hold more data. Later, [compact disks](#) were again too large and did not hold enough data that forced today's manufactures to create [MP3 players](#), which are small and holds large amount of data. Today's society determined the course of events that many manufactures took to improving their products so today's consumers will purchase their products.

2. Economics and technological development

Looking back into ancient history, [economics](#) can be said to have arrived on the scene when the occasional, spontaneous exchange of goods and services begin to occur on a less occasional, less spontaneous basis. Clearly, regardless of the goods and services bartered, some amount of technology was involved—if no more than in the making of shell and bead jewelry. So, from the very beginning, technology had encouraged the development of more elaborate economies.

In the modern world, superior technologies give rise to robust economies. In a well-functioning, robust economy, economic excess naturally flows into greater use of technology, because technology is such an inseparable part of human society. Many foundations and other nonprofit organizations contribute to the development of technology.

3. Values

The implementation of technology influences the [values](#) of a society by changing expectations and realities. The implementation of technology is also influenced by values. Three major interrelated values of technological innovations are:

- i. [Mechanistic world view](#): Viewing the universe as a collection of parts, (like a machine), that can be individually analyzed and understood.
- ii. *Efficiency*: A value, originally applied only to machines, but now applied to all aspects of society, so that each element is expected to attain a higher and higher percentage of its maximal possible performance, output, or ability.
- iii. [Social progress](#): The belief that there is such a thing as social progress, and that, in the main, it is beneficent.

4. Ethics

According to Winston ([2003](#)), four major ethical implications of technological development are:

- i. **Challenges traditional ethical norms:** Because technology impacts relationships among individuals, it challenges how individuals deal with each other, even in ethical ways.
- ii. **Creates an aggregation of effects:** One of the greatest problems with technology is that its detrimental effects are often small, but cumulative. Such is the case with the pollution from the burning of fossil fuels in automobiles. Each individual automobile creates a very small, almost negligible, amount of pollution, however the cumulative effect could possibly contribute to the [global warming effect](#). Other examples include accumulations of chemical pollutants in the human body, urbanization effects on the environment, etc.
- iii. **Changes the distribution of justice:** The important quality with technology tends to have higher access to justice systems. Or, justice is not distributed equally to those with technology versus those without.
- iv. **Provides great power:** Not only does technology amplify the ability, and hence the strength, of humans, it also provides a great strategic advantage to the human(s) who hold the greatest amount of technology. For example, Bill Gates has considerable influence (even outside of the computer industry) in the course of human affairs due to his successful implementation of computer technology.

5. Lifestyle

In many ways, *technology simplifies life*.

1. The rise of a leisure class
2. A more informed society, which can make quicker responses to events and trends
3. Global networking
4. Creates denser social circles
5. Cheaper prices
6. Greater specialization in jobs

In other ways, *technology complicates life*.

- i. Pollution is a serious problem in a technologically advanced society (from acid rain to Chernobyl and Bhopal)
- ii. The increase in transportation technology has brought congestion in some areas
- iii. New forms of danger existing as a consequence of new forms of technology, such as the first generation of nuclear reactors
- iv. New forms of entertainment, such as video games and internet access could have possible social effects on areas such as academic performance
- v. Increased probability of some diseases and disorders, such as obesity
- vi. Social separation of singular human interaction. Technology has increased the need to talk to more people faster.

6. Institutions and groups

Technology often enables organizational and bureaucratic group structures that otherwise and heretofore were simply not possible. Examples of this might include:

- The rise of very large organizations: e.g., governments, the military, health and social welfare institutions, supranational corporations.
- The commercialization of leisure: sports events, products, etc.
- The almost instantaneous dispersal of information (especially news) and entertainment around the world.

7. International

Technology enables greater knowledge of international issues, values, and cultures. Mostly due to mass transportation and mass media, the world seems to be a much smaller place, due to the following, among others:

1. Globalization of ideas
2. Embeddedness of values
3. Population growth and control
4. Others

8. Environment

Technology provides an understanding, and an appreciation for the world around us.

The effects of technology on the environment are both obvious and subtle (complex). The more obvious effects include the depletion of nonrenewable natural resources (such as petroleum, coal, ores), and the added [pollution](#) of air, water, and land. The more subtle effects include debates over long-term effects (e.g., global warming, deforestation, natural habitat destruction, coastal wetland loss.)

One of the main problems is the lack of an effective way to remove these pollutants on a large scale expediently. In nature, organisms "recycle" the wastes of other organisms, for example, plants produce oxygen as a by-product of photosynthesis; oxygen breathing organisms use oxygen to metabolize food, producing carbon dioxide as a by-product, which plants use in a process to make sugar, with oxygen as a waste in the first place. No such mechanism exists for the removal of technological wastes.

Influence of technological change on society

1. Mass production of goods through machines
2. Automation
3. Faster means of transportation
4. Mass communication
5. Availability of labor saving device
6. Faster pace of life
7. Commercialized recreation
8. Emphasis on high degree of specialization

Family system and technological change

Technological change has affected traditional family system in the following new changes:

1. Emergence of nuclear family
2. Women's involvement in male dominated area of work
3. Change in standard of living
4. New way of socialization of the children
5. Change in orthodox values

Some demerits brought by technological change to the family system are:

1. Mechanical life-style
2. Formal type of relationships
3. Change in existing social customs
4. Less family ties between family members

Religion and technological change

Some of the effects of technological change on religion are:

1. Analysis of religious doctrines and traditions
2. The rigidity in caste system has been relaxed
3. Men are free from religious rituals
4. Religion has become the secondary thing not a primary one

Rural life and technological change

Some of the effects of technological change on rural life are:

1. Migration towards urban areas
2. Increase in consciousness of rural people
3. Change in method of farming
4. Life become comfortable than before
5. Change in life pattern

Urban life and technological change

Some of the effects of technological change on urban life are:

1. Shortage of land and houses
2. Increase in slums
3. Problem of transportation
4. Increase in crimes
5. Expensive life
6. Money has become the most important thing

4. COMPUTER AND SOCIETY (2 hours)

[Impact of computer on broader aspect of society- impact of computer on society, computer crimes, computer ethics]

Introduction

Earliest device used to facilitate computation is Abacus which was invented by Babylonian and others. In 1623, Wilhelm Schickard built the first mechanical calculator and thus became the father of the computing era. Charles Babbage “father of computer” was a great scientist (1791-1871). Before World War II, mechanical and electrical analog computers were considered the ‘state of art’.

First generation of electrical digital computers replaced analog calculations in 1940s. Second generation computers (late 1950s and early 1960s) were still expensive and were primarily used by universities, governments, and large corporations.

The explosion in the use of computers began with “Third generation computers” (post 1964). The microprocessor led to the development of the microcomputer, small, low-cost computers that could be owned by individuals and small businesses.

Fourth generation computers (1972 - 1984) were fit on one chip with high speed processors. Computers with large main memory began to emerge.

Fifth generation computers (1984 - 1990), CPU and RAM brought tremendous gains in computational power of relatively low cost work stations and servers. In the area of networking, both wide area network (WAN) and local area network (LAN) technology developed at a rapid pace. The internet allows computer users easily to connect to other computers and information stores wherever they may be across the world.

Sixth generation computers (1990 -), Networking technology is becoming more widespread. Many of the developments in computer systems since 1990 reflect gradual improvements over established systems, and thus it is hard to claim they represent a transition to a new “generation”. But other developments will prove to be significant changes. During the late 1980s, the first Internet Service Provider (ISP) companies were formed. The early e-mail existed as a message service to the internet.

Impact of computer on society

Internet culture: The use of the Internet around the world has been growing rapidly over the last decade. The internet is also having a profound impact on work, knowledge and worldviews.

Worldwide web: Millions worldwide have easy and instant access to a vast and diverse amount of on line information using internet search like Google.

Child abuse: The numbers of annual convictions for child pornography have been increased. With the recent growth in Chat rooms and instant messaging services, the potential for a new form of child abuse has emerged.

Computer viruses: A computer virus is a computer program that is potentially dangerous. Computer viruses are designed for a specific malignant (destructive or harmful) purpose. With internet access among computer users, a virus on one person’s computer can infect thousands of other computers. A virus often resides in the executable portion of an application program’s file. It is possible that virus could erase everything it touches. For example, A Trojan horse is a computer program

(computer game) that attracts the user's attention with graphics while it reformats the hard drive erasing all files.

Censorship: Some countries such as Iran and China restrict what people in their countries can see the internet.

Social application: Computer helps in solving social problem such as:

1. Medical diagnosis
2. Computer assisted instruction
3. Government program planning
4. Environment quality control
5. Law enforcement

Employment and productivity

- a. Increase in employment and productivity
- b. Reduction in some type of job

Competition

- a. Allows large organization to become more efficient or gain strategic competitive advantage
- b. Small firms are driven out

Individuality

- a. Reduce human relationship
- b. Inflexible

Quality of life

1. Production of better quality goods and services at low costs/effort/time
2. Increase in leisure time
3. Eliminated monotonous task (upgraded quality of life)

Privacy

- a. Collect, store, integrate, interchange and retrieve – easy
- b. Lost privacy

Computer crime

Some of the computer crimes are listed as:

1. Unauthorized use, access modification, and destruction of hardware/software or data.
2. Unauthorized release of information.
3. Unauthorized copying of software.
4. Denying an end user access to his or her own hardware/software or data resources.
5. Using or conspiring to use computer resources.
6. Illegally obtain information or tangible property.
7. Establish control for the purpose of unauthorized experimentation with computer resources.

Self-destructive subculture: The internet enables broader distribution of all ideas, including those considered distasteful and widely condemned of these ideas are those that promote, condone or justify the infliction (painful or troublesome experience) of violence upon innocent, non-consenting people. Examples include racism, sexism,

and fascism. Internet also allows people who exhibit or wish to practice abnormal behavior to find one another easily. In one case, a German named Armin Meiwes made an online arrangement with Bernd Jurgen Armando Brandes to kill and eat him. Meiwes was convicted of manslaughter. (This is sensitive and a serious impact of internet).

Computer ethics

Computer ethics is concerned regarding the social and ethical use of information technology. Computer is not only a part of people's daily lives but a necessary venue for routine communication and commercial transactions. In the prospect of a global village everyone on the planet is connected to everyone else. Ethical problems in computing are regarded as no different from ethical problems in any field. There is nothing special about them. Sometimes people steal cars and sometimes people steal computers. Some of the effects will be quite positive and others quite negative.

"Computer ethics", studies and analyzes such social and ethical impacts of information and communication technology. Computers are special technology and they raise some special ethical issues. Information and communication technology has affected in both good ways and bad ways to community life, family life, human relationships, education, careers, freedom, and democracy.

Computer ethics deals with how computing professionals should make decisions regarding professional and social conduct. "Computer ethics" also has been used to refer to a kind of professional ethics in which computer professionals apply codes of ethics and standards of good practice within their profession. In addition, other more specific names, like "cyber ethics" and "Internet ethics", have been used to refer to aspects of computer ethics associated with the Internet.

New ethical dilemmas have emerged on new form with the rise of the internet. For example, hacking, information storage and retrieval, unauthorized copying of computer software, software piracy which have been variously defended and opposed by ethicists. Ethical standard covers the core set of computer ethics from professional responsibility to the consequences of technology in society. Computer ethics is quite large and extends to issues which affect all of us. Computer ethics is not a fixed set of rules which one shellacs and hangs on the wall. It requires us to think anew about the nature of computer technology and our values. It is a field between science and ethics.

5. ETHICS AND PROFESSIONALISM (6 hours)

[Define ethics and distinguish between moral and non-moral action: discussion on moral dilemma on decision making process taking reference of eternal law, utilitarianism, universalism, distributive justice and personal liberty; define professional and factors affecting morale of professionals, code of ethics, disciplinary action process; simple introduction to negligence, reasonable skill and care, tort liability and vicarious liability.]

Ethics

The study of ethics began in ancient India and China, and began to systematize by the Greek philosopher Socrates in the 5th century B C. Plato's Republic is an exposition of the nature of justice or righteous and ethical theory advanced by Aristotle. The utilitarian ethic (for the good of society rather than individual) was expounded in the

UK during 18th and 19th centuries. Utilitarianism has become the ostensible basis for law, politics, commerce and social ethics, while conscience guides the individual. Engineering ethics concerns the provision of guidelines for engineers.

Ethics is the branch of philosophy concerned with the human values, which studies the meanings of moral terms and theories of conduct and goodness; also called moral philosophy and the standards by which human actions can be judged right or wrong. It is also applied to any system or theory of moral values or principles. Ethics is traditionally subdivided into normative ethics, metaethics, and applied ethics.

Normative ethics seeks to establish norms or standards of conduct; a crucial question in this field is whether actions are to be judged right or wrong based on their consequences (result or effect of something) or based on their conformity to some moral rule, such as “Do not tell a lie”. Normative inquiries or questions are about what ought to be and what is good (concern with moral value).

Metaethics is concerned with the nature of ethical judgments and theories. Metaethics has focused on the logical and semantic aspects of moral language. Some major metaethical theories are naturalism. Conceptual inquiries are directed toward clarifying the meaning of concepts, principles, and issues.

Applied ethics, as the name implies, consists of the application of normative ethical theories to practical moral problems. Among the major fields of applied ethics are bioethics, business ethics, legal ethics, medical ethics and engineering ethics. Factual inquiries (also called descriptive inquiries) seek to uncover practical moral problems.

Ethics is an activity of understanding moral values, resolving moral issues, and justifying moral judgments. It refers to moral principles or rules of behavior. Ethics may be defined as the science of rightness or wrongs of conduct. Ethics is the science of the ideal or the highest good in human life, three ideals of human life are the **truth**, **beauty**, and **good**.

Sometimes “ethics” is used to refer to the particular set of beliefs, attitudes, and habits that a person or groups displays concerning morality. Morality is complex and not easily expressed in a simple definition. Moral reasons require us to respect other people as well as us to care for their good as well as our own. When we speak about ethics, we refer to people’s outlooks on the moral issues. When we speak of ethical problems, issues, and controversies, we mean to distinguish them from non-moral problems.

Engineering ethics is the applied ethics. It is (1) the study of moral issues and decisions confronting individuals and organizations engaged in engineering, and (2) the study of related questions about the moral ideals, character, policies, and relationships of people and corporations in technological activity.

Engineering ethics refers to the accepted codes and standards of conduct. Engineering ethics, accordingly, is the activity and discipline aimed at understanding the moral values that ought to guide engineering practice, resolving moral problems and issues, and justifying moral judgments concerning engineering safety, health and public welfare.

Ethics are a set of principles that have been created through reflection and discussions to guide our behavior. Ethics is the science of morality. Morality concerns what ought or ought not to be done in a given situation, what is right or wrong about the handling of it, what is morally good or bad?

Use of ethics

1. Exposes the defects and inconsistencies of the social customs and usages
2. Helps removing incorrect ideas and hence reduces the possibilities of wrong actions
3. Determines the duties of life with reference to the moral ideal
4. Helps rationalization of our notion of right or wrong
5. Influences indirectly on all spheres of our practical life

Professionalism

Professionalism is the skill or qualities required or expected of members of a profession. The word “profession” is used as a synonym for job or occupation. Occupation and profession are different things. Occupation is the job or services simply for livelihood (means of living i.e. bread and butter) or to earn one’s living through it. For example – carpentry work, taxi cab driving, and playing football etc are counted as occupation. A profession can be defined as the systematic knowledge acquired through specialized training or education. Without acquiring specialized training or education the occupation can not be a profession.

Professionals help in providing specialized type of services to the needy person or community. The features of profession are:

1. Profession requires a systematic knowledge and skills. For example – Medicine, Engineering and Law are considered as profession.
2. Professionals do have special rights and are honored because of their systematic knowledge and skill.
3. Professional’s practices are publicly evaluated.
4. Professions are regulated through code of ethics e.g. Medical Council, Engineering Council do have certain rules and regulations.
5. Professionals do have professional culture.
6. Professionals are regarded as deserving high pay, prestige and other social benefits.

Ordinary person has to surrender before a profession. Professionals are competent to provide services to the needy person or community.

Distinguish between moral and non-moral action

Engineering ethics refers to the study of morality. There is difference between “morality and ethics”. Ethics is a system of belief that supports a view of morality. The word moral means the principles of right or wrong behavior and the standards of behavior. Morality is the standards of behavior by which people are judged. The word non-moral means devoid (without something or lacking something) of moral quality.

Moral judgments are about what ought or ought not to be done, what is morally right or wrong, and what is morally good or bad? On the basis of moral value society can distinguish the good and bad things.

Actions that are considered as neither moral nor immoral are:

1. Inanimate or nonliving things and events of nature e.g. hurricane, floods, famines, etc are considered as neither moral nor immoral (non-moral).
2. The actions of animals are neither moral nor immoral as they can not discriminate between right or wrong. So actions of animals are non-moral.
3. Actions of children, insane (mad), and idiot are also devoid of moral quality.
4. Actions done under coercion, if they can not be resisted.

Factors affecting the morale of a Professional

Factors affecting the morale of a Professional are as follows:

1. Salary and fee
 2. Social value
 3. Rules and regulations
 4. Morale of the self
 5. Professional society/Political commitment
1. **Salary and fee:** If the salary and fee provided to a professional is very low to meet their reasonable requirement, they may have difficulty in maintaining professional service to the public so that he or she may try other way.
 2. **Social value:** In the society like ours where the dignity of labor is equivalent to no, and money has got a high value irrespective of the income source, professionals are not able to exhibit high moral standard.
 3. **Rules and regulations:** If the existing rules and regulations are not implemented effectively, there will be a difficulty in maintaining standard behavior. If some one is punished and the other one is not punished in similar type of unwanted behavior, professional will have difficulty in maintaining and retaining their good and moral behavior.
 4. **Morale of the self:** If the salary and fee are low, rules and regulations are not effective and social value is defective, in such a case, how can we maintain moral value high in such a given situations.
 5. **Professional society/Political commitment:** In the absence of political commitment, professional can not maintain moral high. Thus, a stable, committed, and moral government is required to the country.

Discussion on moral dilemma on decision-making process taking reference of Eternal law, Utilitarianism, Universalism, Distributive justice, and Personal Liberty

In every walk of life, ethical dilemma happens on decision making process. Ethical dilemma on decision making process happens due to economic and social reasons for an institution, and want or desire and duties for an individual.

For example, disposal of industrial waste to the river may fulfill firm's desire or wants due to economic reason but it may harm the environment and society. An individual do something to fulfill his wants or desire what he is not supposed to do. In 2003,

recently laid pitch at Putalisadak, Kathmandu was deteriorated during the rainy season, and that news was covered by many newspapers.

On the basis of moral value, society can distinguish the good and bad things. The aim of today's manager need to create an ethically healthy climate for his or her employees, where they can do their work productively and confront a minimal degree of ambiguity regarding what constitutes right or wrong behavior.

The aim of ethics is to define the nature of the "highest good" of man as a member of society. Problem faced by a manager was examined in great detail to consider in detail the actual nature of the ethical dilemma in management and from that examination five conclusions were drawn concerning the complexity of managerial ethics. Ethical problems in management are complex and most ethical decisions have:

1. Extended consequences
2. Multiple alternatives
3. Mixed outcomes
4. Uncertain consequences, and
5. Personal implications

1. Extended consequences: Most ethical decisions have extended consequences. The decisions of manager have an impact upon others – both within the organization and within the society – that is beyond their control and therefore should be considered when the decisions are made. For example, Bribe change governmental process. Pollution affects environmental health. Unsafe products destroy individual lives.

2. Multiple alternatives: Most ethical decisions have multiple alternatives. Should a manager pay a bribe or not? Should a factory pollute the air or not? Should a company manufacture unsafe product or not? As has been seen in the simple illustration of bribery payments for import clearances. Multiple alternatives have to be considered in making ethical choices.

3. Mixed outcomes: Most ethical decisions have mixed outcomes. Ethical issues in management are considered antithetical (contrast). Pay an indirect bribe, but maintain the sales volume of imported goods through prompt delivery. Cause some air or water pollution, but avoid the costs of installing and operating pollution control equipment. Design a slightly unsafe product, but reduce the material and labor costs of manufacture.

Social benefits and costs as well as financial revenues and expenses are associated with almost all of the alternatives in ethical choices.

4. Uncertain consequences: Most ethical decisions have uncertain consequences. It is commonly thought that ethical issues in management are free of risk or doubt, with a known outcome for an alternative. Pay the bribe, and receive the imported goods promptly. Investment in pollution control equipment, and the emissions will be reduced X% at Y costs of operation. Produce an absolutely safe product at an additional costs Z dollars per unit.

It is not all clear what consequences will follow from most ethical choices.

5. Personal implications: Most ethical decisions have personal implications. It is commonly thought that ethical issues in management are largely impersonal. Many people believe that prima facie ethical decisions in a given operation may reduce the profits of the company but not the executive's salaries or their opportunities for promotion.

Professional Practice

Maintain the sales of imported goods at expected levels, and despite slightly increased expenses for bribes, the quarterly review will be pleasant. Delay installation of pollution-control equipment, and the rate of return will be close to the planned percentage. Redesign the product to reduce the material and labor costs, profit margin and the chances of promotion will increase.

Individual benefits and costs as well as financial social benefits and costs are associated with most of the alternatives in ethical decisions.

Five major ethical systems relevant to managerial decisions

Ethical Systems	Nature of the Ethical Belief	Problems in Ethical Systems
1. Eternal Law	Moral standards are given in an eternal (existing for ever) law; which is revealed in Scripture (Bible, Kuran, Geeta) or apparent in nature and the belief is that every one should act in accordance with the interpretation.	There are multiple interpretations of the law, but no method to choose among them beyond human rationality; and human rationality needs an absolute principle or value as the basis for choice.
2. Utilitarian Theory	Moral standards are applied to the outcome an action or decision. A decision is right and proper, and good only if it generates greatest benefits for the largest number of people.	Immoral acts can be justified if they provide substantial benefits for the majority, even at an unbearable cost or harm to the minority. Principle or value is needed to balance the cost benefit equation.
3. Universalism Theory	Moral standards are applied to the intent (showing eager interest and attention) of an action or decision. Decision or action is right and proper, and good only if we could will that everyone, faced with the same set of circumstances, should be expected to the same decision or take the same action. Everyone should act to ensure that similar decisions would be taken by others in similar circumstances.	Immoral acts can be justified by persons who are prone to self deception or self importance; there is no scale to judge between wills. Additional principal or value is needed to refine the categorical imperative concept.
4. Distributive Justice	Moral standards are based upon the justice. Decision or action is right and proper, and good only if least advantaged members of the society enjoys a better standard of living after the decision or act, than they did before. Taking more tax from rich and subsidized to the poorer.	The primacy of the value of justice is dependent upon acceptance of the proposition that an equitable distribution of benefits social cooperation.
5. Personal Liberty	Moral standards are based upon the liberty. Decision or action is right and proper, and good only if all members of our society somehow enjoy a greater freedom to develop their own lives after the decision or act, than they did before.	The value of liberty is dependent upon acceptance of the proposition that a market system ensures social productivity.

Professional Code of Conduct

The professional Code of Conduct to be followed by the registered engineers of the Council, subject to the provision of Nepal Engineering Council Act, 2055 (1998) and Nepal Engineering Council Regulation, 2057 (2000), has been published as the following:

1. **Discipline and honesty:** Engineering service/profession shall have to be conducted in disciplined manner with honesty, subject not to contrary to the professional dignity and well-being.
2. **Politeness and secrecy:** In connection with the profession, polite dealing shall be made with the customers concerned with the engineering services, and professional information relating to the customers shall not be given to others except with the consent of customers, provided, however, that it shall not be deemed to have been restricted to submit such information to the concerned authority as per the existing law.
3. **Non-discrimination:** No discrimination shall be made among customers on the grounds of religion, race, sex, caste or any other things in the course of applying professional knowledge and skills.
4. **Shall have to do only the concerned professional work:** Shall have to do professional works or submit recommendation or suggestions only within the area of subject of study or obtained knowledge or skills. With regard to the works not falling within the subject of one's profession, recommendation of the works shall be made to an expert of the subject matter.
5. **Not to do such works, which would cause harm to engineering profession:** Except the salary, allowance, and facilities to be received for the services provided, one shall not obtain improper financial benefit of any kind of conduct improper activities of any kind, which may cause harm to engineering profession.
6. **Personal responsibility:** One shall be personally responsible for all works performed by him in connection with the engineering profession.
7. **State name, designation, and registration no.:** While doing signature on the documents or descriptions like design, map, specification, and estimate, etc, relating to engineering profession to be done, the name, designation, and registration no. should be stated clearly in understandable manner.
8. **No publicity or advertisement shall be made which may cause unnecessary effect:** In connection with the professional activities to be done, no publicity or advertisement shall be made so as to cause unnecessary effect upon the customers.

Contact address:

Nepal Engineering Council
 Bhagabatimarga 742/41, Naxal, Kathmandu-1
 Post Box No. 2049, Phone No. 977-01-4420656
 Fax No. 977-01-4422099
 Website: www.nec.gov.np/necgov@ntc.net,np

General moral imperatives

1. Contribute to society and human well-being.

2. Avoid harm to others.
3. Be honest and trustworthy
4. Be fair and take action not to discriminate.
5. Honor property rights including copyrights and patent.
6. Give proper credit for intellectual property.
7. Respect the privacy of others.
8. Honor confidentiality.

Rules of conduct

1. Professional Engineer (PE) shall have proper regard in all their work for the safety and welfare of all persons and for the physical environment affected by their work.
2. PE shall undertake only work that they are competent to perform by virtue of training.
3. PE shall sign and seal only reports, plans or documents that they have prepared or that have been prepared under their direct supervision and control.
4. PE shall act for their clients or employers as faithful agents or trustees, always acting independently and with fairness and justice to all parties.
5. PE shall not engage in activities or accept remuneration for services rendered that may create a conflict of interest with their clients or employers.
6. PE shall not disclose confidential information without the consent of their clients or employers, unless the withholding of the information is considered contrary to the safety of the public.
7. PE shall present clearly to their clients or employers the consequences to be expected if their professional judgment is overruled by other authorities in matters pertaining to work for which they are professionally responsible.
8. PE shall not offer or accept covert (hidden) payment for the purpose of securing an engineering assignment.
9. PE shall represent their qualifications and competence, or advertise professional services offered, only through factual representation without exaggeration.
10. PE shall conduct themselves with fairness and good faith towards other professional engineers, towards other employees, and others.
11. PE shall advise the Registrar of any practice by a member of the Association that they believe to be contrary to the Code of Ethics.

Code of ethics

Code provides a positive stimulus (make some body more active or alert) for ethical conduct and a set of guidelines with fundamental cannon (hit something with force). Code gives a positive support to those seeking to act ethically and in taking stands on moral issues when a professional is under pressure to act unethically.

The code and its supplemented guidelines are intended to serve as a basis for ethical decision making in the conduct of professional work. Moreover, code serves as legal support for professionals. Codes also serve as the formal basis for investigating

unethical conduct. The current codes are by no means perfect, but they are steps in the right direction.

The core concept to be found among the various engineering code, in order of significance are:

1. The public interest
2. Quality of truth, honesty, and fairness
3. Professional performance

Limitations of code

1. Codes are not straight forwardly applicable to all situations. More problems can arise in a complex profession like engineering.
2. It is easy for different entries in codes to come into conflict with each other that may create moral dilemmas.
3. A code can not serve as the final moral authority for professional conduct.

National society of professional engineers (NSPE) Code of ethics for engineers (US)

Preamble

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by the engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

I. Fundamental cannons

Engineers, in the fulfillment of their professional duties, shall:

1. Hold paramount the safety, health, and welfare of the public.
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act for each employer or client as faithful agents or trustees.
5. Avoid deceptive acts.
6. Conduct themselves honorably, responsibly, ethically, and lawfully as to enhance the honor, reputation, and usefulness of the profession.

II. Rules of practice

1. **Engineers shall hold paramount the safety, health, and welfare of the public.**

Professional Practice

- a. If engineer's judgment is overruled under circumstances that endanger life or property, they shall notify their employer or client and such other authority as may be appropriate.
 - b. Engineers shall approve only those engineering documents that are in conformity with applicable standard.
 - c. Engineers shall not reveal facts, data, or information without the prior consent of the client or employer except as authorized or required by law or this Code.
 - d. Engineers shall not permit the use of their name or associate in business ventures with any person or firm that they believe are engaged in fraudulent or dishonest enterprise.
 - e. Engineers shall not aid or abet the unlawful practice of engineering by a person or firm.
 - f. Engineers having knowledge of any alleged violation of this Code shall report thereon to appropriate professional bodies and, when relevant, also to public authorities, and cooperate with the proper authorities in furnishing such information or assistance as may be required.
- 2. Perform services only in areas of their competence.**
- a. Engineers shall undertake assignments only when qualified by education or experience in the specific technical field involved.
 - b. Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plans or document not prepared under their direction and control.
 - c. Engineers may accept assignments and assume responsibility for coordination of an entire project, provided that each technical segment is signed and sealed only by the qualified engineers who prepared the segment.
- 3. Issue public statements only in an objective and truthful manner.**
- a. Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony, which should bear the date indicating when it was current.
 - b. Engineers may express publicly technical opinions that are founded upon knowledge of the facts and competence in the subject matters.
 - c. Engineers shall issue no statements, criticisms, or arguments on technical matters that are inspired or paid for by interested parties, unless they have prefaced their comments by explicitly identifying the interested parties on whose behalf they are speaking and by revealing the existence of any interest the engineers may have in the matters.
- 4. Engineers shall act for each employer or client as faithful agents or trustees.**
- a. Engineers shall disclose all known or potential conflicts of interest that could influence or appear to influence their judgment or the quality of their services.

Professional Practice

- b. Engineers shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties.
- c. Engineers shall not solicit or accept financial or other valuable consideration, directly or indirectly, from outside agents in connection with the work for which they are responsible.
- d. Engineers in public service as members, advisors, or employees of a governmental or quasi-governmental body or department shall not participate in decisions with respect to services solicited or provided by them or their organizations in private or public engineering practice.
- e. Engineers shall not solicit or accept a contract from a governmental body on which a principal or officer of their organization serves as a member.

5. Engineers shall avoid deceptive acts.

- a. Engineers shall not falsify their qualifications or permit misrepresentation of their or their associate's qualifications. They shall not misrepresent or exaggerate their responsibility in or for the subject matter of prior assignments. Brochures or other presentations incident to the solicitation of employment shall not misrepresent pertinent facts concerning employers, employees, associates, joint ventures, or past accomplishments.
- b. Engineers shall not offer, give, solicit or receive, either directly or indirectly, any contribution to influence the award of a contract by public authority, or which may be reasonably construed by the public as having the effect of intent to influencing the awarding of a contract. They shall not offer any gift or other valuable consideration in order to secure work. They shall not pay a commission, percentage, or brokerage fee in order to secure work, except to a bona fide employee or bona fide established commercial or marketing agencies retained by them.

III. Professional obligations

1. Engineers shall be guided in all their relations by the highest standards of honesty and integrity.

- a. Engineers shall acknowledge their errors and shall not distort or alter facts.
- b. Engineers shall advise their clients or employers when they believe a project will not be successful.
- c. Engineers shall not accept outside employment to the detriment of their regular work or interest. Before accepting any outside engineering employment they will notify their employers.
- d. Engineers shall not attempt to attract an engineer from another employer by false or misleading pretenses.
- e. Engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.

2. Engineers shall at all times strive to serve the public interest.

Professional Practice

- a. Engineers shall seek opportunities to participate in civic affairs, career guidance for youths; and work for the advancement of the safety, health, and well-being of the community.
 - b. Engineers shall not complete, sign, or seal plans and/or specifications that are not in conformity with applicable engineering standards. If the client or employer insists on such unprofessional conduct, they shall notify the proper authorities and withdraw from further service on the project.
 - c. Engineers shall endeavor to extend public knowledge and appreciation of engineering and its achievement.
- 3. Engineers shall avoid all conduct or practice that deceives public.**
- a. Engineers shall avoid the use of statements containing a material misrepresentation of fact or omitting a material fact.
 - b. Consistent with the foregoing, engineers may advertise for recruitment of personnel.
 - c. Consistent with the foregoing, engineers may prepare articles for the lay or technical press, but such articles shall not imply credit to the author for work performed by others.
- 4. Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.**
- a. Engineers shall not, without the consent of all interested parties, promote or arrange for new employment or practice in connection with a specific project for which the engineer has gained particular and specialized knowledge.
 - b. Engineers shall not, without the consent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the engineer has gained specialized knowledge on behalf of a former client or employer.
- 5. Engineers shall not be influenced in their professional duties by conflicting interests.**
- a. Engineers shall not accept financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their product.
 - b. Engineers shall not accept commissions or allowances, directly or indirectly, from contractors or other parties dealing with clients or employers of the engineer in connection with the work for which the engineer is responsible.
- 6. Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers, or by other improper or questionable methods.**
- a. Engineers shall not request, propose, or accept a commission on a contingent basis under circumstances in which their judgment may be compromised.

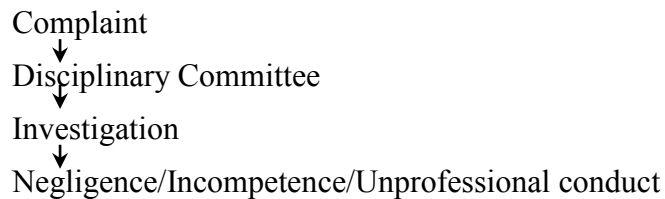
Professional Practice

- b. Engineers in salaried positions shall accept part-time engineering work only to the extent consistent with policies of the employer and in accordance with ethical considerations.
 - c. Engineers shall not, without the consent, use equipment, supplies, laboratory, or office facilities of an employer to carry on outside private practice.
- 7. Engineers shall not attempt to injure, maliciously, or falsify directly or indirectly, the professional reputation, prospects, practice or employment of other engineer. Engineers who believe others are guilty of unethical or illegal practice shall present such information to the proper authority for action.**
- a. Engineers in private practice shall not review the work of another engineer for the same client, except with the knowledge of such engineer, or unless the connection of such engineer with the work has been terminated.
 - b. Engineers in governmental, industrial, or educational employ are entitled to review and evaluate the work of other engineers when so required by their employment duties.
 - c. Engineers in sales or industrial employ are entitled to make engineering comparisons of represented products of other suppliers.
- 8. Engineers shall accept personal responsibility for their professional activities, provided, however, that engineer may seek indemnification for services arising out of their practice for other than gross negligence, where the engineer's interest cannot otherwise be protected.**
- a. Engineers shall conform with state registration laws in the practice of engineering.
 - b. Engineers shall not use association with a non-engineer, a corporation, or partnership as a "cloak" for unethical acts.
- 9. Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.**
- a. Engineers shall, whenever possible, name the person or persons who may be individually responsible for designs, inventions, writings, or other accomplishments.
 - b. Engineers using designs supplied by a client recognize that the designs remain the property of the client and may not be duplicated by the engineer for others without express permission.
 - c. Engineers, before undertaking work for others in connection with which the engineer may make improvements, plans, designs, inventions, or other records that may justify copyrights or patents, should enter into a positive agreement regarding ownership.
 - d. Engineer's designs, data, records, and notes referring exclusively to an employer's work are the employer's property. The employer should indemnify the engineer for use of the information for any purpose other than the original purpose.
 - e. Engineers shall continue their professional development throughout their careers and should keep current in their specialty fields by engaging in

professional practice, participating in continuing education courses, reading in the technical literature, and attending professional meetings and seminars.

Disciplinary action process: simple introduction to negligence, reasonable skill and care, tort liability and vicarious liability.

Disciplinary action process



In addition, the investigated person may have to pay all/part of the costs of hearing a fine or both.	<ul style="list-style-type: none"> • Yes. • Asked for clarification. • Reprimand (official statement expressing disapproval of somebody or other actions). • Fine. • Suspension for a specified period. • Asked to gain experience on certain area. • Asked to gain knowledge (study) on a particular subject. • Asked to take professional exam test. • Cancellation of registration.
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Negligence

Negligence means lack of proper care and attention or careless behavior. Negligence may be defined as “the omission to do something which a reasonable man, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do, or doing something which prudent (acting with care and thought for the future) and reasonable man would not do”

Negligence has three possible meaning:

1. A state of mind i.e. a person’s inadvertence [(of actions) not done deliberately or intentionally] to the consequences of his or her conduct.
2. A standard or measure of behavior, i.e. a person do not behave as a prudent person.
3. A tort of negligence i.e. caused damage to others and may be liable to pay compensation.

The four stages where Architects/Engineers tend to be negligent are:

1. **Negligence in Pre-design Stage:** Negligent mainly in foundations, underground work, survey of land, levels, drains, soil conditions etc.

2. **Negligence in Design Stage:** (i) Marginal design just as required by the standards or codes of practice. (ii) Negligence in design, calculations. (iii) Selecting the untested materials and methods of construction.
3. **Negligence in Service:** (i) Failure to advise client. (ii) Failure to obtain any statutory (legal) consent. (iii) Failure to supply information to the contractor.
4. **Negligence in Supervision:** (i) Inadequate attendance. (ii) Failure to detect defective works.

The law expects certain standards of behavior from the citizen, it governs, when a person fails to meet these standards by acting in a way the law considers unreasonable, that person may be guilty of negligence.

Reasonable skill and care

Every person who enters into a learned profession undertakes to bring to the exercise of it a reasonable degree of care and skill. The degree of skill that required is the ordinary skill of an ordinary competent person exercising that particular art.

If the defendant is a doctor, then the standard of care expected is that which a reasonably competent doctor will exercise. If the defendant is a pediatrician, then the standard of care expected is that of a reasonably competent pediatrician. If a defendant follows the accepted practice in his profession, there is a strong likelihood that he has met the standard.

Example: The plaintiff, who had only one good eye, was employed by the defendant. The defendant failed to provide goggles to the plaintiff for his work. While working, the plaintiff injured his one good eye and sued his employer. The House of Lords held that the failure to provide goggles may be overlooked in the case of other employees who had two good eyes. However, the failure to provide goggles for the plaintiff was a breach of duty because the plaintiff only had one good eye.

1993

The two appellants (person who appeals to a higher court) were cooks employed by the respondent in the respondent's restaurant. They suffered severe burns on 13 September 1986 when an explosion occurred in the restaurant kitchen because of a defective gas cylinder. An event which in the ordinary course of things was more likely than not to have been caused by negligence by itself is evidence of negligence.

Here the employer could not show that they took reasonable care in providing a safe work place. Hence respondent is liable. The evidence also showed that the gas supplier did not take reasonable care in checking the gas cylinder, hence they were also liable.

1953

The plaintiff was a factory worker in the defendant's factory. The factory become flooded and management did every possible to remove the effects of the flood. However, the factory floor was still slippery from the flood.

The plaintiff, who was walking on the floor, fell and suffered injury. He sued the defendant in the tort of negligence. The House of Lords held that the risk of injury was not so great as to justify the defendant closing its factory because of the flood.

Hence the plaintiff failed to prove breach of duty on the part of the defendant. However, if the risk of harm was greater, then the additional precautions ought to be taken by the defendant.

Tort liability

The word "tort" is French for "wrong". Tort is a private or civil wrong for which a person may have to pay compensation. A tort is any act or omission that infringes (breaks) an obligation imposed by the law, which gives injured party the right to bring an action for damages.

Torts are classified as:

1. Tort of intentional conduct
2. Tort of negligent conduct
3. Tort of strict liability

Tort of intentional conduct: When a person intentionally causes harm to another a tort intentional conduct arises.

Tort of negligent conduct: A tort of negligent conduct arises when a person unintentionally causes harm to another.

Tort of strict liability: Tort of strict liability refers to torts which are neither intentional nor negligent nor foreseeable.

Elements of a Tort

1. **Duty of care:** A plaintiff in a tort case must establish that the defendant had a duty to the plaintiff.

[The question is not whether the defendant tried in good faith, to be careful, but whether his conduct was up to the standard of a reasonable person's conduct under the circumstances].

Whether the behavior is up to the standard?

2. **Breach of duty:** A plaintiff must prove that the defendant had breached the duty.

[The defendant's acts fell below the standard of care of a reasonable person].

3. **Legal cause:** The plaintiff must prove that the acts of defendant actually caused the physical harm or injury to the plaintiff.
4. **Resulting Damage:** The plaintiff must prove that he suffered damage as a result of defendant's breach of duty.

Meanings: Duty = moral or legal obligation

Plaintiff = (also complainant) a person who brings a legal action against somebody in a court of law

Defendant = a person accused in a legal case

Owed = to have obligation to pay something

Principles of Tort Law

In order to succeed in an action in a tort, a plaintiff must prove:

1. The defendant owed (to have an obligation to pay for something) to the plaintiff a legal duty of care.
2. The defendant was in breach of that duty by his/her conduct, and
3. The plaintiff has suffered damage or injury as a result of that breach.

1932

The appellant's friend bought a bottle of ginger beer for her. The appellant drank it. At the bottom of the bottle, she found a partially decomposed snail. She claimed she suffered gastroenteritis as a result of the presence of the snail in the bottle. She could not sue in contract because she did not buy the ginger beer.

So she sued in tort. The House of Lords held that the manufacturer of the ginger beer was liable in negligence.

Vicarious liability

A person who commits a tort is liable for the damage that he causes. What about a person who did not commit a tort?

Where an employee commits a tort in the course of his/her employment, his/her employer will be liable for the tort of his/her employee, which is called a vicarious liability.

For example: During the course of action if a servant commits a tort, his master will be liable for the tort of his employee.

The problems of Design

The design process is the end of result of 4/5 years of study, training, and experience that make Architects, Engineer and Quantity Surveyor.

When a design is faulty in some way, the presence of that fault strikes for the existence of the designer and he is likely to find himself dealing with insurers, solicitors, barristers, expert witness, judges, and arbitrators.

It is difficult to say with certainty in which areas designers are at most risk because of two reasons. Firstly, not every dispute related to design results in a legal action and the vast majority of disputes are settled. The second reason is that insurers are reluctant to produce details of the claims in which they have been involved.

Designers will usually have a contract that governs their relationship with the employer. A designer can incur liability to persons who are not parties to the contract, such liabilities arises in tort. The law of contract and tort are of fundamental importance when considering a designer's duties and liabilities.

There are four clearly recognizable stages where Architects and Engineers had tended to be negligent.

1. **Pre-design stage**
Negligence in survey of land, levels, drains, soil conditions etc. mainly in foundations and made up ground.
2. **Design stage**
 - a. Marginal design or only just as required by the standards or codes of practice
 - b. Negligence in design, calculations etc
 - c. Selection of untested materials and methods of construction.
3. **Negligence in service**
 - a. Failure to advise client
 - b. Failure to obtain any necessary statutory (legal) consent e.g. Building regulations
 - c. Failure to supply necessary information to the contractor
4. **Negligence in supervision**
 - a. Inadequate attendance that may allow the contractor to hide defective work
 - b. Failure to detect defective work during construction

Increase in risk to the architects and engineers

Among the various reasons for increase in risk to the Architects and Engineers, the most important risks are as follows:

1. **Technical developments**
Innovation necessarily involves greater risk than traditional, tried and tested methods. The same can be said of new methods of construction and the use of new materials.
2. **Claim consciousness**
 - a. Client expects good quality of construction work. If there are defects on construction work contractor want to sort out the problems without cost to himself.
 - b. Nowadays contractors are better informed as to their rights and,
 - c. The law has developed to meet the needs of the time.
3. **Changes in the law**
The changes in the law have extended the designers duties and liabilities. Designers are required to be aware of their duties and liabilities to minimize the risk of action being brought against them for negligence. Example: Arbitration Act, Engineering Council Act etc.

Detailed duties and liabilities of a designer

The general principles of law and general duties of a designer are now considered in detail by reference to particular duties and areas where liabilities can be incurred by designers.

1. Fitness for purpose

Does the obligation imposed on a designer to use reasonable skill and care mean that there is no obligation to see that the design is fit for its purpose.

- a. Fitness for purpose is a greater obligation than the use of reasonable skill and care in the design.
- b. Where there is a contract for a sale of goods, then the sale of goods Act implies a condition that the goods shall be reasonably fit for any purpose made known to the seller by the buyer.
- c. However, it has been held that a person contracting on the basis of work and materials impliedly warrants that the materials will be reasonably fit for the purpose for which he is using them.
- d. Similarly, where a contractor is employed to build a house there is a term implied by law that the contractor will do his work in a good and workmanlike manner and that the house will be reasonably fit for human habitation on completion. In other words a contractor's duty in such circumstances is not limited to using reasonable skill and care; he is obliged to ensure that finished work is reasonably fit for the purpose of human habitation.
- e. The law does not usually imply a warranty that he will achieve the desired result but only a term that he will use reasonable skill and care. The surgeon does not warrant that he will cure the patient. Nor does solicitor (lawyer who prepares legal documents) warrant that he will win the case. But, when a dentist agrees to make a set of false teeth for a patient, there is an implied warranty that they will fit his gums.
- f. What then is the position when an architect or an engineer is employed to design a house or a bridge? Is he under an implied warranty that, if the work is carried out to his design, it will reasonably fit for the purpose or is he only under a duty to use reasonable skill and care?
- g. The engineer should design a warehouse, which would be fit for the purpose for which it was required.
- h. The implication of a warranty as to fitness for the purpose would be reasonable in most cases. The main contractor, liable to the employer for defective material, would generally have a right of redress (the right to claim) against the person from whom he bought the material. In other words, there should be a chain of responsibility.

2. Negligent misstatements

- a. It used to be thought that no claim could be found on a statement that was made negligently where there was no contractual relationship. However, the law of tort has extended its arm into this field.
- b. Where a statement is made by one party to another party and there is 'special relationship' between the parties, the legal duty of care arise and breach of that duty give rise to a claim for damage.

3. Statutes, By-laws and Building regulations

- a. Every one is deemed (considered) to have knowledge of the general law.
- b. It will be no excuse for a designer to plead ignorance of such requirements as are in force at any particular time.
- c. It will usually be part of designer's duty to obtain the necessary planning permission for the construction of the works from the local planning authority and the designer's duty will extend to providing proper information and drawings to support such an application. A designer should have knowledge of any particular government controls by statute relating to particular developments.
- d. Failure by a designer to comply with statutory provisions can have very serious consequences indeed for the employer. For example, if work to which applicable Building Regulations contravenes (contrary to law) with those regulations, the local authority can require the owner to pull down or remove the works. In such circumstances, the designer would be liable to the employer for the costs that he incurs by reason of a designer's fault.
- e. A designer has to have knowledge of the general law and it is likely that he must know sufficient of the law to enable him to know when to advise the employer of the need to obtain expert legal opinion.
- f. The designer may render himself liable to the contractor in tort where the design is in breach of law; this arises because the designer is responsible for seeing that the work complies with the law.

4. Examination of site above and below the ground

- a. It is hard to imagine that a designer would design a project without visiting the site.
- b. The designer will look for all the things that are readily apparent on the site, which may affect his design. It probably will not assist the designer to say that he relied on information produced by the ordinance (order, rule made by authority) survey even though this is a common practice amongst designers.
- c. The designer will need to ascertain the nature and load bearing capacity of the soil underneath ground level. He will not be liable to do so by visual inspection alone.
- d. It is normal practice for an architect to draw his client's attention to the need for ground conditions to be investigated. Also, that the client should be advised of the possible need to carry out detailed site investigation.
- e. It will not assist the designer in a claim brought against him that he agreed the bearing capacity of the soil with the local authority's building inspector, or district surveyor, at least where no soil investigation has been carried out.
- f. A designer, who accepts the result of borings taken by someone engaged by his employer previously, will not necessarily escape liability if his design is inadequate but based on borings.

- g. It is usually, but not always, the case that the more expensive the design the less the risk. This is a matter of designer's skill and judgment in providing the most economical safe solution for his employer.
- h. The designer would be well advised to discuss alternative approaches with the employer so that he is in a position to understand and to make any decision that should be made in the light of the risks that have ascertained.
- i. A designer designing a cheaper method of construction involving risk, without discussing the alternative of a more expensive safe scheme will be liable in negligence if the design fails.

5. Public and Private Rights

- a. It is the designer's duty to find out from the employer whether there are any resections on the use to which his site may be put. The designer should specifically ask the employer to tell him of any such restrictions or easements. Additionally, the designer should, when examining the site, carefully have regard to any evidence of such rights that are apparent on visual inspection.
- b. A question as to the rights of light of adjoining owners may also arise and it is essential that the designer should not design in such a way that those rights are affected.
- c. An action for trespass can be brought by an adjoining owner without the need to prove any damage, in other words trespass is actionable.
- d. The designer must comply with the building lines set down by local authorities and in particular, the designer will be liable if does not, by the exercise of reasonable care and diligence, prevent the encroachment of a building under construction over the street line.

6. Plans, Drawings and Specifications

- a. It is necessary part of the design process that the design is committed to paper. This is usually done by means of drawings, which show the dimensions and positions of all the elements of the building in sufficient detail to enable them to be located in three dimensions, and a specification which largely deals with the quality and type of materials and goods to be supplied.
- b. The drawings and specifications must take into account the other aspects of design including the examination of the site, the sub-soil conditions, private and public rights, and the employer's requirements.
- c. Although it is usual for the employer's approval of drawings to be obtained, that approval will not usually absolve (to declare that somebody is free of guilt, blame etc) the designer from liability for negligence; the employer is relying on the skill and care of the designer in the specialist field in which the employer have no detailed knowledge whatsoever.
- d. Where the contractor is delayed by reason of necessary instruction not being given to him in due time and this delay results from action by the employer, for example- changing the requirements, then the employer

will not usually be able to seek to pass on to the designer the claims that he receives from the contractor for delay.

- e. However, where the delay has arisen by reason of the designer's delay then the employer may be able to recover from the designer the damages that he has to pay to the contractor in respect of that particular delay, provided there is a direct connection between the designer's fault and the contractor's damage.

7. Materials

- In a building contract, there will usually be an implied warranty on the part of the contractor that materials supplied by them for use in the work will be reasonably fit for their purpose and of good quality.
- However, where the building owner relies on his own judgment rather than that of the contractor, the warranty as to fitness for purpose will not be implied and the contractor will have no responsibility to supply materials that are fit for their purpose. However, in such circumstances, the warranty of quality will still usually be implied.
- Designers are under the same duty in selecting materials as they generally are in relation to design and they will incur liability to their client if they select materials without reasonable skill and care.
- Designers should make their own enquiries and examinations as to the suitability of materials or products and should not rely on manufacturer's literature or recommendations. If they do not do so, they risk being in breach of duty.
- The designers should be aware of the effect that his specification of particular materials will have on the contractual relationship between the employer and the contractor.

8. Novel and Risky Designs, and Employer's interference in Design

Where an ordinary and routine piece of design fails in practice, this may provide evidence of the designer's negligence, although it will in practice usually be necessary to call expert the designer's negligence. What is the position where a designer is operating at the frontiers of knowledge where there is no fund of knowledge or codes of practice upon which he can rely? There is a very old case, which indicates that failure by a designer to succeed with a new method, of which he had professed no expertise, was the negligence.

- The duty to exercise reasonable care must always depend on the circumstances of each case.
- The designer needs to take added precautions in order to discharge his duty of reasonable skill and care in the design of a novel design.
- However, where the employer insists upon changes that would result in a defective construction or a breach of the law, for example- building regulations, the position is much more difficult. On the one hand the designer is obliged to have regard to his employer's wishes and on the other hand he has a duty to use reasonable skill and care, probably to produce a design that is reasonably fit for any purpose made known to him, and to comply with the general law.

- It may well be that if the designer can not discharge his duty to use reasonable skill and care by giving a warning because carrying out the employer's wishes would produce a defective building in breach of the obligations that he has undertaken or in breach of the statutory requirements, the designer may have no alternative but to resign.

9. Revision of Design during Construction

- A designer's duty to see that his design will work does not end when he has completed his design. The designer is under a continuing duty to check that his design will work in practice and to correct any errors, which may emerge.
- It often happens that a design error is not discovered until after construction has begun. In such a case, there will not only be redesign to be carried out but also additional work on site to put right the design error. Where the design error is a breach of duty by the designer, then the employer will be able to recover from the designer all those costs, which flow naturally and directly from the breach of duty.

6. LEGAL ASPECT OF ENGINEERING PROFESSION (8 hours)

Sources of Law

Law is a rule made by authority for the proper regulation of a community or society or for correct conduct of life. Law is a discipline and profession concerned with the customs, practices, and rule of conduct that are recognized as binding by the community. Enforcement of the body of rules is through a controlling authority, such as a group of elders, a regent (a person appointed to rule a state because the monarch is too young or unfit to rule, or is absent), or a judiciary.

Overview of the laws affecting practice of engineering profession – Law and Standards related to Environment Protection, Nepal Standards etc.

Legal system affects the practice of engineering profession. Different Acts and regulation related with development works which affect the practice of engineering profession are:

1. Financial Administration Regulation (FAR) 2048 BS
2. Public Works Directives (PWD) developed under FAR
3. Related manuals, guidelines, standards, and specifications adopted from departmental decisions
4. Contract Act 2056
5. Arbitration Act 2055
6. Contract Management Act 2020
7. Contractor Development Act 2055
8. Procurement guidelines for Donors developed under FAR

Characteristics of Private, Partnership and Company Types of Business Firms

There are many different types of business firms. But the main three kinds are:

1. Sole trading or Private.
2. Partnership, and
3. Companies.

1. Sole Trading or Private Business

A sole trading or private business is one which is fully owned by one individual. It is a one person business with unlimited liability. Although the owner can employ other staff, the owner retains full responsibility and ownership for the business.

Private business is registered under Private Firm Registration Act. This is the simplest way of starting a business with very few formalities. Control of the business will be entirely of owner and owner will be responsible for all management decisions. Sole trader will also be personally responsible for debts and business failure. A court may order an owner to sell personal assets to pay a proprietor's debt. Tax authorities do not separate a proprietorship from its owner. The rate of tax on a proprietorship's income depends on the level of total income from all sources that the owner had for the year.

Characteristics of Sole Trading Business

1. Sole ownership.
2. Sole management and control.
3. Unlimited liability.
4. Limited area of operation.
5. Less legal formalities.
6. Voluntary origin and end.

Advantages of Sole Trading Business

1. Easy to setup business.
2. Quick and prompt decisions.
3. Personal attention to the consumers.
4. Incentive for hard work.
5. All the profit is kept by owner.
6. Business secret remains secret (need not publish the statement of account).
7. Self employment, independence, flexibility are other advantages.

Disadvantages of Sole Trading Business

1. Unlimited liability.
2. Limited capital investment.
3. Incapable of facing competition. (Cost of production is greater than that of large scale production).
4. Uncertain future. (Business would have to close in the death of owner.)
5. Impractical decision. (Business may suffer loss due to incorrect decision).
6. Lack of specialization.
7. Loss in the absence of a key person. (Difficult to run a business when the owner is ill or on holiday).

2. Partnership Business

A partnership is a business owned by two to twenty partners. Like a proprietorship, no special legal requirements must be met in starting a partnership business. All that is required is an agreement between partners to run a business. A written agreement is preferred as it can help partners avoid or resolve disputes. A partnership is formed by a contract.

Partnership is the relation between persons who have agreed to share the profits of a business carried on by all or any of them acting for all. In this type of business partners own, finance and control the business with a view of generating profits. Persons who have entered into partnership with one another are individually partners.

No business » No partners.

No intention to share profits » No partnership.

The basis of a partnership is mutual trust and faith among the partners. Success of business depends upon the business secrets, mutual trust and confidence. The three key features of partners are:

- Participation of two or more persons.
- The carrying on of a business, and
- A common objective of generating profit.

Generally, partners in a partnership have greater rights and obligation vis-à-vis each other.

Characteristics of Partnership Business

- Joint ownership.
- Unlimited liability.
- Sharing of profit and loss.
- Formed by a contract.
- Members do not have separate existence.
- Joint management and control.
- Joint agent ship.
- Partnership right can not be transferred.

Advantages of Partnership Business

1. Availability of huge amount of capital.
2. Easy expansion of business.
3. Balanced decision.
4. Sharing of risk and loss.
5. Democratic organization.

Disadvantages of Partnership Business

1. Unlimited liability.
2. Uncertain existence.
3. Conflicts among the partners.
4. Non-transferability of partnership share.
5. Lack of prompt decision.
6. Lack of public faith.
7. Difficulty in transferring ownership.

Classification of Company

A. On the basis of Incorporation

- Chartered company
- Statutory company
- Registered company

- B. On the basis of Liability**
 - Unlimited company
 - Limited company
 - Guaranteed company
- C. On the basis of Number of members**
 - Private company
 - Public company
- D. On the basis of Ownership**
 - Government company
 - Non-government company
- E. On the basis of Freedom**
 - Independent company
 - Holding company
 - Subsidiary company
- F. On the basis of Nationality**
 - National company
 - Foreign company
 - Multi-national company

3. Company Business

Joint-stock company is a modern form of business organization. One or more entrepreneurs can form company business. In company business a number of people invest their capital by purchasing share of the company. Shareholders elect board of directors. Board of directors appoints managers and other official staffs for the day to day work of the company. Managers are responsible to the board of directors.

The promoters of the company agree to do a certain business. They sit together and draft two documents: Memorandum of Association and Articles of Association. These documents are to be submitted to the concerned authority for approval. Memorandum of Association contains the name of the company, head office of the company, aims and objectives of the company, capital and denomination of shares into which it is divided and it is also declared that the liability of shareholders is limited. Articles of Association contain the rules and regulations of the company.

Company is established under the Act of the country and has limited liability. A company is an artificial legal person. As a legal person, a company can own property in its own name. A company is an entity separate from its members. For example, the assets own by the company are assets of the company, not of its members. Finance is collected through issuance of shares. Incorporation of a company is regulated by the company act. Each company must hold at least one general meeting each year. Through this annual general meeting the members exercise their right to vote and decide the broad policy issues for the company.

Characteristics of Company Business

1. Limited liability
2. Distinct entity
3. Artificial person.
4. Capital divided in shares
5. Perpetual existence
6. Common seal

7. Transferability of shares
8. Management by representatives
9. Publication of financial statement
10. Number of members

Advantages of Company Business

1. Limited liability.
2. Perpetual existence.
3. Transfer of shares.
4. Effective management.
5. Unlimited capital.
6. Public faith.
7. Unlimited business liability.

Disadvantages of Company Business

1. Difficulty in formation
2. Lack of personal interest.
3. Lack of secrecy.
4. Possibility of fraud.
5. Exploitation of shareholders.
6. Groupism of power.
7. Conflict of interest.
8. Absence of prompt decision.
9. Lack of closeness.

Companies are categorized as public limited company and private limited company on the basis of number of members.

Private Limited Company

Private limited company shall have minimum one and maximum fifty shareholders, which is owned, and managed with the aim of generating profits. Private company is defined as a company with share capital whose memorandum or articles of association:

1. Restricts the right to transfer its shares,
2. Limits the number of its members to 50,
3. Prohibits any invitation to the public to subscribe for its shares and debentures, and
4. Prohibits any invitation to the public to deposit money in it.

Public Limited Company

A public limited company is a business undertaking having not less than seven shareholders, and no upper limits. Shareholders control the company through the election of Directors. Public limited company is owned, managed and controlled by the Board of Directors to provide service to the people e.g., Nepal Bank Limited, Siddhartha Insurance Limited, Imperial Financial Institution Ltd etc.

Difference between Private Limited Company and Public Limited Company

Basis of difference	Private Limited Company	Public Limited Company
1 No. of members	Minimum one and maximum fifty.	Minimum seven and maximum unlimited.
2 No. of promoters	Minimum one member.	Minimum seven members.
3 Selling of share	Prohibit selling of share to public.	Can invite public to sell shares.
4 Incorporation	Memorandum of Association	Memorandum of Association,

	and Articles of Association are to be submitted along with the application to the concerned authority for approval.	Articles of Association and Prospectus are to be submitted along with the application for approval.
5 Name	Should write “ Pvt. Ltd. ” after the name of the company.	Should write “ Ltd. ” after the name of the company.
6 Start of business	Can start business dealings after getting the “Incorporation certificate”.	Can start business dealings after getting the “Incorporation certificate and Certificate of Commencement of business” to commence business dealings.
7 Transfer of Shares	Restricts the right to transfer its Shares.	Can transfer the Shares freely from one person to another person.

Public Corporation

A corporation is legally incorporated under state law. A corporation is an undertaking of the government. A corporation is a business undertaking which is owned, managed and controlled by government on behalf of the public. Such public enterprises are run mainly to provide service to the people. For example: Royal Nepal Airlines Corporation, Drinking Water Supply Corporation, Nepal Oil Corporation, etc.

Contract Law – Defining Contract, Essentials of a Valid Contract, Void and Voidable Contract

The law of contract is the foundation upon which the superstructure of modern business is built. In business transaction, quite often promises are made at one time and the performance follows later.

The law of contract is intended to ensure that what has been promised shall be performed.

Definition of Contract

Contract is an agreement between two or more than two parties to do or not to do any business. Contract is an agreement enforceable by law. “Contract may be defined as an agreement entered into by two competent parties under the terms of which one party agrees to perform a given job for which the other party agrees to pay”.

A Contract, therefore, is an agreement the object of which is to create legal obligation i.e., a duty enforceable by law.

From the above definition, contract consists of two elements: (1) an agreement, and
(2) Legal obligation

An agreement comes into existence only when one party makes a proposal or offer to the other party and that other party gives his acceptance thereto. In short, an agreement is the sum total of ‘offer’ and ‘acceptance’.

As stated above, an agreement to become a contract must create legal obligation. An agreement incapable of creating legal obligation is not a contract. “All contracts are agreements but all agreements are not contracts”. Agreements of moral, religious or social nature are not contracts e.g., a promise to lunch together at a friend’s house or to take a walk together are not contract, because they do not create a duty enforceable by law.

Essentials of a Valid Contract

A contract has been defined as “an agreement enforceable by law”. To be enforceable by law, an agreement must possess the essentials of a valid contract. The essentials of a valid contract are:

1. **Offer and acceptance:** There must be a ‘lawful offer’ and a ‘lawful acceptance’ of the offer. An agreement comes into existence only when one party makes a proposal (or offer) to the other party and that other party gives his acceptance thereto.
2. **Legal obligation:** There must be an intention among the parties that an agreement should create legal obligation. An agreement to dine at a friend’s house lacks the intention to create legal relationship and therefore is not a contract.
3. **Lawful consideration:** An agreement is legally enforceable only when each of the parties to it gives something and gets something.
4. **Competent to contract:** The parties to an agreement must be competent to contract; otherwise it can not be binding and enforceable by a court of law. Person having age less than 18 years, an insane person, idiots and drunkards are considered incompetent to contract as they do not have the legal capacity to enter into an agreement.
5. **Free consent:** Consent means parties agree upon the same thing in the same sense. Consent is said to be free when it is not caused by coercion or undue-influence or fraud or misrepresentation. Free consent of all the parties to an agreement is another essential of a valid contract.
6. **Lawful object:** To be a valid contract, the object of an agreement must not be illegal. When a person knowingly lets a house to a prostitute to carry on prostitution, he or she can not recover the rent through a court of law.
7. **Possibility of performance:** An agreement to do an act impossible in itself can not be enforced at a court of law.
8. **Certainty:** To be a valid contract, an agreement must not be vague or uncertain.
9. **Writing and registration:** An agreement to be valid, must be in writing or/and registered.

Void and Voidable Contract

Void Contract

Literally, the word ‘void’ means ‘not binding in law’. Accordingly the term ‘void contract’ means a useless contract which has no legal effect at all and is not enforceable. A contract which is void is nullity (being null i.e. no effect or force).

An agreement is void under the following circumstances:

- When there is unlawful consideration or object
- When it is entered into without consideration
- When there is no possibility of performance
- When an agreement is contrary to statutory (law passed by parliament) law

A void contract produces no legal effect whatsoever. Neither party is able to sue the other on the contract.

Voidable Contract

A voidable contract is one which is valid until such time as it is rightfully terminated by an injured party. The injured party has the right to choose to terminate or affirm (declare positively) the contract.

A voidable contract may be defined as an agreement which is enforceable at the option of one or more of the parties thereto, but not at the option of the other or others. The contract may be voidable at the inception (start) itself at the option of the party whose consent has been obtained by fraud, or coercion, or misrepresentation, or by undue influence.

Introduction to Tendering

Tender

The first step in the formation of a contract is a definite offer by one party is called a tender. Tender is an offer from a contractor to undertake a work in return for a certain sum of money. The work to be undertaken may be a construction work of a project, supply of materials, and transport of materials etc.

Tender may be defined as an offer in writing to execute some specified work or to supply some specified things at certain rates, within a fixed time under certain conditions of contract between the contractor and the department or owner or party.

While inviting tenders the bill of quantities, detailed specifications, conditions of contract, contract drawings are supplied on payment of requisite cost to the contractor who tender or quote their rates. Sealed tenders are invited and the work is usually entrusted to the lowest tender.

The Invitation to Tender

When all the preliminaries have been completed and the owner has decided to proceed with the work, tenders are invited. Tender for the construction work of a project, supply of materials, and transport of materials etc are invited by issuing a tender notice in prescribed form. Tender Notice or Notice of Invitation for Bids shall be published in a widely read newspaper under a heading such as “Tender Notice” to attract the attention of builders.

The purpose of advertising for tenders is to create interest among a considerable number of builders in the proposed work so as to secure the benefits of keen competition. Tender notice should be published in advance so that prospective bidders find enough time for making the necessary enquiries and for collecting essential background information.

Information to be given in a Tender Notice

Tender notice must be as short and concise as possible because advertisement charges are generally heavy. The notice should contain adequate information on the nature and scope of the proposed work and all essential details that enables potential bidders to decide whether to participate.

In general, a tender notice shall include the following information:

1. Name of the authority inviting tenders
2. Nature of the work and its location
3. Sources of funding
4. Cost of tender document (non-refundable)
5. Earnest money (bid bond)
6. Security deposit (performance bond)
7. Estimated cost of the work (if applicable)
8. Time of completion
9. Mode of submitting tender
10. Last date, time, and place of bid submission
11. Date, time, and place of bids opening

12. Reservation of the right to accept or to reject tender

1. **Name of the authority inviting tenders:** It helps to prospective bidders to contact and deal with authority for additional information.
2. **Nature of the work and its location:** The prospective bidders will want to know the nature of the work and its location.
3. **Sources of funding:** The source of fund available for the proposed work should also be mentioned.
4. **Cost of tender document (non-refundable):** Prospective bidders may purchase tender document upon of a non-refundable amount.
5. **Earnest money (bid bond):** Earnest money is demanded along with the bid to make reasonably certain that the bid is made in good faith. This amount is for a check so that the contractor may not refuse to accept the work when his tender is accepted.
6. **Security deposit (performance bond):** The successful bidder will have to deposit 5% of the tendered amount as security for satisfactory performance so that the contractor fulfills all the terms and conditions of the contract and carries out the proposed work satisfactorily, and completes the work in time. If the contractor fails to fulfill the terms and conditions of the contract, his whole or part of the security money is forfeited. The security money is refunded to the contractor after the satisfactory completion of the whole work after a specified time, usually after rainy season, or six months of the completion of work.
7. **Estimated cost of the work:** Estimated cost of the work indicates the magnitude of the work and enables the bidder whether it is too small to interest him or too large for him to handle.
8. **Time of completion:** The time limit within which the work has to be completed should be mentioned in tender notice. This will help bidders in working out the type and number of machines and workmen to be employed in the proposed work.
9. **Mode of submitting tender:** Tenders should be submitted in sealed cover/envelope in order to maintain the secrecy of tender.
10. **Last date, time, and place of bid submission:** All these details have to be mentioned so that bidders will know where and when the bidding document is available and where and when it is to be submitted.
11. **Date, time, and place of bids opening:** Details like where and when the tender will be open should be mentioned.
12. **Reservation of the right to accept or to reject tender:** It should be clearly mentioned in the tender notice that the owner reserves the right to accept or to reject any or all tenders without assigning any reasons.

Procurement of Works

The Financial Administration Regulation (FAR) provides six general procurement methods for works:

1. Sealed bidding
2. Sealed quotations
3. Direct purchase (negotiation)

4. Force account
5. Public bidding
6. User's committee or consumer's committee

Three types of sealed bidding are: International Competitive Bidding (ICB), Limited International Bidding (LIB), and National or Local Competitive Bidding (NCB/LCB).

Three types of non-competitive procurement are: User's committee, direct purchase (negotiation), and direct labor.

International Competitive Bidding (ICB)

ICB is used in projects where the cost of work is high and where domestic contractors do not possess sufficient capability and resources.

Under ICB, prospective bidders from eligible countries shall be given timely and adequate notification of a project's requirement and equal opportunity to bid for the required works.

It is in Nepal's economic interest to encourage joint ventures (JVs) between international and domestic contractors and the bidding procedures provide a domestic preference for International-Nepali JVs.

The standard bidding document (SBD) for procurement of works: Large contract is recommended for bidding and contracting works under ICB.

National or Local Competitive Bidding (NCB/LCB)

The Financial Administration Regulation (FAR) specifies that NCB/LCB must be used for works costing less than NRs. 60 million. However, NCB/LCB may be used for works costing more than NRs. 60 million provided that domestic production or construction facilities are available.

If foreign firms wish to participate they may be permitted to do so in accordance with NCB/LCB procedures, but only for works costing more than NRs. 60 million.

Medium contracts or small contracts may be used for bidding and contracting works under NCB/LCB, depending upon the size and complexity of the works. For simple works, the SBD small contracts may be used for contracts up to NRs. 30 million.

Types of Procurement Method and Recommended Standard Bidding Documents are:

No.	Procurement Method	Contract size in NRs	Class of contractor	Recommended Standard Bidding Documents (SBD)
1	ICB	Not less than NRs. 60 million	International contractor, International-Nepali JV, Nepali JV	Works – Large contracts
2	NCB/LCB	More than NRs. 1 million	A, B, C, and D	Works – Medium or Small contracts
3	LIB	For highly specialized works only.	International contractor	Works – Large contracts or specialized documents
4	Sealed Quotation	Up to NRs. 1 million	D	Works – Small contracts
5	Direct Purchase	Up to NRs. 100,000	All	Letter of invitation and BOQ
6	Force Account	Up to	None	None

		NRs. 100,000		
7	Public Bidding	In emergency or other special circumstances	Depends on contract amount	Works – Small contracts
8	User's committee	Up to NRs. 2.5 million, works of simple nature	Contractor can not be used	User's committee agreement

Tendering Procedure in Nepal with reference to the Nepal Government's Financial Administration Rules

General introduction to Contract Documents: Constituents of Contract Documents and their priority in Contractual Interpretation, Role of Contract Document and Rule of Contract Interpretation

Contract Document

The documents that lead towards a contract are referred to as contract documents. Contract documents are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the engineer who shall thereupon issue to the contractor instructions thereon and in such event, unless otherwise provided in the contract the priority of the contract document shall be as follows:

1. The contract agreement
 2. The letter of acceptance
 3. The tender
 4. Conditions of contract
 5. The specifications
 6. The drawings
 7. The priced bill of quantities
 8. Addenda
-
1. **The contract agreement:** The contract agreement is a written consensus between the owner and the successful bidder. Both the parties signing on the agreement paper should have been same spirit and should have understood in the same way. Contract agreement binds both the contractor and owner legally.
 2. **The letter of acceptance:** The bidder whose bid has been accepted will be notified of the award by the owner prior to expiration of the bid validity period, confirmed by a letter that his/her bid has been accepted. The letter of acceptance or the notification of award will constitute the formation of the contract.
 3. **The tender:** Tender is written offer from a contractor showing interest to perform the specified works within the specified time under agreed conditions in return for a certain sum of money. Specified work may be construction work, supply of materials, and transport of materials etc.
 4. **Conditions of contract:** Certain terms and conditions are set-forth in the contract agreement in order to minimize the disputes during construction so that the intended work will progress smoothly and complete within the stipulated time.

5. **The specifications:** Specification describes in detail about the various item of works and qualities of materials, their proportions, method of preparation, workmanship, and execution of works.
6. **The drawings:** The conditions of contract usually specify that the contractor has to carry out the work as shown in the drawings. Drawings which form an integral part of the contract are subject to change, and the contractor has to carry out the work as per revised drawings.
7. **The priced bill of quantities:** The bill of quantities is a list of item of works to be constructed for completing the work. Total items are mentioned in the priced bill of quantities. Each item of works is fully described, and that includes approximate quantity of each item, tender rate per unit quantity, costs of each item.
8. **Addenda:** Addenda clarify, correct or provide additional information added at the end.

Role of Contract Document

Contract documents are most important document in a contractual relationship. Well prepared conditions of contract is always included in the contract document. These conditions define in detail the rights, duties, and liabilities of:

1. The contractor who carries out the work
2. The owner for whom the construction is to be executed, and
3. The architects and engineers who design and supervise the work

After a careful study of contract documents, contractor will know exactly what is expected of him, and thus understanding will go a long way in the smooth execution of the contract.

The importance of “Role of Contract Document” is listed below:

1. Define the duties and responsibilities of the parties involved in a contract like owner, contract, engineer etc.
2. Define the methods of measurement of work and payment procedure during the progress of work such as lump sum, cost plus, unit price etc.
3. Deal with the additions, alterations, and omissions that are desirable due to unforeseen difficulties during the progress of work. In case of additions and alterations, it also guides for the procedure, pricing, and payment of works.
4. State the value and duration of the contractual work.
5. Deal with defects, improper work disputes, arbitration, suspension of work, and contract termination process.
6. Assign risks – soil condition, weather, delays and extension of time, performance etc.

Rule of Contract Interpretation

The followings are the general rules of interpreting the contract:

1. Intention of the parties from the contract words (express, something said) themselves.
2. If the words in the contract are ambiguous, the courts look at outside to help interpret the parties intent. In construction industry, trade practice can be used to help the court interpret the party's intent.
3. Sometimes word or terms to be interpreted is capable of two different meanings with one favoring the party that did not draft the document; the ambiguity will be resolved

in favor of the party not responsible for drafting the contract. This is called “centra proferentum” rule of interpretation.

4. Contractual exclusion clauses that take away or limit the rights of a party that may normally be expected to have under a contract.

Introduction to Labor Law and Trade Union Law

Labor Laws

Labor is a productive activity. By labor, anything shapes its forms from abstract to concrete. Without labor nothing is possible – no machines function, no rupees work.

The significant role played by labor can easily be seen everywhere in construction work, in factories etc. An engineer should be able to work with workers. He/she should be able to inspire workers to work with full zeal. He/she should be able to get maximum output from the workers by promoting their efficiency. He/she should understand the welfare activities which influence the efficiency of workers.

Labor law covers the relationship between labor unions and employers. Union representation allows employees to bargain with employers for rights and benefits collectively.

Earliest factory law 1802 AD dealt with the health, safety, working hours, and working conditions. Labor unions legalized in 1825 AD.

Labor Act 2048 has some special provisions related with construction industry. Before this, there was no special law regarding labor in the construction industry. The law regarding factory and factory workers 2019 formulated under the Act regarding factory and factory workers 2016 was the reference at that time.

Some terminologies in Labor Act 2048 BS

Productive work

- Manufacturing of goods, alterations, repair and maintenance, fabrication, packaging, oiling, washing, cleaning, dismantling, breaking into pieces or use of goods, sales and distribution, transportation or taking to the destination.
- Pumping of oil, water or wastes
- Energy storage, alteration, and transportation work
- Printing press, lithography, photography, and the work like

Enterprise: Enterprise is defined as any factory, organization, firm, institution or their group established for the operation of industry, business or service under the statute and having minimum of 10 or more staff or workers.

Staff and workers: Staffs are the persons involved in administrative works, and workers are the persons involved in production or services.

Children: All the persons having age less than 14 years.

Minor: All the persons having age between 14 and 18 years.

Major: All the persons

Seasonal enterprise: The enterprises that can not be operated more than 180 days in a year are seasonal enterprise. Example: Sugar factory.

Working hour

- Maximum working hour be 8 hours a day or 48 hours a week. Workers are to be provided one day leave in a week.
- Workers shall be provided break of 30 minutes for Tiffin and rest.
- No workers shall be forced to work overtime.
- No workers shall be allowed to work overtime for more than 4 hours a day or 20 hours in a week.

Health and safety - Manager of an enterprise is responsible:

- In keeping the working place clean.
- In managing sufficient air, light, ventilation and temperature.
- In managing waste disposal.
- For clearing all foul, dust, air, vapor etc that may cause hazard to health.
- For preventing workers from loud noise.
- A worker shall be provided 15 cu. m. space.
- For arranging water.
- For arranging separate toilets both for ladies and gents.
- The working area shall be made non-smoking area.
- For arranging medical check up at least once in a year.
- For protective measures such as prevention from chemicals, fire and prevention of eye

Welfare activity

- Establishment of welfare fund, compensation, housing for workers and leave facility are dealt in the law.
- A rest room shall be provided having more than 50 workers or staff.
- A canteen shall be provided having 50 or more workers.

Provision for children and women

- Where 50 or more women workers are working, a room shall be provided for the children of the women workers or staff.
- Children shall be provided with toys and a trained person to look after them.
- Also the mothers of the children shall be given break to feed the babies.

Special provision for special enterprise: Construction work covers building, road, bridge, tunnel, canal, railway, electricity or telephone or telegraph assembling works.

Special provision for construction industry

1. Tools shall be provided by management.
2. Management shall manage for shelter, food, drinking water etc.
3. Workers shall be ensured against the construction risk.
4. Construction site shall be kept safe.
5. Management shall arrange necessary personal protective equipment.

Trade Union

Introduction

Trade union is an organized association of workers. Trade union is formed to protect their interests, to improve their conditions and to work for the welfare of the workers.

At the outset, workers were allowed to unite in union in England in 1824 AD and labor unions were legalized in 1825 AD.

Trade union helps workers in bargaining with the employer for the welfare of the workers and saves the workers from exploitation.

Trade unions are seen effective in the organized labor sectors such as factories, hotels etc. Workers are less organized in construction sector as compared to other sectors because of the nature of the work.

In autocratic environment, trade union hardly exists or do not exists. But in democratic environment, trade unions are allowed to play their role freely for the welfare of the workers.

Nepal Mazdoor Sangh and Nepal Mazdoor Sangathan were established in Nepal in 1947 and 1952 respectively. In 1961, these types of trade unions were banned when Panchayat system was introduced.

After the restoration of democracy, many trade unions are functioning. Some of the trade unions functioning in Nepal are:

1. General Federation of Nepalese Trade Unions (GEFONT)
2. Nepal Trade Union Congress
3. All Nepal Trade Union Congress
4. Nepal Revolutionary Workers Union
5. Democratic Confederation (being joined together by an agreement) of Nepalese Trade Unions, etc.

In the words of Webs, trade union is a continuous association of wage earners for the purpose of maintaining or improving the conditions of their employment. Trade union Act 2049 has defined 'trade union' as the union established for the protection and promotion of rights and welfare of the workers.

Objectives of a trade union

1. Trade union Act 2049 has identified the following objectives:
2. To work for the worker's economic and social upliftment
3. To try to maintain the good relationship between the workers and management
4. To assist for the development of the enterprise by enhancing productivity
5. To work to make the workers dutiful and disciplined

Functions of a trade union

The main function of a trade union is to protect the interest of the workers and to work for the welfare of the workers. Some major functions of a trade union are:

1. To demand adequate wages for the workers to improve their living standard.
2. To work for improving working conditions – safe, secured, and healthy environment.
3. To participate in management for controlling purpose and for taking worker's demand or voice to the management.
4. To provide financial help to workers at the time of need by establishing a welfare fund.
5. To help workers at the period of strike, lock-outs, unemployment etc.

7. GENERAL INTRODUCTION TO PROFESSIONAL PRACTICE IN OTHER COUNTRIES (1 hour)

The first engineers were Irrigators, Architects and Military engineers as they were expected to be an expert of the concerned works. Engineers are the persons who have learned to better utilize the resources for the benefits of the society. The civilization as we know today owes to its existence to the engineers.

Engineering activities were developed with human civilization that shaped human life comfortable and efficient. Civil engineering was obviously the beginning of engineering practices.

Professional Engineer is the term for registered or licensed engineers in some countries who are permitted to offer their professional services directly to the public. A licensed/registered Professional Engineer is the authority to sign and seal or "stamp" engineering documents (reports, drawings, and calculations) for a study, estimate, design or analysis, thus taking legal responsibility for it.

In the **United States**, registration or licensure of Professional Engineers is performed by the individual states. Each registration or license is valid only in the state in which it is granted. Many Professional Engineers maintain licenses in several states for this reason, and comity (formal considerate behavior towards others) between states can make it easy to obtain a license in one state based on licensure in another state without going through the full application process. The licensing procedure varies but the general process is:

- Graduate with a degree from an accredited four-year university program in engineering.
- Complete a standard Fundamentals of Engineering written examination, which tests applicants on breadth of understanding of basic engineering principles, and optionally some elements of an engineering specialty. Completion of the first two steps typically qualifies for certification in the U.S. as an Engineer-In-Training, sometimes also called an Engineer Intern .
- Accumulate a certain amount of engineering experience under the supervision of a P.E. In most states the requirement is four years, but in others the requirement is lower.
- Complete a written Principles and Practice in Engineering examination, testing the applicant's knowledge and skills in a chosen engineering discipline (mechanical, electrical, civil, for example), as well as engineering ethics.

In **Canada**, regulation and registration are accomplished through a self governing body, that is given the power to register and discipline engineers as well as regulate the field of engineering in their province, such as Professional Engineers Ontario. Many of these associations are also responsible for regulating other related professions. The process for registration is generally as follows:

- Graduate with a degree from an accredited program in engineering or applied science,

Professional Practice

- Complete an *Engineer in Training* program under the direction of a P.Eng. (This is normally a four-year program)
- Review of work experience by the Association,
- Pass a *professional practice* exam (essentially an engineering ethics and law exam).

In general, there is no restriction on the right to practice as an engineer in the UK. There are a few fields of practice, generally safety related, which are reserved by statute to licensed persons. The [Engineering Council UK](#) grants the titles Charter or Incorporated Engineer, and declares them to be "professional engineers."

The **Principles and Practice of Engineering exam** is the examination required for one to become a [Professional Engineer](#) (PE) in the United States. It is the second exam required, coming after the [Fundamentals of Engineering exam](#).

Upon passing the PE exam and meeting other eligibility requirements, that vary by state, such as education and experience, an engineer can then become registered in their State to stamp and sign engineering drawings and calculations as a PE.

While the PE itself is sufficient for most engineering fields, some states require a further certification for structural engineers. These require the passing of the [Structural I exam](#) and/or the [Structural II exam](#).

The PE Exam is created and scored by the [National Council of Examiners for Engineering and Surveying](#) (NCEES). NCEES is a national non-profit organization composed of engineering and surveying licensing boards representing all states and U.S. territories.^[1]

In the present globalized world, we are living in the era of advanced technology. Every part of our daily life is related to technology in one or other way. When compared with olden days, we are having better facilities and even better luxuries with the help of increased technology. The development of technology is not confined to any one sector and all the industries and different sectors of society are developing new technologies according to their needs and requirement

Positive Effects Of Technology On Our Lives

There are so many advantages with improved technology in our daily life. With the help of mobile technology we are able to talk to our friends and relatives who are living far from us. With the help of internet, we are able to learn new things and online courses etc. With the help of aviation technology we are able to reach distant places within hours which took years of time to reach in olden days. We are using the all natural resources available for making our life better. With the help of social networking we are able to find our childhood friends, relatives etc. and important events in their life. With the help of information technology we are able to share information to any part of the world with in milliseconds. With progressive

technology in the agriculture field, we are able to meet food requirements of people all over the world.

Negative Effects Of Technology On Our Lives

On the other hand, there are instances which show the problems with improved and advanced technology or the solution for one problem with the help of technology is giving rise to another problem. Instead of taking care personally we are sending sms or giving a call on important occasions which were attended personally in olden days. With the use of same internet children are getting addicted to online games and their physical activities and exercises are becoming considerably less. The same social networks are creating rivalry between best friends and couples are getting divorced. The same aviation technology is giving health problems for their workers and creating serious environmental threats. With the heavy usage of fertilizers soil is losing its natural fertility and several varieties of plants became extinct.

Consider the case study of automobiles regarding technology. Automobile technology was first developed to make the journey of humans more convenient. Now we are facing serious environment pollution issues due to vehicles which are releasing unwanted green house gases into the environment. Now we are trying for more environment friendly automobile technology which will have less impact on environment when compared with the present technology.

Conclusion

Technology is like a coin which has both positive and negative sides. We are the deciders and we have to choose how to use it. The usage of technology for over exploitation of resources should be always avoided. If we use it for positive things, it will have positive effect of our lives and vice versa. Nobody would oppose the development of technologies in any sector but the developments should be in a positive way and they should not have any negative impact on present or future generations.

8. INTELLECTUAL PROPERTY RIGHTS (2 hours)

Intellectual property rights are the rights given to persons over the creations of their minds. Intellectual property rights does not really mean physical things, it is a creation of new things. Intellectual property differs from other forms of property. Intellectual properties like patents, trademarks, copyrights, and industrial designs are protected by law.

Rights that relate to patents, trademarks, copyrights, and industrial design are called “Intellectual Property Rights”.

Society is benefited from the outcome of efforts of intellectual person behind the screen. It is much easier to copy original creative works which became possible by the

efforts of intellectual person. Books, Computer programs, Songs, Cinemas are the examples that can be copied easily which may interrupt to secure the economic reward for the effort of producer or creator. To safeguard the original creative works of producer or creator that have economic value are protected by law. The statutes (written laws) describe such matter as obtaining patents of invention, and the registration of trademarks, copyrights, and industrial designs.

Intellectual Property laws reward the creators of original works by preventing others from copying, performing, or distributing those works without having any permission from the creator. The government also provides incentives for people to produce scientific and creative works that benefits society at large.

Most intellectual property rights expire after a specified period, on the assumption that producer or creator had an opportunity to earn a fair reward of their efforts within that specified period, and then after society benefits from that work.

Patent, Trademarks, Copyright and Industrial Design with special reference to Nepal

Patent Right

The Patent Act defines **patent** as an invention of “any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture, or composition of matter”.

The invention must be novel and useful. An idea alone is not patentable; the idea or principle must be reduced it to a definite practical shape before he/she can be said to have invented a process. Invention must have two characteristics—utility and novelty—that results from the application of ingenuity and skill.

To be qualified for a patent, one must show that invention results from the ingenuity (the quality of originality or unsuspecting).A patent may not be obtained where an application to patent the same invention has already been filed or the invention has been public use or disclosed to the public.

Duration of Patent

The duration of patent is twenty years from the date of application for the patent. If a particular invention has been granted a patent, no other valid patent can be granted with respect to that invention.

Assignment and Licensing of Patent Right

The patent rights can be assigned to others provided the assignment is in writing.

The owner of a patent can assign part or all of the patent rights, in whole or in part, and for such valuable consideration as may be negotiated with the assignee.

Patent rights may also be licensed, on an exclusive or a nonexclusive basis. Usually a royalty fee is charged based on a percentage of sales of the patented product.

Any assignment of a patent right or grant of exclusive licensing rights must be registered in the Patent Office. Otherwise it will be void and therefore unenforceable against a subsequent assignee or exclusive license who does register.

Infringement of Patent

Infringement (break or violate a rule) of a patent entitles the owner of the patent to claim for all damages sustained by the owner's licensees by reason of such infringement. To recover damages, a court action may be brought.

Trademarks

The Trademarks Act defines **trademark** as "a mark that is used by a person for the purpose of distinguishing wares or services manufactured, sold leased, hired or performed by him from those manufactured, sold leased, hired or performed by others".

A trademark may be registered according to the Trademarks Act in connection with wares and/or services. Unless shown to be invalid, the registration of a trademark gives the owner the exclusive right to use the trademark.

The trademark must distinguish goods of one manufacturer from those of another to protect public from deceive. An essential feature of a valid trademark is its distinctiveness. A trademark registration that ceases to be distinctive may be cancelled.

Licensing of Trademarks

The Trademarks Act allows a trademark to be used by third parties. In order to maintain the distinctiveness of a licensed mark, the third parties must be licensed under the authority of the trademark owner.

Duration of Trademarks

The Trademarks Act prescribes that the registration of trademark is effective for a period of fifteen years. Registrations may be renewed for unlimited subsequent periods of fifteen years each. A trademark registration may be cancelled if the owner stops using the trademark.

Infringement of Trademarks

A person who infringes a valid registered trademark may be restrained or prevented from continuing to use the mark, and that person may be liable for damages that resulted from the infringing of trademark.

Copyright

Subject to the provisions of Copyright Act, copyright subsists (exists) in every original, literary, dramatic, musical, and artistic work. Copyright may be defined as the sole right to produce or reproduce the work, or any substantial part thereof in any material form whatever.

Copyright does not protect designs applied to useful articles that are mass produced.

Duration of Copyright

Copyright subsists for a duration that equals the life of the author and a period of fifty years after the author's death.

Registration of Copyright

The Copyright Act provides that an author, the author's legal representatives, or an agent may apply for the registration of a copyright at the Copyright Office. Registration is not essential to copyright. However, registration of copyright in a work may assist in obtaining damages for infringement. Registration of assignments and licenses of copyright are advisable in order to protect assignees and licenses from claims of other subsequent assignees and licenses who may register.

Ownership of Copyright

The first owner of copyright in a work is the author of the work. The owner of the copyright is entitled to assign the copyright in whole or in part. The assignment must be in writing.

Moral Right

The creator of a work in which copyright subsists also has moral rights in the work. Moral rights include the right to be identified as the author of the work by name and the right to the integrity of the work. The right to integrity is infringed if the work is altered in any manner or used in association with a product, service, cause, or institution and such alteration or use affects the honor or reputation of the author.

The remedies for infringement of moral rights are the same as the remedies for copyright infringement. Moral rights may be waived but cannot be assigned. The waiver must be in writing.

Industrial Design

The Industrial Design Act grants protection to originators of certain industrial designs. The term “industrial design” refers to any features of shape, configuration, pattern, or ornament that are applied to finished articles and appeal to and are judged solely by the eye where the articles are multiplied by an industrial process.

Only those designs that are ornamental or aesthetic in nature qualify for protection under the Industrial Design Act. The mechanical construction of an article and method of manufacture does not form part of the design. Construction and method are functional and thus are not protected by act. (Mechanical constructions or methods of manufacture may qualify for patent protection).

In order to qualify for protection, a design must meet the tests of novelty and originality, an application to register the designs must be filed within one year of publication.

Duration of Industrial Design

The proprietor who registers an industrial design is granted an exclusive right to the use of the design for a term of five years. The term is subject to renewal for additional five years.

Assignment of Industrial Design

Designs are freely assignable, the assignment must be made in writing. A proprietor may license others to make, use, or sell the design during the term of its statutory protection.

Employees

The right to any designs made by an employee in the course of employment belongs to the employer.

Registration of Industrial Design

To register a design under the Industrial Design Act, a proprietor submits a drawing and description of the design in duplicate, together with the stated fee, to the government office. Registration will be refused if it appears that the design is identical with or closely resembles another design currently in use or previously registered.

9. CONFLICT MANAGEMENT (2 hours)

Meaning

Where there are people, there is conflict. Conflict is the outcome of behavioral interactions. Conflict is the difference or disputes in opinions or desires etc between individuals, group of persons, communities, states, organizations or ideas., Conflicts are caused by tensions between competing interests in society when people handle grievances - standing up for what they consider to be right and against what they consider to be wrong.

Conflict theorists regard conflict as a normal, not an abnormal, process. They see change as a constant and inevitable feature of the society and believe that existing social conditions always contain the seeds of a different nature. This theory of change derives from the work of Karl Marx, and has been modified and developed by later sociologists.

According to Joe Kelly, “Conflict is opposition or dispute between persons, groups or ideas”.

According to Richard Steers, Conflict is a process by which person, group feel frustrated in the pursuit of certain goals, plans or objectives.

According to James Stoner, Conflict involves disagreement about the allocation of scarce resources or a clash of goal, statuses, values, perception, or personalities.

Types of conflict

Conflict can be of two types.

1. **Functional (substantive):** It is issue oriented, generally of administrative or technical nature. It results in improvement in performance.
 2. **Dysfunctional (personal):** It is personality oriented, consisting of strong dislike and deep-rooted personal feelings and attitudes. It hinders performance.
- Conflict can also be task, process or relationships oriented.

Approaches to Conflict

There are three approaches to conflict.

1. **Traditional Approach:** It views conflict as harmful, destructive, unnecessary and threatening to organizational effectiveness. It advocates elimination of conflict. Organizational norms should be enforced through reward and punishment system to eliminate conflict.
2. **Behavioral Approach:** It views conflict as inevitable in organizations. People differ in their goals, values and attitudes. Conflict is the natural outcome of behavioral interactions. It advocates acceptance and resolution of conflict.
3. **Inter-actionist Approach:** It views functional conflict as a necessity for the organizational effectiveness. Conflicts inspire change. Adaptation to change is essential for the survival of organization. It advocates stimulation of conflict if there is none in the organization and its effective management.

The benefits of conflict include the opportunity to renew relationships and make positive changes for the future. The positive outcomes of conflict under inter-actionist approach can be:

1. **High quality decisions:** Conflicts generate multiple ideas and alternatives. They are needed for quality decisions.
2. **Group cohesiveness:** Conflicts increase group cohesiveness and strengthen them.

3. **Idea testing:** Conflicts provide opportunity to test ideas. This makes life interesting in organization.
4. **Highlight problems:** Conflicts highlight problems by bringing them to surface.
5. **Organizational development:** Conflicts make people creative and innovative to aggressively pursue goals for organizational development. Management of change is facilitated.

Levels of Conflict

Conflict can occur at four levels:

1. **Intra-individual conflict:** It occurs within the individual due to frustration resulting from blocking of goal directed motivated drive. Goal and role conflicts cause it.
2. **Inter-personal conflict:** It occurs between two or more persons. Personality clashes cause such conflict. Communication failures and perception differences also cause it. It deeply affects emotions.
3. **Inter-group conflict:** It occurs between groups. It is expression of hostility between groups and intentional interference with each others activities. Job structure, conflicting reward system and competition for scarce resources cause it. Conflict between production and marketing departments is an example.
4. **Inter-organizational conflict:** It occurs between organizations. Competition and policy issues cause it.

Causes of Conflict (Sources of Conflict)

The causes of conflict can be:

1. **Personal differences:** Individual differences cause conflict.
2. **Limited resources:** Competition for scarce resources between groups causes conflict.
3. **Unclear Relationships:** Lack of clarity about responsibility and authority cause conflict. Line and staff relations also cause conflict. Confusing policies and practices also lead to conflict.
4. **Communicational obstacles:** Communication breakdown and information deficiency leads to misunderstanding and causes conflict.
5. **Status and role incompatibility:** Incompatibility in status and roles cause conflict.
6. **Goal differences:** When individuals in the same group pursue different goals, conflict is caused.
7. **Personality clashes:** When individuals cannot get along with each other or do not agree on anything, conflict is caused. Differences in values, attitudes, interests and personality also cause conflict. Aggressive people are source of conflict. So are suspicion and distrust.
8. **Structural change:** Introduction of changes in structure generally causes conflict. Change and conflict go together.
9. **Task factors:** Task interdependence and task ambiguity cause inter-group conflict.
10. **Unfavorable organization climate:** It causes inter-group conflict. Managerial infighting also causes conflict. Environmental stress also leads to conflict.

11. Sexual harassment: Job related sexual harassment causes conflict.

12. Deprivation of rights: If privileges or rights already enjoyed are withdrawn, conflict is caused.

13. Conflicting reward systems: They cause conflict.

Methods of Conflict Resolution

Conflict is a struggle between at least two independent parties. Conflict resolution is a range of processes aimed at alleviating or eliminating sources of conflict. Trust and a high level of ethical behavior are essential for successful conflict resolution. Processes of conflict resolution generally include negotiation, mediation and diplomacy. The processes of arbitration, litigation, and formal complaint processes such as ombudsman processes, are usually described with the term dispute resolution, although some refer to them as "conflict resolution." Processes of mediation and arbitration are often referred to as alternative dispute resolution. Conflict need to be resolved amicably. The techniques of conflict resolution can be:

Containment

Opposing parties systematically sort out differences and reach a solution jointly through bargaining or negotiation. A compromise is reached. A general theory for bargaining and negotiation to address conflict is useful not only in the field of international politics or business management, but also at the personal and intimate level.

In competitive negotiation, each party pressurizes the other to change. Control, coercion, threats, walkouts and lying are all approaches employed in competitive negotiation. It is a win-lose style. Both the parties come with their solution that is in their own interest. This approach can be useful when one is willing to sacrifice the relationship when the goal is important than relationship.

Principled negotiation calls for collaborative negotiation, but in a win-win style. It requires keen perception, good communication skills, creativity and most importantly trust.

Conciliation

Conciliation sometimes serves as an umbrella-term that covers all mediation and facilitative and advisory dispute-resolution processes. The conciliator has a duty to provide legal information, can give advice on the subject-matter and encourage the parties to come to a resolution. When personal conflict leads to frustration and loss of efficiency, counseling may prove to be a helpful antidote.

Sometimes the simple process of being able to vent one's feelings - that is, to express them to a concerned and understanding listener, is enough to relieve frustration and make it possible for the frustrated individual to advance to a problem-solving frame of mind, better able to cope with a personal difficulty that is affecting his work adversely.

Mediation

Mediation is a form of alternative dispute resolution (ADR) or "appropriate dispute resolution" that aims to assist two (or more) disputants in reaching an agreement. Mediation offers a process by which two parties work towards an agreement with the aid of a impartial third party to find mutually-agreeable solutions to difficult problems in settling the disputes. Impartial third party (Arbitrator) is an independent person or body

officially appointed by two parties to settle a dispute. Arbitration is an example of mediation.

Arbitration is a process of resolving a dispute or a grievance outside a court system by presenting it for decision to an impartial third party. Both sides in the disputes usually must agree in advance to the choice of arbitrator and certify that they will abide (accept or obey a rule or decision) by the arbitrator's decision. In medieval Europe, arbitration was used to settle the disputes between merchants; it is now commonly used in commercial, labor-management, and international disputes. Arbitration avoids costly litigation and offers a relatively speedy resolution as well as privacy for the disputants.

Confrontation

Confrontation is a situation of face-to-face angry disagreement or opposition to discuss problem. A mutually satisfactory solution can be found. Restructuring of organization is also done to resolve conflict.

Avoidance

Avoidance is a situation of being away or refrain (stop oneself from doing something) from doing or happening. Some people try to avoid dealing with conflict. Avoiding conflict of interest is important in any profession, and engineering is no exception.

Defusion

Defusion means reducing the danger or tension in a difficult situation. The conflict is deactivated. Smoothing is done by playing down the importance of conflict. Shared goals are set to promote cooperation between conflicting parties. They serve as common mutual goals.

Litigation

Litigation is a process in which the courts impose binding decisions on the disputing parties in a determinative process operating at the level of legal rights and obligations. Litigation normally settles the dispute in favour of the party with the strongest legal argument.

Conflict of Interest

Conflict of interest is a situation in which two or more interests are in opposition or disagreement. Professional conflict of interest is a situation where professional have an interest, which if pursued might keep them from meeting their obligations to their employers and clients. Conflict of interest can arise under two conditions:

- a. The professional is in a relationship that requires exercising good judgment on behalf of the employer or client, and
- b. The professional has some additional or side interest that could threaten good judgment in serving the interests of the employer or client.

Avoiding conflict of interest is important in any profession, and engineering is no exception. A conflict of interest arises when an interest, if pursued, could keep a professional from meeting one of his obligations. For example, a civil engineer working for a Department of Highway might have a financial interest in a company that has a bid on a construction project. If that engineer has some responsibility in determining which company's bid to accept, then there is a clear conflict of interest. Pursuing his financial interest in the company might lead him not to objectively and faithfully discharge his

professional duties to his employer, the Department of Highway. This type of conflict of interest is called **actual conflicts of interest**.

There are two more types of conflicts of interest. The second type is **potential conflicts of interest**, which threaten to easily become actual conflicts of interest. For example, an engineer might find herself becoming friends with a supplier of for her company. Although this situation does not necessarily constitute a conflict, there is the potential that the engineer's judgment might become conflicted by the needs to maintain the friendship.

Finally, there are situations in which there is the **appearance of a conflict of interest**. This might occur when an engineer is paid based on a percentage of the cost of design. There is clearly no incentive to cut costs in this situation, and it may appear that the engineer is making the design more expensive simply to generate a larger fee. Even cases where there is only an appearance of a conflict of interest can be significant, because the distrust that comes from this situation compromises the engineer's ability to do this work and future work calls into question the engineer's judgment.

A good way to avoid conflicts of interest is to follow the guidelines of company policy. In the absence of such a policy, asking a co-worker or young manager will give you a second opinion and will make it clear that you are not trying to hide something. In the absence of either of these options, it is best to examine your motives and use ethical problem-solving techniques. Finally, you can look to the statements in the professional code of ethics that uniformly forbid (order sb not to do sth) the conflicts of interest.

Conflict-management

Society perceives conflict as something that gets in the way of progress, as a negative symptom of a relationship that one should cure as quickly as possible. However within the mediation profession conflict is seen as a fact of life and when properly managed it can have many benefits for the parties and constituents (Bagshaw, 1999, p. 206, Boulle, 2005, p. 87). The benefits of conflict include the opportunity to renew relationships and make positive changes for the future. Mediation should be a productive process, where conflict can be managed and expressed safely (Bradford, 2006, p. 148). It is the mediator's responsibility to let the parties express their emotions entailed in conflict safely. Allowing the parties to express these emotions may seem unhelpful in resolving the dispute, but if managed constructively these emotions may help towards a better relationship between the parties in the future.

There is no one best way to deal with conflict. It depends on the current situation. Here are the major ways that people use to deal with conflict.

1. **Avoid it.** Some people try to avoid dealing with conflict.
 - Use it when it simply is not worth the effort to argue. Usually this approach tends to worsen the conflict over time.
 - **Accommodate it.** Give in to others, sometimes to the extent that you compromise yourself.
 - Use this approach very sparingly and infrequently, for example, in situations when you know that you will have another more useful approach in the very near future. Usually this approach tends to worsen the conflict over time, and causes conflicts within yourself.
2. **Competing.** Work to get your way, rather than clarifying and addressing the issue. Competitors love accommodators.
 - Use when you have a very strong conviction about your position.

3. **Compromising.** Mutual give-and-take.
 - Use when the goal is to get past the issue and move on.
4. **Collaborating.** Focus on working together.
 - Use when the goal is to meet as many current needs as possible by using mutual resources. This approach sometimes raises new mutual needs.
 - Use when the goal is to cultivate ownership and commitment.

10. CASE STUDIES (4 hours)

Sample Case and Solution

Case

- a. A client came to designer's and asked to design a multistoried building.
- b. The soil type is found not suitable for that type of structure.
- c. The designer hesitated to design a building.
- d. The Client revealed his/her intention as that he/she actually is not going to build that structure. But he/she wanted to collect fund from outside sources on behalf of that design and he/she wanted to utilize that money in other business.

Problem

What should a designer do in such situation?

Solution

Engineering is a profession. A profession is that which is acquired through a specialized training or education having certain skill that ordinary men do not possess. Because of professional's knowledge and skill that ordinary people do not possess, and because of they use their knowledge and skill for the benefit of men and the society as a whole, professionals do have high recognition in the society. Furthermore, their professional practices are also subjected to public evaluation and hence, a professional's work can not be remained as a personal matter. In this background, we have to deal the situation.

A designer is supposed to design a project visiting the site and he/she should look for all the things that are readily apparent on the site that is likely to affect the design. Besides this, a designer is also needed to ascertain the nature, and load bearing capacity of the soil underneath ground level. In this case given, it is clearly specified that the type of soil is not suitable for that type of building.

Client's intention in this regard does not matter for an engineer as a professional designer whether a client is going to build that structure or not. A designer's main duty is to prepare a design for the project created by a client that is technically feasible to erect on the ground. Non-feasible and non-economical design may lead towards the negligence of the designer or they exhibit the incompetence of the designer. If negligence and incompetence are not the case and if the designer perform such task to fulfill the Client's intention only then the designer is not remained as a professional and his/her behavior becomes unethical and immoral. Professionals committing such unethical and immoral acts are subjected to a disciplinary action if not institutionally (as in the case of Nepal) but by the public and their public image will become very low.

It is also to be noted here that a designer's duty does not end when he/she has completed his/her design. A designer is under a continuing duty to check that his/her design will work in practice and to correct any errors that emerge during the implementation

(construction) of that design. In the case given, as the early stage of starting a design work, it has already been known that soil type is unsuitable. Thus, based on the above discussion as a designer, I will not be involved in designing that structure.

Case: *M.Sc. Construction Management, PU (Final Exam) 2004 – Fall Semester*

Rohit, an engineer, is invited, along with other engineers, to a one-day complementary educational seminar sponsored by MAMA Steel Company. The seminar is designed to educate engineers on current technological advances in the selection and use of pipe construction.

The seminar is a part of a larger effort by the MAMA Steel Company to become better known in the engineering community. MAMA Steel Company had provided all refreshments, including a buffet luncheon during the seminar and a cocktail reception immediately following the seminar. Rohit accepts the invitation and agrees to attend the seminar.

Answer the following questions using appropriate references: [4 x 4]

1. Is Rohit's acceptance to participate in that seminar a conflict of interest?
2. Is Rohit taking a bribe in accepting the invitation?
3. Will his acceptance create a conflict of interest later if Rohit needs to purchase pipes?
4. How would you evaluate the behavior of the MAMA Steel Company?

Case: *M.Sc. Construction Management, PU (Final Exam) 2004 – Fall Semester*

Shiva, a bridge engineer has designed a bridge to facilitate movements between two villages. Bridge was designed to carry out 10T load. No vehicle movement was seen in both the villages. People use carts to carry loads in both the villages. Bridge was constructed by Reliable Construction Company (RCC) and the bidding amount was Rs. 3,000,000. Construction was completed in January 27, 2004 and bridge was handed over to the client. The client has made final payment and the defect liability is six months after completion of the construction.

On February 14, 2004, there was local festival and a Mini-Truck full of goods was crossing the bridge, when bridge was collapsed.

1. An investigation team (IT) was formed which visited the site and found:
2. Bridge was designed without considering the soil condition.
3. Inadequate foundation was one of the causes of bridge collapse.
4. While the heavy loaded Mini-Truck was crossing the bridge, the bridge was also full of people.
5. Truck driver was found under the influence of alcohol.
6. Construction supervision was done by Binaya, a Civil Engineer who is an employee of RCC. Binaya has recommended using "Baliyo Falam" a newly introduced reinforcement of which Binaya is the local agent.
7. The reinforcement used was also found of low quality and was also one of the causes of bridge collapse.

Professional Practice

8. Engineer Rana, on behalf of the Employer, has certified the works executed by the contractor. It was also reported that Rana has accepted 10% of the bidding amount from the contractor as a covert payment.

Read the case carefully and discuss each individuals/institutions status using appropriate references: [4 + 4 + 6 + 5 + 5]

- i. Shiva, a design engineer
- ii. A Truck driver
- iii. Binaya , a supervision engineer
- iv. Rana, the Employer's engineer
- v. RCC, the Contractor

Case: *BE, Civil, Professional Practice; PU (Final Exam) 2008 – Fall Semester*

Read the case carefully and answer the questions analytically. [10 +10]

Galaxy Enterprise (GE) is a giant supplier of construction materials.

GE invited about 150 engineers/architects for a dinner at hotel Yak and Yeti to promote recently introduced anti-termite product in Nepalese market.

Mr. CK is a consulting engineer who has been assigned to write specification for a National Theatre Building Project.

Consulting engineer Mr. CK liked the new product introduced by GE and is about to incorporate its features in specification.

Executive Director of GE Mr. X invited Mr. CK for a dinner in his house. Mr. X and Mr. CK were school-friends.

- a) Should Mr. CK attend the dinner at hotel Yak and Yeti?
- b) Should Mr. CK attend the dinner in his house?

Case: *BE, Civil, Professional Practice; PU (Chance Exam) 2005- Spring Semester*

Read the case carefully and answer the questions given. [10 + 10]

Gaurav, an engineer, is invited along with other engineers to a one-day complementary educational seminar sponsored by the ABC Manufacturing Company (ABC). The seminar is designed to educate (provide information to) engineers on current technological advancement in the selection and use of the product (material) produced by the ABC. The seminar is a part of the ABC's marketing policy to become better known in the engineering community. The ABC will provide refreshments, lunch, cocktail dinner and a handbag, all free. Gaurav accepts the invitation and agrees to attend the seminar.

- i. Is this invitation of the ABC a bribe?
- ii. After participating in the seminar, if Gaurav has to purchase similar product (for example: say reinforcement or electrical fittings or equipment), will his participation in the seminar create a conflict of interest?

Reference:

- i. Professional engineers shall not engage in activities or accept remuneration for services rendered that may create a conflict of interest with their clients or employers, without the prior knowledge and consent of their clients or employers.

- ii. Professional engineers shall not accept covert payment or an offer for the purpose of securing assignment.

Case: *BE, Civil, Professional Practice; PU (Assessment Exam) 2007 – Fall Semester*

Read the case carefully and answer the questions given. [12.5]

The Client hired an Architect Bibek to design a building. Bibek recommended the client to conduct a soil test before start of the design work. The Client said that conducting soil test would unnecessarily add more cost.

Discuss what should Bibek do in this situation along with the options available to Bibek?

Case: *BE, Civil, Professional Practice; PU (Assessment Exam) 2007 – Fall Semester*

Read the case carefully and answer the questions given. [12.5]

A Client came to a designer and asked to design a multistoried building. The soil type of the proposed site is found not suitable for that type of structure. The designer hesitated to design the building. The Client said that he actually is not going to build that structure. He wanted to collect money from outside sources showing that design as a proposal for his venture and he wanted to utilize that money in other business.

What should a designer do in such situation and why? Justify your answer.

Case: *BE, Civil, Professional Practice; PU (Internal Assessment) - Fall Semester*

Read the case carefully and answer the questions given. [15]

Government has established a construction company called NCCN. Because of its inefficiency voices are being raised for its privatization. Let us assume that NCCN is sold out to the private investors (PI). PI lay off its 60% employees and raised the salary and facilities of the existing employees to make them more efficient and effective.

Questions:

Was it ethical for PI to lay off its 60% employees and to raise the salary and benefits for the remaining employees?

Was it ethical for the Government to sell out the company and to make people jobless?

Would it be ethical for the Government to retain the NCCN as it is, and support the company for its salary and other expenses from Government's other sources?

1 Labour Act, 2048 (1992)

Date of Authentication

2 Jestha 2053 (May 15, 1996)

Amendment Acts

1. Labour (first Amendment) Act, 2054 15 Magh 2054 (Jan. 28, 1989)

2. Child Labor (Prohibition and Regulation) Act, 2056 • 7 Ashadha 2057 (June 21, 2000 A.D.)

Act No. 9 of the year 2049 B.S.

An Act to provide for Labour

Preamble: Whereas it is expedient to make timely provisions relating to labour by making provisions for the rights, interests, facilities and safety of workers and employees working in enterprises of various sectors. Now, therefore, the Parliament has made this Act on the twenty first year of the reign of His Majesty King Birendra Bir Bikram Shah Dev.

Chapter 1.

Preliminary

1. **Short title and commencement:** (1) This Act may be called as the "Labour Act, 2048 (1992)".
(2) It shall come into force immediately.
2. **Definitions.** In this Act, unless the subject or context otherwise requires:- (a) "Production process" means any of the following processes:
 - (i) works relating to making, altering, repairing, ornamenting, engraving, finishing, packing, oiling, washing, cleaning, breaking-up, dismantling or other kinds of activities given to any article or substance with a view of bringing it to its use, sale, distribution, transportation, or disposal.
 - (ii) Pumping of oil, water, or sewage;
 - (iii) Generating, transforming, and transmitting energy; or
 - (iv) Printing, lithography, photography, book-binding and other similar work.
- (b) "Enterprise" means any factory, company, organisation, association, firm, or group thereof, established under the prevailing laws for the purpose of operating any industry, profession or service, where ten or more workers or employees are engaged and this expression also includes:
 - (1) Tea estates, established under the law for commercial purpose;
 - (2) Enterprise operating within the industrial districts established by Government of Nepal where less than ten workers or employees are engaged.
- (c) "Employee" means persons engaged in the administrative functions of the enterprise.
- (d) "Worker" means a person employed on the basis of remuneration to work in any building, premises, machinery or any part thereof used for any productions process or providing service, or any act relating to such work or for any unscheduled works and this expression also includes any worker working at piece-rate, contract or agreement.
- (e) "Manager" means a person appointed for performing the functions in the Enterprise.
- (f) "Proprietor" means the person having final authority on the activities of the Enterprise and this expression also includes any person appointed as the Chief of any branch or unit of the Enterprise with powers to exercise final responsibility or authority in respect thereof.
- (g) "Factory Inspector" means a factory inspector appointed by Government of Nepal and this expression also includes the Senior Factory Inspector.
- (h) .∞.....
- (i) "Minor" means a person who has attained the TMage of sixteen years but has not completed the age of eighteen years.
- (j) "Adult" means a person who has completed the age of eighteen years.
- (k) "Energy" means electrical or mechanical energy. Provided that, this word shall not include any energy generated from human or animal sources.
- (l) "Seasonal Enterprise" means an Enterprise which cannot be operated or which is not feasible to operate in any season other than the specific season and this expression also includes a Seasonal enterprise which cannot operate more than one hundred and eighty days in one year.
- (m) "Day" means period of twenty-four hours starting from any midnight and ending at another midnight.
- (n) "Week" means a period of seven days starting from midnight on Saturday or from midnight of such other day as prescribed by the Department of Labour.
- (o) "Welfare Officer" means the welfare officer appointed under this Act.
- (p) "Labour Officer:" means the Labour Office appointed under this Act and this expression also includes the Senior Labour Officer.
- (q) "Labour Court" means the Labour Court under this Act.
- (r) " Remuneration" means the remuneration or wage to be received in cash or kind from the Enterprise by the worker or employee for the works performed in the Enterprise and this expression also includes any amount to be received in cash or kind for the works done under piece-rate or contract. Provided that, this expression does not include any kind of allowance or facility.
- ∞ Deleted by Chi Id Labor (Prohibit ion and Regulation) Act, 2056.
- TM Amended by the Chi Id Labor (Prohibit ion and Regulation) Act, 2056

(s) "Prescribed" or "as prescribed" means prescribed or as prescribed in the Rules framed under this Act.

CHAPTER - 2

Employment and Security of Service

3. **Classification of Job:** (1) The Proprietor shall classify the job of the workers and employees of the Enterprise according to the nature of production process, service or functions of the Enterprise and shall provide the information thereof to the concerned Labour Office.
(2) If the classification done pursuant to Sub-section (1) requires any amendment, the Labour Officer may, stating the reasons thereof, issue a directive to the Proprietor and it shall be the duty of the Proprietor to abide by such directive.
4. **Appointment of Worker and Employee:** ♣ (1) In cases where it is required to appoint a worker or employee in any post classified pursuant to Section 3, the Manager Shall have to advertise in order to select

such a worker or employee and the worker or employee so selected shall have to be provided with appointment letter and be engaged at work..

(2) The worker and employee appointed under Sub-section (1), ♣ shall be kept on probation period unless he/she completes the continuous service period of one year and, based on, his/her efficiency, sincerity discipline, diligence towards works, punctuality, etc in this period he/she shall be appointed permanently. An appointment letter shall be provided with the name of the post of the worker or employee and his/her remuneration and conditions of service while making such appointment. Information thereof shall also be provided to the Labour Office.

⌘ **Clarification:** For the purpose of this Sub-section, the words " the continuous service period of one year" means the period of two hundred forty days engaged at work during a period of twelve months in an Enterprise, or the period served continuously in a Seasonal Enterprise during the period of such a running season, by a worker or employee and, while calculating the said two hundred forty days, public and weekly holidays shall also be counted.

(3) The worker or employee engaged on piece-rate or contract in the works of permanent nature of an Enterprise shall also be appointed permanently under Sub-section (2).

(4) The workers or employee engaged under Sub-section (3) shall be entitled to facilities provided in this Act according to the scale of his/her post.

(5) ⌘

⌘ **4A. Prohibition of Engaging Non-Nepalese Citizens at Work:** (1) Non-Nepalese citizens shall not be permitted to be engaged at work in any of the posts classified pursuant to Section 3.

(2) Notwithstanding anything contained in Sub-section (1), if a Nepalese citizen could not be available for any skilled technical post even after publishing an advertisement in national level public newspapers and journals, the Manager may submit an application to the Department of Labour along with the evidence of such fact for the approval to appoint a non-Nepalese citizen.

(3) If it is found, in conduction of an inquiry upon the submission of any application pursuant to Sub-section (2), that a Nepalese citizen would not be available for the skilled technical post mentioned in the application, the Department of Labour may, on the recommendation of the Labour Office, grant approval to engage a non-Nepalese citizen at work years for a maximum period of upto five years not exceeding two years at a time and, in the specialized kind of skilled technical post, for a period upto seven years.

(4) The Manager, who engages non-Nepalese citizens at work pursuant to Sub-section (3), shall have to make arrangements for making the Nepalese citizens skilled and for replacing the non-Nepalese citizens gradually by them. "

5. Engagement in Work: (1) ∞.....

(2) Minors and females may be engaged in the works normally from six o'clock in the morning till six o'clock in the evening, except in the prescribed conditions.

(3) By making an appropriate arrangement with mutual consent between the proprietor and the worker or employee, the females may also be engaged in the works similar to the males.

⌘ (4) The Manager may transfer a worker or employee to any branch or unit of the Enterprise without causing any difference in the nature or standard of work. .

(6) **Computation of period of Works:** For the purpose of computing the period of works performed in the Enterprise by any worker or employee, the following period shall also be counted.

(a) the period remained in reserve under Section 11; and

(b) the period stayed ♣ with remuneration leave.

♣ **7. Appointment in Contract Service:** If an Enterprise needs to increase in production or service immediately, any person may be appointed in contract, by fixing a time period and setting forth the remuneration to be received by him/her and the terms of service, for any specified work other than the works of the Enterprise which are permanent in nature.

8. Change of Ownership shall not Adversely Affect: Any change in the ownership of the Enterprise shall not be deemed to have affected on the terms and conditions of service of the workers and employees of the Enterprise.

9. Separate Registers of the Workers and Employee to be Kept: (1) In each Enterprise, the Proprietor shall maintain separate registers of the workers and employees mentioning the following particulars –

(a) Name of the worker or employee,

(b) Nature of job,

(c) Remuneration and method of its payment,

(d) Other prescribed particulars.

(2) The register maintained under Sub-section (1) shall have to be submitted when demanded by the Labour Officer, Factory Inspector or any other person designated by the Labour Office.

10. Security of Service: The service of any permanent worker or employee may not be terminated without following the procedures prescribed by this Act or the Rules or Bylaws made under this Act.

11. Keeping on Reserve: (1) In case where the curtailment of production or service in any Enterprise for some period is necessary or where operation of the Enterprise cannot be continued for some special circumstance, the Proprietor, under Subsection

(2), may curtail its production or service or may close the Enterprise or a part of thereof.

(2) Permission from the Labour Office in case of a period up to fifteen days and from the Department of Labour in case of a period for more than that shall have to be taken while curtailing the production or service or closing the Enterprise or any part thereof as mentioned in Sub-section (1). The Labour Office shall, inform the Department of Labour of such permission in case it has given permission.

(3) While doing curtailment in the production or service pursuant to Subsection

(1), any worker working on shifts or on wages or ♣permanent worker or employee of the Enterprise except the employee shall be kept reserve on the condition of receiving half of his/her remuneration.

Provided that, such worker or employee shall continue to receive the appropriate facilities which he/she is receiving.

(4) If any worker or employee kept in reserve pursuant to Sub-section (3) refuse to work on another assignment or similar nature equal ♣on remuneration offered by the proprietor in the same Enterprise or another Enterprise under his/her control or if he/her does not come in the Enterprise once a day during office hours or on other situations as prescribed, the Proprietor may withheld the remuneration and facility of such worker and employee.

12. Retrenchment and reinstatement: (1) If, for any special circumstances, the production or service of the Enterprise had to be curtailed or the Enterprise has to be closed partly or wholly for more than three months, the Proprietor may, with the approval of Government of Nepal through the Department of Labour, retrench in the number of the workers and employees, partly or wholly, of the Enterprise.

✂ (1A) If the Manager makes a demand to Government of Nepal for approval in respect of the retrenchment of workers or employees pursuant to Sub-section (1),

Government of Nepal shall have to make decision within two months on whether such retrenchment of employees to be made or not.

(2) While retrenching the workers or employees under Sub-section (1), engaged in similar type of works, those ♣permanent workers or employees who \were appointed in the last shall be retrenched first.

Provided that, if it is required to retrench some of the workers or employees appointed earlier, not following the prescribed order of retrenchment such retrenchment may be made by specifying the reasons thereof.

(3) While doing retrenchment as per Sub-section (2), it shall be done as follows –

(a) By providing a notice with the reasons or retrenchment either one month in advance or paying the remuneration of one month in case of worker or employee who is permanent ✂..... and

(b) By paying a lump sum compensation to each worker or employee of the amount of remuneration calculated by multiplying the number of each year of service performed at the Enterprise by the amount of his/her present remuneration for 30 days.

Explanation: For the purposes of this Clause, the work performed for at least six months in any year shall be counted as one year of service.

(4) The provisions of Sub-section (3) shall not applicable to any worker or employee appointed under contract service.

(5) If anybody has to be engaged in the job of worker or employee retrenched earlier, priority shall be given to the retrenched workers or employees.

Explanation: For the purposes of Section 11 and 12 the "Special Circumstance" shall mean damage, break down or failure of machines or the Enterprise and thereby causing stoppage in the production or failure in the supply of fuel, electricity, coal or similar energy or due to any kind of force majeure or insufficient supply of raw materials or stock piling of the produced goods due to loss of sale or other similar situations.

13. Seasonal Enterprise: (1) The workers or employees of a seasonal Enterprise shall not be deemed to be on reserve during off-season period.

(2) The beginning and closure of operation of seasonal Enterprise shall be informed to the Labour Office.

(3) The permanent worker or employee shall have to be paid with at least twenty five percent of his/her remuneration as retaining allowance for the period of closure of a seasonal Enterprise during off-season..

(4) The decision of the Department of Labour shall be final in relation to any dispute as to whether any Enterprise is a seasonal or not.

Explanation: While computing the period of two hundred and forty days, the public Holidays and weekly holidays shall also be counted.

14. ✂.....

15. Compulsory Retirement: The Proprietor may compulsorily retire any worker or employee who has crossed the age of fifty five years. Provided that he/she may extend the period of service of any worker or employee by five years, in case the worker or employee is indispensable for the operation of the functions Enterprise.

CHAPTER – 3

WORKING HOURS

16. **Working Hours:** No worker or employee shall be deployed in work for more than eight hours per day or forty eight hours per week and they shall be provided one day as weekly holiday for every week.

17. **Computation of Commencement of Working Hour:** The time for starting of work by worker or employee shall be as prescribed by the Proprietor.

18. **Intervals for Refreshment and Rest:** In any Enterprise where work may be interrupt, no worker or employee shall be deployed in work for more than five hours continuously without providing an interval of half an hour for Tiffin. In any Enterprise where works have to be carried out continuously without interruption, such intervals shall be provided on rotation basis. Such interval of half an hour shall be deemed to have been included within the daily working hours.

19. **Extra Wages for overtime to be Provided:** (1) Where any worker or employee is engaged to work for more than eight hours in a day or forty eight hours in a week, he/she shall be paid overtime wages at the rate of one and one-half time of his/her ordinary rate of wages. Provided that, no worker or employee shall be compelled to work overtime.

(2) While deploying any worker or employee to work overtime, generally the duration shall not exceed four hours per day and twenty hours per week.

20. **Attendance Register to be kept:** Each Enterprise shall keep attendance register of its workers and employees.

CHAPTER – 4

Remuneration

♣21. **Minimum Remuneration Fixation Committee:** (1) Government of Nepal may fix the minimum remuneration, dearness allowances and facilities of workers or employees or Enterprises on the recommendation of the Minimum Remuneration Fixation Committee and the notification on rates so fixed shall be published in the Nepal Gazette.

(2) Government of Nepal shall, in order to fix the minimum remuneration, dearness allowances and facilities, constitute a Minimum Remuneration Fixation Committee consisting of the equal number of representatives of workers or employees, Managers and Government of Nepal.

(3) While making recommendation in regard to dearness allowances and facilities of workers or employees, the Minimum Remuneration Fixation Committee constituted under Sub-section (2) may do so on the basis of geographical areas.

(4) The rates of minimum remuneration, dearness allowances and facilities fixed pursuant to Sub-section (1) shall be effective only from the date of publication of a notification to that effect in the Nepal Gazette.

(5) In cases where the Minimum Remuneration Fixation Committee could not be constituted or even if it is constituted, it could not make recommendation, nothing contained in the foregoing Sub-sections shall be deemed to have barred fixing the minimum remuneration, dearness allowances and facilities of workers and employees of Enterprises by Government of Nepal.

(6) No agreement may be entered into between the manager and workers or employees in a way to make the minimum remuneration, dearness allowances and facilities lesser than those fixed pursuant to Sub-section (1).

(7) The other functions, duties and powers of the Minimum Remuneration fixation Committee shall be as prescribed.

✂21A. **Annual Increment in Remuneration:** (1) The worker and employee appointed permanently pursuant to Sub-section (2) of Section 4 shall receive an increment in remuneration each year.

(2) The amount of increment in remuneration to be received pursuant to Sub-section (1) shall be equal to the half day's remuneration of the concerned worker or employee.

(3) Notwithstanding anything contained in Sub-section (1) above, such increment in remuneration shall not be provided in cases where the remuneration is withheld pursuant to subsection (2) of Section 52.

♣22. **Payment of Remuneration, Allowances and Facilities:** It shall be the responsibility of the concerned Manager to provide the remuneration, allowances and facilities to be received by a worker or employee of the Enterprise.

23. **Period of Remuneration:** The Proprietor may fix the period of payment of remuneration to the workers or employees on weekly, fortnightly or monthly basis in way not exceeding the period of one month. Provided that, this provision shall not apply in respect of the persons who are working on daily wages, piece-rate or contract basis.

24. **Prohibition on Deduction of Remuneration:** (1) The remuneration of workers or employees shall not be deducted except under the following circumstances –

(a) In case it is required to realize any fine.

(b) In case it is required to deduct against absence;

(c) In case it is required to deduct against loss or damage of cash or kind of the Enterprise caused intentionally or negligently;

(d) In case it is required deduct in respect of providing prescribed facilities;

(e) In case it is required to deduct in respect of advance or over payment of remuneration;

- (f) In case it is required to deduct in respect of the period of suspension;
 - (g) In case it is required to deduct under the order of government office or court'
 - (h) In case it is required to deduct as per the notification of Government of Nepal published in the Nepal Gazette; or
 - (i) In case it is required to deduct in respect of income tax or any other tax levied under prevailing laws.
- (2) The limit of amount to be deducted pursuant to Sub-section (1) the method of deduction, the period of deduction and other related matters shall be as prescribed.

♣25. Petition to be Filed in cases a Deduction in Remuneration Made or Delay

Caused in Payment or other Facilities not provided or Delay Caused in providing such Facilities in an Undue Manner: (1) Except in cases of happening of a mistake or failure to fix the remuneration amount or inability to pay the remuneration due to the occurrence of an unforeseen incident or of special circumstance or failure on part of the concerned worker or employee to come to receive his/her remuneration or his/her refusal to receive the same; if, in an undue manner, a deduction in remuneration is made or a delay is caused in payment or in case of release from suspension or annulment of expulsion by a judgment of a court, the remuneration for the period of such expulsion or suspension is not paid or a delay is caused in such payment or the allowance, gratuity or the amount of provident fund or compensation to be received by a worker or employee is not paid or delay is caused in such payment, the concerned worker or employee him/herself or through his/her attorney may file a petition in the Labour Office.

(2) The petition as referred to in Sub-section (1) shall have to be filed within six months from the date of deduction in remuneration or causing delay in payment or non payment of allowance, gratuity, amount of provident fund or compensation or causing delay in such payment. (3) While conducting necessary inquiry and examination on the petition filed pursuant to Sub-section (1), if it is proven that the remuneration has been deducted in an undue manner or a delay has been caused in payment or the amount of allowance, gratuity, provident fund or compensation has not been paid or a delay has been caused in such payment, the Labour Office may give order requiring to make payment of such remuneration, allowance, gratuity, amount of provident fund or compensation to the concerned worker or employee and to pay the concerned worker or employee amount upto three times of such amount in default for atonement thereof.

(4) If it is proven that the petition under Sub-section (1) has been filed with a malicious motive or with an intention of causing unnecessary trouble or distress to the Manager, the Labour Office may give order requiring the petitioner to pay not exceeding one thousand rupees for compensation to the Manager.

(5) The Labour Office shall make available to the concerned party the amount to be paid or handed over in accordance with the order issued under Subsection (3) or (4) by getting recovered and realized the same by taking all or any of the following action:-

- (a) By keeping withheld the movable and immovable properties of the concerned Enterprise, worker or employee in accordance with the prevailing law,
- (b) By keeping withheld the deposit amount of the concerned Enterprise, worker or employee being kept in any Government Office or in any Corporate body with the ownership of Government of Nepal or the amount to be paid or handed over the concerned Enterprise, worker or employee by such Office or corporate body,
- (c) By keeping withheld the import or export of the concerned Enterprise, worker or employee.
- (d) By keeping withheld the discount, facilities or concessions of the concerned Enterprise, worker or employee to be obtained under the prevailing law.

26. **Appeal:** The party dissatisfied with the Order issued pursuant to Sub-section (3) or (4) may file an appeal to the Labour Court within thirty five days of the receipt of information of such order and the decision of the Labour Court shall be final.

CHAPTER – 5

Health and Safety

27. **Provisions Relating to Health and Safety:** The Proprietor shall make the arrangements in the Enterprise as mentioned below –

- (a) To Keep each Enterprise clean and tidy by cleaning daily including with germicidal medicines, necessary arrangements of proper drainage and coloring from time to time and preventing from odor;
- (b) To make arrangements for adequate supply of fresh air and light as well as proper temperature in the working rooms;
- (c) To make arrangements of removal and disposal of solid waste during production process,
- (d) To make arrangements of prevention of accumulation of dust, fume, vapour and other impure materials in working rooms, which would adversely affect the health.
- (e) To make arrangements of necessary preventive personal devices for protection of health from adverse any other source, and make provisions this would produce less noise during the work process;
- (f) To avoid any congestion in the work-room or work place leading to injurious to the health of workers or employees and to avail working space to each worker or employee, according to the nature of the job, or normally fifteen cubic meters and, the height above four meters from the floor surface shall not be counted for such purposes.

Professional Practice

(g) To make provisions for sufficient supply of pure potable water during the working hours, and to make arrangement for sufficient water in the Enterprise where chemical substances, are used or produced which may be injurious to the health, for the purpose of extinguishing fire or washing and cleansing during emergency situations;

(h) To make provisions for separate modern type toilets for male and female workers or employees at convenient place;

(i) To declare as non-smoking zone in all or some parts of the Enterprise, according to the nature of its works; and

(j) Too cause to conduct compulsory health check-ups of the workers or employees once every year in the Enterprises where the nature of works is likely to affect the health adversely.

28. Protection of Eyes: (1) Necessary protective means shall have to be arranged for the protection of eyes of the workers and employees from injuries likely to be caused by dust or pieces while working in the Enterprise using glass, mercury, magnet, pallets, iron, concrete, cement, lime, stone and explosive substances.

(2) Necessary protective devices shall have to be arranged to protect the eyes from harmful rays coming from during the process of welding or gas-cutting, or other similar works.

29. Protection from Chemical Substance: The Proprietor shall have to make provisions for necessary personal protective devices for the protection of workers or employees handling chemical substances.

30. Provision for Safety Against Fire: (1) The Proprietor shall have to make arrangements of necessary modern equipment for safety against fire in each Enterprise.

(2) Provision shall have to be made for easy exit from the Enterprise during emergency.

(3) Other provisions to be made by the Enterprise in relation to safety from fire including fire-fighting devices shall be as prescribed.

31. Hazardous Machines to be fenced: (1) Strong fences shall have to be placed around every part of hazardous machines, instruments and equipment operated by energy.

(2) In case it is required to do inspecting, lubrication or adjusting any part of hazardous machines during its running condition only experienced and well trained adult worker or employee shall have to be engaged to perform such works.

32. In relation to Lifting of Heavy Weight: (1) No worker or employee shall be engaged in the works of lifting, loading or transporting any load likely to cause physical injury or harm to the health.

(2) The maximum load to be lifted, loaded or transported by an adult, minor, male or female workers or employees shall be as prescribed.

32A. Minor not to be engaged in Works without Adequate Guidelines or of

Vocational Training: (1) No minor shall be engaged in works without adequate directives about the concerned working areas or vocational training.

(2) Provisions with regard to adequate directives about the concerned working areas or vocational training to be given to minors pursuant to Sub-section (1) shall be as prescribed.

(3) The entrepreneur engaging a minor in work against Sub-section (1) shall be liable to a punishment of imprisonment up to three months in maximum or a fine of ten thousand rupees in maximum or the both.

32B. Disputes Relating to Age: (1) In case a dispute arises with regard to age of a minor engaged in an enterprise, the age mentioned in the date of birth certificate of the minor shall be deemed to be his/her actual age.

(2) In case a minor does not have birth registration certificate after having carried out medical tests the age determined by a medical practitioner prescribed by the Department of Labor shall be deemed to be his/her actual age.

33. Pressure Plants: (1) In case a machine has to be operated at a pressure more than the atmospheric pressure in course of the production process of any Enterprise, necessary effective measures shall have to be adopted in a way that such machine will not be operated at a pressure heavier than safe working pressure.

(2) Provisions in relation to testing, certifying and licensing for operation of the machines mentioned in Sub-section (1) shall be as prescribed.

34. Orders to Provide for Safety : (1) In the situation where provision of safety has not been made which was required to be done pursuant to this Act, in any Enterprise, the Labour Office may issue a written order to the Enterprise giving a reasonable time limit in order to provide and make necessary arrangements thereon within such period.

(2) If the order issued as per Sub-section (1) has not been followed, the Labour Office may, order the closure of such unsafe portion, plant or machinery or the Enterprise and it shall be the duty of the Enterprise to abide by such order.

35. Notice to be Provided: (1) Each Enterprise shall have to inform the Labour Office within three days if any worker or employee dies or is injured making him/her disabled to work for more than forty eight hours, from an accident occurred in the Enterprise or for any other reason, and within seven days if such worker or employee has been caught by any disease resulting from the profession.

(2) The authority empowered to investigate the accident or disease mentioned in the information given pursuant sub- section (1), his/her powers, functions, duties, and the procedures relating thereto shall be as prescribed.

36. Powers to Determine the Standards: (1) Government of Nepal may prescribe the standards of safety required under this Chapter as per necessity by publishing a notice in Nepal Gazette.

(2) Except those mentioned in Sub-section (1), other provisions relating to health and safety to be adopted while using machinery, instruments or equipment in the Enterprise shall be as prescribed.

CHAPER – 6

Welfare Provision

37. Welfare Fund: The Enterprise shall have to establish a Welfare Fund, as prescribed for the welfare and benefit of the workers or employees.

38. Compensation: In case any worker or employee of the Enterprise is physically wounded or seriously hurt or dies in course of his/her work, the compensation shall be paid to him/her or to his/her family, as prescribed.

39. Gratuity, Provident Fund and Medical Expenses: The gratuity, provident fund and facilities relating to medical expenses to be provided to the workers and employees shall be as prescribed.

40. Leave: The public holidays, sick leave, annual leave, maternity leave, obsequies leave, special leave, with remuneration or without remuneration leave, etc. to be enjoyed by the workers and employees of each Enterprise shall be as prescribed.

41. Provision of Quarters: (1) The proprietor shall each year allocate not less than five percent of the gross profit of the Enterprise to provide healthy quarters for the workers and employees and shall gradually build such quarters.

(2) A separate fund shall have to be maintained for depositing such amount allocated pursuant to Sub-section (1).

(3) The operation of the fund as mentioned in Sub-section (2) shall be as prescribed.

42. Provisions Relating to Children: (1) Where fifty or more female workers and employees are engaged in the work, the Proprietor of the Enterprise shall have to make provisions of a healthy room for the use of children of such female workers and employees.

(2) A trained nurse, including some necessary toys, shall also be arranged for the children as mentioned in Sub-section (1).

(3) The female workers and employees shall be provided time, as necessitated, to feed their suckling babies.

43. Relaxing Room: Where fifty or more workers and employees are engaged at work, the Proprietor of the Enterprise shall have to make provisions for relaxing room with minimum amenities.

44. Canteen: Where fifty or more workers and employees are engaged in work at one time, the Proprietor of the Enterprise shall have to make provisions for a canteen.

CHAPTER – 7 Special Provisions to be Applicable to Special Type of Enterprise.

45. Tea-Estate: (1) The Special provision mentioned as below shall be applicable in respect of the tea estates –

(a) **Formation of Committee:** Government of Nepal may constitute, as prescribed, a Committee to provide necessary advice on promotion, policy formulation and other related matters in respect of the tea estates.

(b) **Provision of Quarter:** The Proprietor shall have to make arrangements for appropriate quarters within the tea-estate for the workers who do not have their residence nearby.

(c) **Provisions of Primary Health Care:** The Proprietor shall have establish a primary Health Care Center under the responsibility of a trained employee in order to provide free primary treatment of minor injuries to the workers and employees engaged within the tea-estate and to the members of their family.

(d) **Safety Devices:** The Proprietor shall have to provide safety devices and equipment required for personal protection of the workers of the tea-estate.

(e) **Provisions of Primary School:** The Proprietor of a Tea-estate shall run a primary school if there are fifty or more children of the age between five and fourteen years, receiving primary education, of the workers residing in the quarters provided by the tea-estate and in case there is no school within a distance of one kilometer from the tea-state.

(f) **Daily Consumer Goods:** The Proprietor shall have to arrange to make the daily consumer goods easily available to the workers and employees, if there is no market near the tea-estate.

(g) **Provision for Entertainment:** The Proprietor shall have to make necessary arrangements for appropriate sports facilities within the tea-estate for physical and mental development of the workers of the tea-estate.

(h) **To get the works done on contract:** This Section shall not be deemed to prevent from entering into agreement between the Proprietor and the workers of the tea-estate in respect of doing certain specified works of the tea-estate under contract.

(2) For the purpose of this Section –

(a) "Tea-estate" means tea-estate registered under prevailing laws with commercial objective and this expression also includes the factory established therein.

(b) "Worker of tea-estate" means any person engaged in the tea-estate for digging, ploughing, levelling, picking, spraying, sowing, cutting, reaping, plucking, derooting and doing other similar works and this expression also include any person engaged for cleaning any house, land or machinery or its parts inside the tea-estate or any person doing any other works related to the tea- estate.

46. Construction Business : The following special provisions shall apply in respect of the construction business –

(a) **Provisions for Construction Tools:** The Proprietor shall have to avail from its own side all necessary tools and material in sufficient quantity for the workers engaged in the construction works at construction site.

Explanation: For the purpose of this Section, "construction work" means the construction work of building, road, bridge, canal, tunnel, internal or interstate waterways or railways, or installing of telecommunication equipment or machine including those of electricity, telephone or telegraph or other works relating to construction.

(b) **Special Arrangements at Temporary Construction Sites:** At the temporary construction work sites, where fifty or more workers are engaged, the Proprietor shall have to make arrangements for quarters, food stuffs, drinking water, etc. for the workers who do not have residence nearby.

(c) **Accident Insurance:** The Proprietor shall have to insure all workers engaged in the construction site against accident in the way as prescribed.

(d) **Safety Arrangements:**

(1) The Proprietor shall have to make necessary and adequate arrangements of safety at the sites of construction works.

(2) The Proprietor shall have to arrange of personal protective equipment necessary for the workers engaged in construction works.

47. Transportation Business: (1) The following special provisions shall apply in Respect of the Transportation Business _

(a) **Working Hours:**

(1) The worker and employee of the transport vehicle may be deployed in work till reaching the destination. Provided that, in a passenger transport vehicle operating ♣in long route, at least two drivers shall be engaged to drive it alternately. ♣"Explanation : for the purpose of this Section, "long route" means the long route as referred to in Clause (aa) of Section 2 of the Motor Vehicle Transport Management Act, 2049 (1992)."

(2) The driver of a vehicle transporting animals or goods and operating in the long distance route shall be allowed to take rest at several places before reaching the destination.

(b) **Trip Allowance:** In case worker or employee of the transportation service is engaged for more than eight hours, he/she shall be paid overtime at the rate of one and one-half times of his/her present amount of remuneration. Provided that, if the worker or employee engaged in a operating vehicle is paid with any trip allowance, fooding allowance or any such other allowance, he ♣shall receive such allowance or one and half of the amount of remuneration to be received by him/her, which one is greater.

(c) **Fifty percent Allowance to be received during Breakage or Waiting Period:** In case any worker or employee engaged in operating vehicle has been stayed idle due to breakage of the vehicle before reaching destination or while the vehicle had been in waiting for its return, such person shall receive fifty percent of the allowance payable during the operating time of the vehicle.

(d) **Accident Insurance:** The proprietor shall insure all workers and employee engaged in the vehicle operating against accident in the manner as prescribed.

(e) **First Aid Materials:** The operator of transportation business shall keep sufficient medicines and materials of first-aid treatment in each vehicle.

(f) **Prohibition of Consumption of Alcoholic Drinks:**

(1) No worker or employee in any vehicle used for transportation of passengers, animas or goods shall consume alcoholic drinks before driving of the vehicle till reaching to the destination.

(2) In case a vehicle is operated by any worker or employee after consuming alcoholic drink, the Proprietor may, on charge of misconduct, dismiss him/her from the service. Provided that, the concerned worker or employee shall be provided with and opportunity to defend him/herself before dismissing him/her from service.

(3) Any person aggrieved by the order issued under Sub- clause (ii) may appeal in the Labour Court within thirty five days from the receipt of notice of dismissal from service.

(g) **Commission Agent:** The facilities under this Act shall not be provided to Commission Agent engaged in bookings or carriage of goods who is not registered in the Register of the transportation Enterprise.

(h) **Change in Ownership:** In case the transport vehicle is sold or there is change in ownership and if it is deemed necessary to terminate the services of any permanent worker or employee who has completed one year continuous service, the transportation businessperson, may terminate the service on payment of compensation and facilities payable under this Act, including such additional compensation as may be

available pursuant to mutual agreement entered into or understanding reached between the Proprietor and the worker or employee.

(2) For the purposes of this Section, "Transportation business" means a transport service engaged in carriage of passengers, animals or goods from one place to another taking rents in a vehicle operated by means of mechanical device.

✂ (3) The Provision set forth in this Section and the provisions of Section 4,10,72,73 and Chapters 4 and 8 shall be applicable in respect of the Enterprise related with transportation business where less than ten workers or employee are engaged at work.

48. Business of Hotel, Travel, Trekking, Adventure, Rafting, Jungle Safari etc:

The following special provisions shall apply in respect of the business of hotel, travel, trekking, adventure, rafting, jungle safari, etc:-

(a) Females may be engaged in work: Females may be deployed in works in a hotel or travel agency at any time by making special arrangements of safety according to the nature of works.

(b) Safety of Workers or Employees engaged in Trekking or Rafting:

(I) The Proprietor shall compulsorily have to make arrangement, as per necessity, for personal protective equipment and necessary clothing, shoes and other articles for protection of health of the workers or employees engaged in trekking rafting or other adventures sports.

(II) It shall be the responsibility of the concerned Proprietor to rescue or cause to rescue operation as may be required.

(c) Accident Insurance: The Proprietor shall insure all workers and employees engaged in trekking, rafting jungle safari or other adventure sport against accident in the way as prescribed.

(d) Payment of Field allowance etc: The Proprietor shall have to provide field allowance, fooding allowance or other similar allowance while sending workers or employees engaged in trekking, rafting or other similar adventure sport to the working place and in case such allowance have been provided no additional overtime shall be paid as provided in this Act.

(e) Provisions for First Aid: The Proprietor shall have to avail adequate supply of medicines and materials of first-aid while sending the workers or employees engaged in trekking rafting or other adventures sport to the work-sites.

49. Applicability of other Provisions: The provisions of this Act and the Rules made hereunder shall also be applicable in respect of the Enterprises mentioned in Sections 45, 46, 47 and 48, in addition to the provisions specified in this chapter.

CHAPTER – 8

Conduct and Punishments

50. Type of Punishment: The Proprietor may punish any worker or employee performing misconduct with any of the following punishments.

- (a) To reprimand,
- (b) To withheld annual grade increments,
- (c) To suspend, or
- 27
- (d) To dismiss from service.

51. Misconduct: For the purpose of Section 50, the following conduct of the worker or employee shall be deemed as misconduct:

(a) In case of any bodily harm or injury or fetters or detains to the Proprietor, Manager or Employee of the Enterprise with or without use of arms or injury or causes any violence or destruction or assault within the Enterprise in connection with the labour dispute or on any other matter;

(b) In case creates or causes to create any stir within the Enterprise with an intention or affecting the production process or service works of the Enterprise, or prevents the supply of food and water, or connection of telephone and electricity, or obstructs the entry into or movement within the Enterprise;

♣ (c) In case steals the property of enterprise;

✂ (C1) If commits embezzlement in the transactions of the Enterprise,

✂ (C2) If absents in the Enterprise more than a consecutive period of thirty days without notices.

(d) In case accepts or offers bribes;

(e) In case imprisoned on being convicted on a criminal offence Involving moral turpitude.

(f) In case participates or compels any other person to participate in any authorized strike or in a strike which is declared illegal;

(g) In case strikes without fulfilling the legal requirements or intentionally slow down the work against interests of the Enterprise;

(h) In case intentionally destroys any property of the Enterprise, or causes damage thereon or takes and uses it outside the Enterprise or gives its use to unauthorized person without permission of the competent person;

(i) In case intentionally violates intentionally the orders or directives issued under this Act or the Rules made hereunder frequently, Or the Bylaws made by the Enterprise, or misbehaves with the customers of the Enterprise;

(j) In case remains absent from the work frequently without obtaining permission or comes late after the regular time;

♣ (k) If it is certified by a doctor that one has come to the duty after consuming or has consumed alcoholic substances during the working time.

(l) In case performs any activity with a motive of causing damage to secrecy relating to special technology of the Enterprise, ⚡ Production Formula or;

(m) In case abuses any items which has been kept for the interest, Health and safety of the workers or employees or causes damage to them intentionally;

52. Punishment: (1) Any worker or employee, who commits any misconduct as mentioned in ♣ Clauses (i), (j) or (m) of Section 51 may be reprimanded.

(2) Any one who commits any misconduct as mentioned in ♣ Clause (C1), (f), (g) or (n) of Section 51, may be punished withholding the annual grade of remuneration.

(3) Anyone who commits any misconduct mentioned in ♣ Clause (b), (d) or (k) of Section 51 may be suspended for up to three months.

(4) Anyone who commits any misconduct mentioned in ♣ Clauses (a), (c), (c2) (e) or (l) of Section 51 may be dismissed from service.

(5) Any workers or employee, who has been punished twice for any offence of misconduct according to Sub-section (1), (2) or (3) commits again the same offence, may be dismissed from service. ⚡ Provided that the punishment received under Sub-section (1) shall not be counted after the expiry of three years.

⚡ (6) Nothing contained in this Section shall be deemed to have barred the Manager from imposing a punishment lesser than those prescribed under this Section.

53. Procedures: ♣ (1) Before imposing punishments under Section 52 upon a permanent worker or employee, a notice of at least seven days with setting forth in a obvious manner the fact of the misconduct and the punishment as may be imposed if such fact is proven, shall have to be given to such a worker or employee to submit his/her clarification thereof. Provided that, after the expiry of two months from the date of such misbehavior, no action may be taken in this respect.

♣ (2) If the worker or employee does not submit his/her clarification within the time limit as referred to in Sub-section (1) or the clarification so submitted is not satisfactory, he/she may be punished under Section 52 for the misconduct. Provided that, in making decision in respect of imposing such punishment, it shall have to be made within two months from the date of seeking clarification.

(3) If the notice send to the concerned worker or employee is not accepted by him/her or, in case of his/her absence, if the notice is sent by post under registered post at his/her address and a copy of such notice is kept in the public notice board of the Enterprise, and the service document is prepared on the witness of at least three

person and if a copy of such notice is also provided to the concerned Labour Office, the concerned worker or employee shall be deemed to have been duly provided of such notice.

54. Department of Labour may dismiss from service: (1) The Department of Labour

♣ may impose any punishment pursuant to Section 52 to any worker or employee who causes violence illegally in any Enterprise, other than his/her Enterprises or in any government office, or if he/she directly or indirectly encourages others to do so.

(2) In case any worker or employee has ♣ to punish, the procedures as laid down in Section 52 shall have to be followed.

55. Misconduct of Proprietor or Manager: (1) If the Proprietor or Manager commits any of the following acts, it shall be deemed as misconduct:

(a) In case contravenes or disobeys this Act or the Rules made hereunder or any order or directive issued thereunder.

(b) In case the Enterprise is closed or the workers or employees are retrenched in contravention of this Act;

(c) In case a lock-out declared illegal is continued;

(d) In case any worker or employee is assaulted or manhandled; or

(e) In case performs any activity to incite or provoke the workers or employees in order to create dissension or enmity among the workers or employees.

♣ (2) The concerned Labour Office may fine the Manager or proprietor, who conducts any misbehavior under Sub-section (1) above, upto ten thousand rupees, may make available proper compensation if any damage or loss is caused to any worker or employee and may give an order to reinstate the worker or employee retrenched pursuant to Clause (b) of Sub-section (1) above. (3) ⚡

56. Punishment for Obstruction to Government Employee : In case any person obstructs to any government employee engaged in any function under this Act, or refuses to submit any Register Book or any document required to be submitted to him/her, or fails to produce or presents to the examination of any worker or employee ordered to be produced or examined by him/her, the Labour Office may punish such person with a fine ♣ upto Five Thousand Rupees.

57. Other Penalties: Except those punishments as provided in other Sections of this Act, any person contravening any other matter mentioned in this Act or the Rules made hereunder or the written order or directives issued thereunder, the Department of Labour may punish, for each offence and according to the gravity of such offence, a fine from upto Ten Thousand Rupees, and if such offence is committed (continued) again after it is proven, he/she may be punished with an additional One Hundred Rupees for each day, except those punishment as mentioned in other sections of this Act.

58. Quashing of Illegal Acts : Except as provided to the contrary in this Act or in the Rules made hereunder, if any activity contrary to this Act or the Rules made hereunder has been performed such activity shall be quashed by the order of the Department of Labour.

59. Instituting of case and Limitation : (1) Any case relating to the offence punishable under this Act may be instituted only on the complaint lodged by the Labour Office or a person authorized by such office or by the aggrieved or the concerned person or the concerned Trade Union.

(2) Any case relating to the offenses punishable under this Act shall have to be instituted within three months thereof.

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(3) In case any particular authority of punishment has been specified under various Section of this Act in respect of trial of any offence committed under this Act, the case relating to such offence shall be lodged before such authority and, excepting thereto, all other cases relating to other offence lodged before Labour Court.

60. Appeal: Any party not satisfied with any punishment awarded under this Chapter may file an appeal within thirty five days from the date of such punishment or receipt of order in the following manner -

(a) At the Court of Appeal against the orders of Government of Nepal or Department of Labour;

(b) At the Court of Appeal in respect of the case tried and decided in original jurisdiction by the Labour Court;

(c) At the concerned Labour Court in respect of the punishment or order given by the Proprietor or other office or Authority.

61. Realizations of Fines: Fines, Punishments awarded under this Act shall be realized in the manner as governmental dues under prevailing laws.

CHAPTER – 9

Committee, Officers and Other Provisions

62. Central Labour Advisory Board: (1) Government of Nepal may constitute a Central Labour Advisory Board consisting of representatives from workers or employees, Proprietors and Government of Nepal to receive necessary opinion and advice in relation to formulating policies and drafting of laws with regards to labour.

(2) The method of composition of Board pursuant to Sub-section (1) its powers, functions and duties shall be as prescribed.

(3) The Board may regulate the procedures of the meeting itself

63. Labour Relation Committee: (1) The Proprietor shall have to constitute a Labour Relation Committee in each Enterprise in order to create amicable atmosphere between the workers or employees and the management and to develop healthy labour or industrial relation on the basis of mutual participation and co-ordination.

(2) The method of composition of the Committee pursuant to Sub-section

(1), its powers, functions and duties shall be as prescribed.

(3) The committee constituted as per Sub-section (1) may regulate its own procedures.

64. Appointment of Labour Officer: Government of Nepal by publishing a notice in the Nepal Gazette may appoint one or more Labour Officers, as per necessity or designate any other officer to perform the functions of a Labour Officer for one region/sector.

65. Powers of Labour Officer : (1) The Labour Officer shall have the following powers –

(a) To enter into the premises of the Enterprise as per necessity;

(b) To examine the documents and registers of the Enterprise relating to workers and employees;

(c) To function or advice as per necessity for improving labour relations;

(d) To attempt for solving disputes arising between workers or employees and the Proprietor;

(e) To implement welfare provisions, if it does not exist and where if exist, to supervise whether or not it is operated property;

(f) To supervise the implementation of minimum remuneration prescribed by Government of Nepal;

(g) To record statement, of anybody to fulfil the objectives of this Act, as per necessity;

(h) To Performs tasks of the Factory Inspector in his/her absence, except technical tasks; and

(i) To perform other tasks as per the directives of Government of Nepal and Department of Labour.

(2) Other powers, functions, and duties of the Labour Officer shall be as prescribed.

66. Appointment of Factory Inspector: Government of Nepal may, by a publishing a notice in Nepal Gazette, appoint one or more Factory Inspector, as per necessity for one region or may appoint one Chief Factory Inspector for whole of Nepal.

- 67. Powers of the Factory Inspector:** (1) The Factory Inspector shall have the following powers –
- (a) To enter into the premises of the factory as per necessity;
 - (b) To examine building, land, plant, machine, health and safety features of the factory, to collect the samples of finished or semi-finished materials used in the factory and to examine them or caused to be examined, to inspect the registers and document relating to the factory and, if necessary, to record statements of any person, as per necessity;
 - (c) To examine the boilers and pressure vessels and to permit the operations thereof;
 - (d) To provide necessary advice and assistance to the Proprietor on making arrangements of training of workers or employees;
 - (e) To exercise the powers, functions and duties to the Labour Officer during this absence; and
 - (f) To perform other tasks as per the directives of Government of Nepal and Department of Labour.
- (2) Other powers, functions and duties of the Factory Inspector shall be as prescribed.
- 68. Welfare Officer:** (1) One welfare Officer shall have to be appointed in Enterprise where two hundred fifty or more workers or employees are engaged and one additional Assistant Welfare Officer shall have to be appointed where there are more than one thousand workers or employee.
- (2) In the enterprise where there are less than two hundred fifty workers or employees, the Proprietor may designate or appoint any officer of the Enterprise as the Welfare Officer.
- (3) Where the Welfare Officer and Assistant Welfare Officer are appointed pursuant to Sub-section (1) the Department of Labour shall be informed of such appointment.
- (4) The powers, functions and duties of the Welfare Officer and Assistant Welfare Officer appointed or designated, pursuant to Sub-section (1) of (2) shall be as prescribed.
- 69. Notice to be provided of establishment of Enterprise:** (1) If any Enterprise is to be established or constructed or expanded in any building or land, the Proprietor shall submit the particulars to that effect as prescribed, to the Labour Office.
- (2) The concerned Labour Office may after examination of the particulars received pursuant to Sub-section (1), if deemed necessary to make certain changes on the particulars in view of health, safety and environment, direct the enterprise to do so and it shall be the duty of the concerned Proprietor to follow such directive.
- 70. Information to be provided by Proprietor:** (1) The Proprietor shall inform in writing the concerned Labour Office including with the prescribed particulars, fifteen days in advance where any new house or land has to be possessed or used by an Enterprise.
- (2) The Proprietor Manager shall inform the Labour office within seven days, from the date of assuming his/her office for the first time.
- 71. Notices and Posters:** The Labour Officer or Factory Inspector may issue directives to the Proprietor or Manager of the Enterprise to display the notices and posters relating to health, safety and welfare provisions of the workers as provided in this Act or Rules made hereunder at places in an easily readable and understandable manner.

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CHAPTER – 10

Settlement of Labour Dispute

- 72. Establishment of Labour Court:** (1) Government of Nepal shall, establish Labour Court by publishing a notice in Nepal Gazette. The Jurisdiction and the location of such court shall be as prescribed in such notice.
- (2) The Procedure of the Labour Court constituted under Sub-section (1) shall be as prescribed.
- (3) Notwithstanding anything contained in Sub-section (1) and (2) until the constitution of the Labour Court, all functions to be performed by the Court of Appeal.
- 72a Proceedings May Be Initiated in Contempt:** The Labour Court may initiate proceedings against its contempt and, if it holds that contempt has been committed, may punish the accused with a fine of upto Five Thousand Rupees or imprisonment of upto two months or both punishments.
- Provided that, if the accused submits an apology to the satisfaction of the Court, the Court may either pardon him/her or, if a sentence is already imposed, remit or commute the sentence or hold the execution of the sentence on condition fixed by the Court and may issue order not to execute the sentence if such condition is fulfilled.
- 73. Procedures Relating to Personal Claims or Complaints:** (1) If any one or more workers or employees have any personal claim or complaint against Proprietor

relating to the service, the concerned worker or employee may file it in writing with the concerned Proprietor.

(2) Upon receipt of the claim or complaint as per Sub-section (1), the Proprietor shall have to discuss on it ♣ with the concerned worker or employee within a fifteen days and settle the problem.

(3) If the Problem, could not be solved through the discussion held as per

✂ Inserted by the First Amendment.

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Sub-section (2), the worker or employee may file a petition at the concerned Labour Office specifying clearly their claims.

(4) The Labour Office shall held a discussion between the Proprietor and the worker or employees and solve the dispute, within fifteen days of the receipt of a claim pursuant to Sub-section (3).

(5) The Chief of concerned Labour Office shall have to dedide on the dispute within seven days in case the problem could not be solved as pre Sub-section (4).

(6) Any of the parties may, appeal to the Labour Court within thirty five days from the date of receipt of notice of the decision in case not being satisfied with the decision made pursuant to Sub-section (5).

74. Procedures Relating to Submission of Claims of Collective Dispute: (1) The claim relating to collective right, interest or privilege shall have to be presented in writing to the concerned Proprietors signed by at least fifty one percent of the concerned workers or employees and in the claims their representatives shall have to be nominated and the claim shall be presented through such representatives.

(2) Upon receipt of the claim relating to the dispute as per Sub-section (1), the Proprietor shall hold bilateral discussion with the representatives as mentioned in the same Sub-section and solve the dispute within twenty-one days and shall enter into an agreement.

(3) If the dispute could not be solved as per Sub-section (2), the dispute shall be solved within fifteen days by holding bilateral discussion in the presence of Labour Office.

(4) If the dispute could not be solved through the bilateral discussion held as per Sub-section (3), the dispute may be referred to a mediator appointed, with mutual consent of proprietor and the workers and employees, or if no such mediator could be appointed, with mutual consent of proprietor and the workers and employees, or if no such mediator could be appointed, to a tripartite committee constituted, with consent of both parties, by Government of Nepal having equal

♣ Amended by First Amendment.

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representation from the workers or employees, the Proprietor and the government.

(5) The mediator or the committee appointed as per Sub-section (4) shall decide the dispute within fifteen days.

(6) Any parties if not satisfied with the decision made pursuant to Subsection (5), may appeal to Government of Nepal within thirty five days from the date of receipt of notice of the decision.

✂ (7) If the mediator or the Committee does not make a decision within the time-limit as referred to in Sub-section (5) or, in case where an appeal is filed before Government of Nepal pursuant to Sub-section (6), a decision thereon is not made by Government of Nepal within sixty days from the date of filing such appeal, the workers or employees may strike by following the procedures set forth in Section 76.

75. Prohibition to Claim: Notwithstanding anything mentioned here above, the following demand or claim shall not be allowed to submit –

- (a) Which is contrary to the Constitution of Nepal;
- (b) Which would affect other's interest due to being based on untestified or baseless allegation;
- (c) Matter which is prejudicial to the personal conduct of any worker or employee;
- (d) Matters unrelated to the Enterprise; and
- (e) Where a period of two years has not elapsed since the date of last collective agreement.

76. Notice of Strike to be Provided: In case the demands are not solved through the process mentioned in Sub-section (3) of Section 73 the ♣ workers and employees

wish to strike in the Enterprise, a notice in writing stating the claims and their rationale, including with a resolution passed by at least sixty percent of the total workers and employees through secret ballot, shall have to be provided to the

✂ Inserted by the First Amendment.

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concerned Proprietor thirty days in advance and an information thereof shall also be given to the Department of Labour, concerned Labour Office and the local administration and a strike may be started thereafter only.

77. Lock Out: (1) If a strike has been started or continued without giving prior notice as mentioned in Section 75 or if the collective dispute is not solved through the process mentioned in Sub-section (3) of Section 73, the Proprietor may declare a lock-out of the Enterprise after submitting the justifications with its rationale and obtaining the approval of Government of Nepal.

(2) Before declaring a lock-out as per Sub-section (1), the Proprietor shall issue a notice for the information ♣ of workers and employees seven days in advance specifying the date of effecting the lock-out and announcing that the Enterprise shall be locked-out if the strike is not called off.

(3) If there is a situation with possibility of damage to the Enterprise through riot, violence, destruction, etc ♣ from the workers and employees during the strike the Proprietor may cause lock-out even without following the process of Subsection (1) and (2). If a lockout is made in the Enterprise in such situation, the Labour office and the Department of Labour shall be informed about the lock-out with reasons within three days.

(4) Government of Nepal may at any time declare the lock-out of an enterprise as void, in case it appears irrational or it is likely to cause a breach in law and order conditions of the country or it is contrary to the economic interests of country.

78. Prohibition to Strike: (1) Notwithstanding anything mentioned hereinabove in this Act, if any existing law has prohibited the strike to be done by workers or employees the workers or employees of such Enterprise shall not be entitled to go on strike.

(2) Any employee appointed or deputed on the duty of control, security and

♣ Amended by First Amendment.

♣ Amended by First Amendment.

♣ Amended by First Amendment.

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guard of any Enterprise shall also not be entitled to go in a strike.

(3) The employees prohibited to strike as per Sub-section (1) and (2) may submit their genuine demands to the Proprietor. If such demands are not fulfilled and a dispute has been created Government of Nepal shall constitute a tribunal for solving it. The decision of the Tribunal shall be final and binding upon both of the parties.

(4) No strike or lock-out may be done during the proceeding under Section 73.

79. Legal Validity of Collective Agreement: (1) Any agreement entered into between the workers or employees and the Proprietor in respect solving the dispute shall be deemed to be of status equal to law upon the concerned parties and such agreement shall have to be registered in the Labour Office.

(2) An agreement registered as per Sub-section (1) shall come to force from the date of mentioned in the agreement, if such date is mentioned therein, and if no such date is mentioned in the Agreement, it shall come into force from the date in which it is registered in Labour Office. No demand in relation to the provisions mentioned in such agreement shall be permitted to put again for two years from the date of its commencement.

✂ **79A. Implementation of Collective Agreement:** (1) In case the collective agreement entered into pursuant to this Act is not implemented, the concerned party may lodge a complaint in the Labour Office.

(2) If any complaint is lodged under Sub-section (1) above, the Labour Office may implement the collective agreement by following, as required the procedures set-forth in Sub-section (5) of Section 25 as well.

80. Order may be issued to End the Strike: If any strike announced to be commenced or already commenced as per this Act or the Rules made hereunder has created an extraordinary situation, which is likely to cause a breach in the law and order

✂ Inserted by the First Amendment.

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situation of the country or would be contrary to the economic interest of the country, Government of Nepal may issue an order at any time to end such strike or any strike commenced in the essential services prescribed by the prevailing law.

81. Termination of Lock-out Period: Where any Enterprise has been locked-out, if the workers or employees are present for work or here the Proprietor has declared the ending of lock-out or where Government of Nepal has declared such lock-out as illegal as per Section 76 or has order to end the strike under Section 79, such lockout shall be deemed to have been ended from the date of the declaration making it illegal or from the date so ordered.

82. Remuneration for the Period of Lock-out: The remuneration for the period of lock-out declared illegal shall have to be paid to the workers or employees.

83. Special Provisions for Settlement of Dispute: (1) If Government of Nepal deems that a dispute between workers or employers and the Proprietor has arisen or there is possibility of arising, Government of Nepal may constitute a committee of one of more persons, or tripartite committee consisting of representatives of the Proprietor, the workers or employees and Government of Nepal in order to resolve the dispute. Such committee may regulate its own procedures.

(2) The decision of Government of Nepal made on the report of the committee constituted pursuant to Sub-section (1) shall be final and binding to both of the parties.

(3) The committee constituted pursuant to Sub-section (1) shall have the powers of examining the evidence and witnesses, of requiring the presence of witnesses and requiring the production of documents as per prevailing laws similar to a court, in relation to the dispute.

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CHAPTER – 11

Miscellaneous

84. Special Powers of Government of Nepal: ♣ (1) Notwithstanding anything contained elsewhere in this Act, Government of Nepal may, in consultations with the Central Labour Advisory Board and by publishing a notification to that effect in the Nepal gazette, grant exemption from application of any matter provided for in this Act in respect of any Enterprise.

(2) Government of Nepal may, by publication of a notice in the Nepal Gazette, fix the minimum remuneration and certain facilities prescribed in this Act in relation to the Enterprises where less than ten workers or employees are working.

✂ **84A. Special provisions respect of the Workers and Employees Engaged Outside the Enterprises:** (1) The person or institution, who engages the workers and employees of outside the Enterprises at work, must pay the remuneration for the day engaged at work in accordance with the agreement if such agreement in writing has been concluded between the two parties and within seven days if there is no such agreement.

(2) If any person or institution does not make payment of remuneration to any worker or employee or a delay is caused in such payment, the worker or employee who is aggrieved by such act may file a complaint before the Labour Office, in the districts where Labour Offices are located, and before the Chief District Officer, in the districts where Labour Offices are not located, in order to get the remuneration to be received by him/her.

(3) If any complaint is filed under Sub-section (2) above, the concerned Labour Office or Chief District Officer shall have to require such person or institution who has not paid the remuneration to be present at Office within fifteen days except the time period required for journey and shall have to recover and make

♣ Amended by First Amendment.

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available the remuneration to be received by such worker or employee by following the procedures as set-forth in Sub-section (5) of Section 25

85. Powers to Remove Obstacles: In case any difficulty arises while executing this Act Government of Nepal by publishing an order in Nepal Gazette may remove such difficulties.

86. Powers to Frame Rules: (1) Government of Nepal may frame Rules to implement

the objectives of this act.

(2) Without prejudice to the generality of the powers conferred by Subsection (1), such rules particularly, may provide for any of the following matters –

- (a) Matters relating to the safety of the workers;
- (b) Conducting of operation of employment service;
- (c) Condition relating to overtime works;
- (d) Conducting of operation of training in order to enhance the efficiency of workers and employees;
- (e) Procedures relating to Labour Court;
- (f) Compensation to be paid to workers and employees;
- (g) Compilation of statistics of workers and employees;
- (h) Compilation of information to labour market.

87. **Bylaws to be availed:** Each Enterprise shall have to send to the concerned Labour Office a copy of Bylaws framed by its in respect of conditions of service of its workers and employees.

88. **Provisions Relating to Enterprise owned by Government of Nepal:** With respect to the terms and conditions of service of the employees of the Enterprises owned wholly or partly by Government of Nepal, the provisions of the Rules or Bylaws relating to the terms and conditions of services of the concerned Enterprises shall apply and in respect of the workers thereof, the provisions of this Act shall apply.

✂ Inserted by the First Amendment.

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89. **Directive of Government of Nepal:** (1) Government of Nepal may issue necessary directives to the Proprietor for implementing the objectives of this Act.

♣ (2) Government of Nepal may impose a fine of upto twenty thousand rupees in each time on the Manager who does not comply with the directions issued under Sub-section (1) above.

90. **Delegation of Authority:** Government of Nepal may delegate the powers conferred to it by this Act to any Officer by publishing a notice in the Nepal Gazette.

91. **Prevalence of this Act:** This Act shall apply on matters mentioned herein and in other the prevailing laws shall apply.

92. **Repeal and Saving:** (1) The Factory and Factory Workers Act, 2016 (1959) is, hereby, repealed.

(2) All acts and proceedings performed or executed under The Factory and Factory Workers Act, 2016 shall be deemed to have been performed or executed under this Act.

Note:

The following word has been changed by first Amendment-
"Remuneration" instead of "salary"

♣ Amended by First Amendment.

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Child Labor (Prohibition and Regulation) Act, 2056 (2000)

Date of authentication and publication

7 Ashar 2057 (June 21, 2000)

Act No. 1 of the year 2057 B.S.

An Act to provide for Child Labor (Prohibition and Regulation)

Preamble: Whereas, it is expedient to prohibit engaging children in factories, mines or

similar risky activities and to make necessary provisions with regard to their health,

security, services and facilities while engaging them in other activities;

Be enacted by Parliament in the 29th year of reign of His Majesty's the King Birendra Bir Bikram Shahdev.

Chapter - 1

Preliminary

1. Short Title and Commencement: (1) This Act shall be called "The Child Labor (Prohibition and Regulation) Act, 2056."

(2) This Act shall come into force on such date as Government of Nepal may appoint by a notification published in the Nepal Gazette.

2. Definition: Unless the subject or context otherwise requires, in this Act, –

(a) "Child" means a minor not having completed the age of sixteen years.

(b) "Enterprise" means any factory, organization, association, firm, company or their groups established as per prevailing law with objectives of operating any industry, business or service.

(c) "Entrepreneur" means the person taking final decision with regard to an activity of an enterprise and the word also includes the person appointed as chief of any part or unit of any enterprise having powers to exercise final authority or having final responsibility thereof.

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(d) "Day" means a period of twenty-four hours beginning from midnight.

(e) "Week" means a period of seven days beginning from the midnight of Saturday or the midnight of any other day prescribed by the Department of Labor.

(f) "Medical Practitioner" means a medical practitioner prescribed by the Department of Labor.

(g) "Certificate of Qualification" means the certificate given pursuant to Sub-section (4) of section 7.

(h) "Prescribed" or "as prescribed" means prescribed or as prescribed in the Rules framed under this Act.

Chapter - 2

Prohibition on Engaging a Child in works

3. Child not to be Engaged in work: (1) No child having not attained the age of 14 years shall be engaged in works as a laborer.

(2) No child shall be engaged in any risky business or work referred to in the schedule.

4. No Child to be Engaged in Works Against Will: No child shall be engaged in works as a laborer against his/her will by way of persuasion, misrepresentation or by subjecting him/her to any influence or fear or threat or coercion or by any other means.

Chapter - 3

Provisions Relating to Engaging a Child in Works

5. Information to be Given: (1) Entrepreneur who has been operating risky business or activities referred to in the schedule at the commencement of this Act shall, within thirty days of the date of commencement of this Act, furnish written information to the labor office having mentioned the following particulars;–

(a) Name and Address of the Enterprise;

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(b) Name and Address of the Entrepreneur;

(c) Nature of the business or activities conducted by the

Enterprise, and

(d) Other particulars as prescribed.

(2) After the commencement of this Act, the Entrepreneur who operates risky business or activities referred to in the schedule shall, within fifteen days of the date of operation of such business or activities, furnish the information referred to in Sub-section (1) to the labor office.

6. Approval to be obtained: (1) In case any Enterprise has to engage a child in works, an approval has to be obtained from the concerned labor office or any authority or official prescribed by that office and from the father, mother or guardian of the child.

Provided that no approval pursuant to this Section shall be required to engage a child in cultural programs or any activity for greater protection of interest of children to be organized by an academic institution approved by Government of Nepal or by an organization established according to the prevailing law for protection of rights or interests of children.

(2) While giving approval to engage a child in work pursuant to Subsection (1), the labor office may impose appropriate conditions with the objective of developing skills and qualifications of the child or providing education to the child, and the Enterprise shall have to follow it.

7. Qualification Certificate to be Obtained: (1) Prior to engage a child as a labor in an enterprise, certificate of qualification has to be obtained that the child is able to work as a labor.

(2) In order to obtain the certificate pursuant to Sub-section (1) the enterprise shall submit an application at the labor office stating the nature of the work that the child has to carry out and his/her age.

(3) Upon receipt of the application pursuant to Sub-section (2), the labor office shall cause to conduct medical test of the child by a medical practitioner.

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(4) The medical practitioner shall upon conducting medical test by the medical practitioner pursuant to Sub-section (3), give qualification certificate in the prescribed format if such child seems fit for the work.

(5) The qualification certificate given pursuant to Sub-section (4) shall be valid for one year.

(6) The enterprise shall cause to renew the qualification certificate given pursuant to Sub-section (5) by the medical practitioner.

(7) The enterprise shall borne the fees to be paid for obtaining and renewing the qualification certificate .

(8) The enterprise engaging the children attaining the age of fourteen years at the commencement of this Act shall, within thirty days from the date of commencement of this Act, have to obtain the qualification certificate.

8. Particulars to be Given: (1) The Enterprise engaging a child in work after commencement of the Act shall, within fifteen days from the date of engaging in the work, submit the following particulars along with photograph of such a child to the labor office: –

(a) Name and address of the enterprise,

(b) Name and address of the entrepreneur,

(c) Date of operation of the enterprise,

- (d) Business or work conducted by enterprise,
- (e) Name, address and age of the child,
- (f) Name and address of the father, mother or guardian of the child,
- (g) Date of engaging the child in work,
- (h) Nature of the work the child has to do,
- (i) Amount of remuneration and other benefits the child is entitled to,
- (j) Qualification Certificate of the child, and

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- (k) Other Particulars as Prescribed.
- (2) The enterprise engaging a child having attained the age of fourteen years at the commencement of this Act shall submit the particulars pursuant to Sub-section (1) to the labor office within thirty days from the date of commencement of this Act.

9. Time to Engage in works: (1) No child shall be engaged in work for a period after six o'clock at the evening to six o'clock at the morning.

(2) No child shall be engaged in work for more than six hours in a day and more than thirty-six hours in a week either giving or not giving additional remuneration.

(3) A child is entitled to a leisure of half an hour after engaging in the work for a consecutive period of three hours and one-day leave given in every week.

(4) The half an hour leisure time for each day and one day leave in every week shall be deemed to be the duration of work.

(5) A child already engaged in one enterprise shall not be caused to engage in the work of another enterprise on the same day.

10. Remuneration and Benefits: (1) An enterprise engaging children as workers

shall not discriminate on the grounds of sex, race, religion, caste or tribe and shall provide equal remuneration and benefits for the same works.

(2) Remuneration, allowances, leaves and other benefits to be entitled to a child engaged in an enterprise shall be as prescribed.

(3) No entrepreneur shall engage a child in his/her enterprise providing less remuneration and benefits than the remuneration or benefits prescribed pursuant to Sub-section 2.

11. Provision Relating to Health and Safety of Child: The provisions to be made by an entrepreneur with regard to health and safety of the child engaged in an enterprise shall be as prescribed.

6

12. Disputes Relating to Age: (1) In case of dispute relating to age of a child engaged in an enterprise, his/her age as per the date of birth referred to in the birth registration certificate shall be deemed to be his real age.

(2) If any child is not having the birth registration certificate, the date determined upon examination by a medical practitioner shall be deemed to be his/her actual age.

13. Registration Book to be Maintained: (1) With regard to a child engaged in

an enterprise, the entrepreneur shall maintain a registration book having stated the following matters: –

- (a) Name and Address of the child,
 - (b) Name and Address of the father, mother or guardian,
 - (c) Date of birth or age,
 - (d) Date of engaging in work,
 - (e) Nature of work
 - (f) Time for engaging in work,
 - (g) Time for rest
 - (h) Remuneration and other benefits
 - (i) Other matters as prescribed
- (2) The registration book referred to in Sub-section (1) shall be given to the employees deputed from labor office as and when required.

14. Notice to be: The entrepreneur shall compulsorily affix notices in notice board

about the matters relating to works in which a child should not be engaged, the remuneration and benefits which a child is entitled to, facilities and weekly holiday and punishment to be imposed if child is engaged in works against this Act.

7

Chapter - 4

Provisions Relating to Inspection

15. Inspection and Action: (1) The labor office may depute an employee from time

to time to inspect an enterprise engaging children.

(2) The entrepreneur shall have to allow the employee deputed pursuant to Sub-section (1) to enter and to inspect in the enterprise at any time. The entrepreneur shall make available the matters required to examine and to know by the employee deputed for inspection in such a way.

16. Removing from Works: (1) While inspecting an enterprise pursuant to section

15, if a child is found to have been engaged against sections 3 or 4, the employee inspecting the enterprise shall immediately handover such child to his/her father, mother or guardian and order the entrepreneur to remove the child from works.

(2) If a child does not have father, mother or guardian or if none of them are traced, the entrepreneur shall have to keep such child in any child welfare home or any organization providing care for children.

(3) The enterprise shall have to bear costs to be incurred while handing over the child to his/her father, mother or guardian or the costs to be incurred while keeping the child in a child welfare home or organization as per rules of such home or organization.

17. Inspection Report: (1) The employee inspecting an enterprise pursuant to section 15 shall, within fifteen days from the date of completion of the inspection, submit report to the labor office having stated in detail as to whether any enterprise is engaging children against the provisions of this Act or not whether or not the provisions to be made pursuant to this Act or Rules framed thereunder including provisions of health and safety of the child engaged in works are made

the labor office may conduct inquiry as to whether or not the employee deputed in such a way has carried out works according to this section and whether the report submitted is realistic or not and may take action according to law if it is found otherwise.

8

(2) In case it is found, according to the report submitted pursuant to Sub-section (1), that any enterprise has not made the provisions to be made as per this Act or Rules made there under, the labor office may order the entrepreneur to make such provisions as soon as possible within the appropriate time-frame.

(3) The entrepreneur shall have to make provisions as per the order within the time-frame prescribed by the labor pursuant to Sub-section (2).

18. Suspension of Facilities: In case the concerned enterprise does not make necessary provisions as per the order given by the labor office pursuant to section 17, the labor office shall refer to in writing to the concerned agency to suspend the facilities to be given as per prevailing laws to the enterprise for the prescribed time.

(2) If it is referred to from the labor with regard to any enterprise pursuant to Sub-section (1), the concerned body shall suspend the facilities to such enterprise and given information thereof to the labor office.

Chapter - 5

Provision Relating to Punishment and Appeals

19. Punishment: (1) Whoever commits any act in contravention of Sub-section (1)

of section 3 shall be liable to a punishment of imprisonment of three months in maximum or a fine of Rs. 10,000/- in maximum or the both.

(2) Whoever commits any act in contravention of Sub-section (2) of section 3 and section 4 shall be liable to a punishment of an imprisonment of one year in maximum or a fine of fifty thousand rupees in maximum or the both.

(3) In case any entrepreneur commits any act in contravention to sections 6, 7, 9, 10 or 11, he/she shall be liable to the punishment of an imprisonment up to two months or a fine of five thousand rupees in maximum or the both.

(4) In case any entrepreneur commits any act in contravention of sections 5, 13 or 14, he/she shall be liable to a punishment of one month in maximum or a fine of three thousand rupees in maximum or the both.

9

(5) Whoever commits any act in contravention of this Act, except as referred to in Sub-sections (1), (2), (3) and (4) this section or the Rules framed under this Act, he/she shall be liable to a punishment of imprisonment of 15 days in maximum or a fine of one thousand rupees in maximum or the both.

(6) Whoever commits the same act again after having been punished pursuant to Sub-sections (1), (2), (3), (4) or (5), he/she shall be liable to double of the punishment referred to in the same Sub-sections.

20. Complaints and limitation: (1) With regard to an offence punishable under this Act, the following person or organization may file complaint at the concerned labor office: –

(a) Employees inspecting an enterprise pursuant to section 15,

- (b) Police of the concerned area,
- (c) The concerned child or his/her father, mother or guardian,
- (d) The concerned Village Development Committee /Municipality,
- (e) Trade union of enterprise level, or
- (f) Any agency or non-governmental organization established pursuant to prevailing law and engaged in protection of rights and interests of the child.

(2) With regard to an offence punishable under this Act, complaint shall be filed within one year from the date of commission of the act.

21. Power to Impose Punishment: (1) The labor office shall have powers to impose punishment pursuant to section 19 on persons violating this Act and Rules framed there under.

(2) While imposing punishment pursuant to Sub-section (1), if the labor office has to impose punishment of imprisonment, it shall refer the matter to the labor court and do according to the decision of the court.

22. Appeal: The person not satisfied with the punishment imposed by the labor office pursuant to section 21 may file appeal at the labor court within thirty five days from the date of order of the punishment.

10

Provided that in case of punishment of imprisonment, appeal shall be filed at the Appellate court.

Chapter - 6

Miscellaneous

23. Child Labor Prohibition Committee: (1) Government of Nepal shall form Child Labor Prohibition Committee in order to provide for health, safety, education, vocational training to children engaged in an enterprise; in order to provide for appropriate employment for children; to discourage to have children involved in works and to get necessary suggestions and opinions for prohibiting child labor.

(2) In such a committee, provision of appropriate representation of governmental and non-governmental organizations and experts engaged in child labor sector shall be made.

(3) The formation procedures, functions, duties and powers and procedures of the Child Labor Prohibition Committee shall be as prescribed.

24. Child Labor Prohibition Fund: (1) Government of Nepal shall form a Child

Labor Prohibition Fund for child working in an enterprise for their health, security, education, vocational training and for suitable employment of child to discourage to have children involved in works and to eliminate child labour.

(2) The following amounts shall be deposited in the Child Labor Prohibition Fund: -

- (a) Grants amount received from Government of Nepal,
 - (b) Grants, donation, fee and amount of assistance to be received from various national and international organizations and associations,
 - (c) Amounts to be received from other sources.
- (3) Amounts to be deposited in the Child Labor Prohibition Fund and

operation of the fund shall be as prescribed.

11

25. Directives May be Issued: (1) Government of Nepal may, in order to execute

objectives of this Act, issue necessary directives to the Entrepreneur, trade unions, child welfare homes and child care organizations for protection of rights and interests of the children.

(2) It shall be the duty of the all concerned parties to abide by the directives issued by Government of Nepal.

26. Alteration in Schedule: (1) Government of Nepal may add more risky jobs in

the schedule having published notice in the Nepal Gazette.

(2) While adding and risky job in the schedule, Government of Nepal may, if it deems fit, seek opinion of the Child Labor Prohibition Committee.

(3) After 30 days from the date of publication of the notice pursuant to Sub-section (1), the amendment shall be deemed to have been changed.

27. Power to Frame Rules: In order to enforce objectives of this Act, Government

of Nepal may frame necessary rules.

28. Repeal and Amendment: In the Labor Act, 2048, the following amendments

have been made.

(a) Clause (i) of section 2 is repealed.

(b) The words "of sixteen years" are substituted by removing the earlier words "of fourteen years of age"

(c) Sub-section (1) of section 5 has been repealed.

(d) After section 32, the following sections of section 32A and 32B are inserted: –

32A. Minor not to be engaged in Works without Adequate Guidelines or of

Vocational Training: (1) No minor shall be engaged in works without adequate directives about the concerned working areas or vocational training.

(2) Provisions with regard to adequate directives about the concerned working areas or vocational training to be given to minors pursuant to Sub-section

(1) shall be as prescribed.

12

(3) The entrepreneur engaging a minor in work against Sub-section (1) shall be liable to a punishment of imprisonment up to three months in maximum or a fine of ten thousand rupees in maximum or the both.

32B. Disputes Relating to Age: (1) In case a dispute arises with regard to age of a

minor engaged in an enterprise, the age as per the date of birth certificate of the minor shall be deemed to be his/her actual age.

(2) In case a minor does not have birth registration certificate after having carried out medical tests the age determined by a medical practitioner prescribed by the Department of Labor shall be deemed to be his/her actual age: –

(3) In the Children's Act, 2048 (1991)

- (a) Sections 17 and 18 have been repealed.
- (b) Chapter 5 has been repealed.
- (c) Words '17' and '18' appearing in Sub-section (1) and (6) of section 53 have been deleted.
- (d) Sub-section (10) of section 53 has been repealed.

13

Schedule -1

(Relating to Sub-section (2) of Section 3)

Risky Business or Works

- (a) Business relating to tourism including tourism, residence, motel, hotel, casino, restaurant, bar, pub, resort, skiing, guiding, water rafting, cable car complex, Pony trekking, mountaineering, hot air ballooning, parasailing, gulf course, polo, horseriding and so on;
- (b) Service-oriented business such as workshop, laboratory, animal slaughterhouse, cold storage and so on;
- (c) Public transport and construction business;
- (d) Works relating to manufacture of cigarette, *biri*; carpet, weaving, dying; wool cleaning; fabrics weaving, dying, washing and printing strips; leather tanning; cement manufacturing and packing; production, sale and distribution of matches, explosives and other flammable materials; production of beer, liquor and other drink items; production of soap; production of bitumen; production of pulp and paper; production of slate, pencil, insecticides, lubricating oils; collection of garbage; processing and electroplating; photo processing and works relating to rubber, synthetic, plastic, lid and mercury;
- (e) Works relating to water resources, air, solar power, coal, natural oil or gas, bio-gas or the like works relating to producing energy and its transmission and distribution;
- (f) Works relating to mines, mineral substances, exploration, processing and distribution of natural oil or gas.
- (g) Works relating to rickshaw and carts pulled by human beings.
- (h) Works relating to cutting machine.
- (i) Works to be done in underground, under water or in excessive height.
- (j) Works to be done having contact with chemical substances and
- (k) Other risky works or business prescribed by the prevailing laws.

Statutes / Acts (English Translation)

The word 'His Majesty' and 'Kingdom' and the statement regarding *prashasti* has been replaced or removed as per the spirit of the Interim Constitution of Nepal, 2063.

This English translation is unofficial. Nepali version published in Nepal Gazette will prevail in case of translation error.

Filter

#	Documents 	Year	Modified
1	Arbitration Act	2055 - 1999	06.10.2009
2	Audit Act	2048 - 1991	24.06.2009
3	Banking Offence and Punishment Act	2064 - 2008	24.06.2009
4	Banks and Financial Institutions Act	2063 - 2006	24.06.2009
5	Child Labor (Prohibition and Regulation) Act	2056 - 2000	24.06.2009
6	Children Act	2048 - 1992	24.06.2009
7	Citizenship Act	2063 - 2006	15.10.2009
8	Civil Aviation Authority Act	2053 - 1996	15.10.2009
9	Companies Act	2063 - 2006	15.10.2009
10	Competition Promotion and Market Protection Act	2063 - 2007	24.06.2009
11	Constituent Assembly Court Act	2064 - 2007	15.10.2009
12	Contract Act	2056 - 2000	26.06.2009
13	Copyright Act	2059 - 2002	15.10.2009
14	Customs Act	2064 - 2007	24.06.2009
15	Election Commission Act	2063 - 2007	13.10.2009
16	Electoral Rolls Act	2063 - 2006	26.07.2009
17	Electricity Act	2049 - 1992	24.06.2009
18	Electronic Transaction Act	2063 - 2008	15.10.2009
19	Environment Protection Act	2053 - 1997	24.06.2009
20	Export and Import (Control) Act	2013 - 1957	26.07.2009
21	Extradition Act	2045 - 1988	13.10.2009
22	Foreign Employment Act	2064 - 2007	24.06.2009
23	Foreign Investment and Technology Transfer Act	2049 - 1992	15.10.2009
24	Forest Act	2049 - 1993	26.07.2009
25	Human Rights Commission Act	2053 - 1997	26.07.2009
26	Human Trafficking and Transportation (Control) Act	2064 - 2007	26.07.2009
27	Immigration Act	2049 - 1992	15.10.2009
28	Industrial Enterprises Act	2049 - 1992	15.10.2009
29	Insolvency Act	2063 - 2006	24.06.2009

30 Insurance Act	2062 - 1992	24.06.2009
31 International Financial Transaction Act	2054 - 1998	24.06.2009
32 Local Self-governance Act	2055 - 1999	26.06.2009
33 Money Laundering Prevention Act	2063 - 2008	06.10.2009
34 Multimodal Transportation of Goods Act	2063 - 2006	06.10.2009
35 National Parks and Wildlife Conservation Act	2029 - 1973	06.10.2009
36 National Woman Commission Act	2063 - 2006	26.07.2009
37 Nepal Electricity Authority Act	2041 - 1984	13.10.2009
38 Nepal Rastra Bank Act	2058 - 2002	24.06.2009
39 Nepal Tourism Board Act	2053 - 1997	26.06.2009
40 Patent, Design and Trademark Act	2022 - 1965	15.10.2009
41 Prevention of Corruption Act	2059 - 2002	15.10.2009
42 Private Financing in Build and Operation of Infrastructures	2063 - 2006	24.06.2009
43 Privatization Act	2050 - 1994	24.06.2009
44 Public Procurement Act	2063 - 2007	15.10.2009
45 Recovery of Debts of Banks and Financial Institution Act	2058 - 2002	24.06.2009
46 Right to Information Act	2064 - 2007	26.07.2009
47 Secured Transaction Act	2063 - 2006	24.06.2009
48 Securities Act	2063 - 2007	24.06.2009
49 Telecommunication Act	2053 - 1997	24.06.2009
50 Treaty Act	2047 - 1990	15.10.2009
51 Water Resources Act	2049 - 1992	24.06.2009

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Seven Deadly Sins As per Gandhiji

Book Name Principle Centered Leadership

Author Stephen R. Covey

Publisher Simon & Schuster Ltd., West Garden Place,

"Dr. Stephen R. Covey - one of the world's leading management consultants and author of the best selling book The Seven Habits Of Highly Effective People - is co-chairman of Franklin Covey located in Salt Lake City, Utah in the U.S.A. Franklin Covey provides consultancy services to Fortune 500 companies as well as thousand of small and mid-size companies, educational institutions, government and other organisations world-wide. Their work in Principle Centered Leadership is considered to be an instrumental foundation to the effectiveness of quality, leadership, service, team building, organisational alignment and other strategic corporate initiatives.

Excerpts from Chapter 7 - Seven Deadly Sins - Page 87 to 93

Mahatma Gandhi said that seven things will destroy us. Notice that all of them have to do with social and political conditions. Note also that the antidote of each of these "deadly sins" is an explicit external standard or something that is based on natural principles and laws, not on social values.

Wealth Without Work

Pleasure Without Conscience

Knowledge Without Character

Commerce (Business) Without Morality (Ethics)

Science Without Humanity

Religion Without Sacrifice

Politics Without Principle

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Wealth Without Work

This refers to the practice of getting something for nothing - manipulating markets and assets so you don't have to work or produce added value, just manipulate people and things. Today there are professions built around making wealth without working, making much money without paying taxes, benefiting from free government programs without carrying a fair share of the financial burdens, and enjoying all the perks of citizenship of country and membership of corporation without assuming any of the risk or responsibility.

How many of the fraudulent schemes that went on in the 1980s, often called the decade of greed, were basically get-rich-quick schemes or speculations promising practitioners, "You don't even have to work for it"? That is why I would be very concerned if one of my children went into speculative enterprises or if they learned how to make a lot of money fast without having to pay the price by adding value on a day-to-day basis.

Some network marketing and pyramidal organizations worry me because many people get rich quick by building a structure under them that feeds them without work. They are rationalized to the hilt; nevertheless the overwhelming emotional motive is often greed: "You can get rich without much work. You may have to work initially, but soon you can have wealth without work." New social mores and norms are cultivated that cause distortions in their judgement.

Justice and judgement are inevitably inseparable, suggesting that to the degree you move away from the laws of nature, your judgement will be adversely affected. You get distorted notions. You start telling rational lies to explain why things work or why they don't. You move away from the law of "the farm" into social / political environments.

When we read of organisations in trouble, we often hear the sad confessions of executives who tell of moving away from natural laws and principles for a period of time and begin overbuilding, over borrowing, and over speculating, not really reading the stream or getting objective feedback, just hearing a lot of self-talk internally. Now they have a high debt to pay. They may have to work hard just to survive - without hope of being healthy for five years or more. It's back to the basics, hand to the plow. And many of these executives, in earlier days, were critical of the conservative founders of the corporations who stayed [Top](#) close to the fundamentals and preferred to stay small and free of debt.

Pleasure Without Conscience

The chief query of the immature, greedy, selfish, and sensuous has always been, "What's in it for me? Will this please me? Will it ease me?" Lately many people seem to want these pleasures without conscience or sense of responsibility, even abandoning or utterly neglecting spouses and children in the name of doing their thing. But independence is not the most mature state of being - it's only a middle position on the way to interdependence, the most advanced and mature state. To learn to give and take, to live selflessly, to be sensitive, to be considerate, is our challenge. Otherwise there is no sense of social responsibility or accountability in our pleasurable activities.

The ultimate costs of pleasures without conscience are high as measured in

terms of time and money, in terms of reputation and in terms of wounding the hearts and minds of other people who are adversely affected by those who just want to indulge and gratify themselves in the short term. It's dangerous to be pulled or lulled away from natural law without conscience. Conscience is essentially the repository of timeless truths and principles - the internal monitor of natural law.

A prominent, widely published psychologist worked to align people with their moral conscience in what was called "integrity therapy." He once told me that he was a manic-depressive. "I knew I was getting suicidal," he said. "Therefore, I committed myself to a mental institution. I tried to work out of it, neutralize it, until I reached the point where I could leave the hospital. I don't do clinical work now because it is too stressful. I mostly do research. And through my own struggle, I discovered that integrity therapy was the only way to go. I gave up my mistress, confessed to my wife, and had peace for the first time in my life. ""

Pleasure without conscience is one of the key temptations for today's executives. Sometimes on airplanes I'll scan the magazines directed at executives, noting the advertisements. Many of these ads, perhaps two-thirds of them, invite executives to indulge themselves without conscience because they "deserve it" or have "earned it" or "want it," and why not "give in" and "let it all hang out"? The seductive message is, "You've arrived. You are now a law unto yourself. You don't need a conscience to govern you anymore." And in some ads you see sixty-year-old men with attractive thirty-year old women, the "significant others" who accompany some executives to conventions. Whatever happened to spouses? What happened to the social mores that make cheating on spouses illegitimate behaviour?

Knowledge Without Character

As dangerous as a little knowledge is, even more dangerous is much knowledge without a strong, principled character. Purely intellectual development without commensurate internal character development makes as much sense as putting a high-powered sports car in the hands of a teenager who is high on drugs. Yet all too often in the academic world, that's exactly what we do by not focusing on the character development of young people.

One of the reasons I'm excited about taking the Seven Habits into the schools is that it is character education. Some people don't like character education because, they say, "that's your value system." But you can get a common set of values that everyone agrees on. It is not that difficult to decide, for example, that kindness, fairness, dignity, contribution, and integrity are worth keeping. No

one will fight you on those. So let's start with values that are unarguable and infuse them in our education system and in our corporate training and development programs. Let's achieve a better balance between the development of character and intellect.

The people who are transforming education today are doing it by building consensus around a common set of principles, values, and priorities and debunking the high degree of specialization, departmentalization, and [Top](#) partisan politics.

Commerce (Business) Without Morality (Ethics)

In his book *Moral Sentiment*, which preceded *Wealth of Nations*, Adam Smith explained how foundational to the success of our systems is the moral foundation : how we treat each other, the spirit of benevolence, of service, of contribution. If we ignore the moral foundation and allow economic systems to operate without moral foundation and without continued education, we will soon create an amoral, if not immoral, society and business. Economic and political systems are ultimately based on a moral foundation.

To Adam Smith, every business transaction is a moral challenge to see that both parties come out fairly. Fairness and benevolence in business are the underpinnings of the free enterprise system called capitalism. Our economic system comes out of a constitutional democracy where minority rights are to be attended to as well. The spirit of the Golden Rule or of win-win is a spirit of morality, of mutual benefit, of fairness for all concerned. Paraphrasing one of the mottos of the Rotary Club, "Is it fair and does it serve the interests of all the stakeholders?" That's just a moral sense of stewardship toward all of the stakeholders.

I like that Smith says every economic transaction. People get in trouble when they say that most of their economic transactions are moral. That means there is something going on that is covert, hidden, secret. People keep a hidden agenda, a secret life, and they justify and rationalize their activities. They tell themselves rational lies so they don't have to adhere to natural laws. If you can get enough rationalization in a society, you can have social mores or political wills that are totally divorced from natural laws and principles.

I once met a man who for five years served as the "ethics director" for a major aerospace company. He finally resigned the post in protest and considered leaving the company, even though he would lose a big salary and benefit package. He said that the executive team had their own separate set of business ethics and that they were deep into rationalization and justification. Wealth and

power were big on their agendas, and they made no excuse for it anymore. They were divorced from reality even inside their own organization. They talked about serving the customer while absolutely mugging their own employees. [Top](#)

Science Without Humanity

If science becomes all technique and technology, it quickly degenerates into man against humanity. Technologies come from the paradigms of science. And if there's very little understanding of the higher human purposes that the technology is striving to serve, we become victims of our own technocracy. We see otherwise highly educated people climbing the scientific ladder of success, even though it's often missing the rung called humanity and leaning against the wrong wall.

The majority of the scientists who ever lived or living today, and they have brought about a scientific and technological explosion in the world. But if all they do is superimpose technology on the same old problems, nothing basic changes. We may see an evolution, an occasional "revolution" in science, but without humanity we see precious little real human advancement. All the old inequities and injustices are still with us.

About the only thing that hasn't evolved are these natural laws and principles - the true north on the compass. Science and technology have changed the face of most everything else. But the fundamental things still apply, as time [Top](#) goes by.

Religion Without Sacrifice

Without sacrifice we may become active in a church but remain inactive in its gospel. In other words, we go for the social facade of religion and the piety of religious practices. There is no real walking with people or going the second mile or trying to deal with our social problems that may eventually undo our economic system. It takes sacrifice to serve the needs of other people - the sacrifice of our own pride and prejudice, among other things.

If a church or religion is seen as just another hierarchical system, its members won't have a sense of service or inner worship. Instead they will be into outward observances and all the visible accoutrements of religion. But they are neither God-centered nor principle-centered.

The principles of three of the Seven Habits pertain to how we deal with other people, how we serve them, how we sacrifice for them, how we contribute. Habits 4, 5 and 6 - win-win interdependency, empathy, and synergy - require tremendous sacrifice. I've come to believe that they require a broken heart and

a contrite spirit - and that, for some, is the ultimate sacrifice. For example, I once observed a marriage where there were frequent arguments. One thought came to me : "These two people must have a broken heart and a contrite spirit toward each other or this union will never last." You can't have a oneness, a unity, without humility. Pride and selfishness will destroy the union between man and god, between man and woman, between man and man, between self and self.

The great servant leaders have that humility, the hallmark of inner religion. I know a few CEOs who are humble servant leaders - who sacrifice their pride and share their power - and I can say that their influence both inside and outside their companies is multiplied because of it. Sadly, many people want "religion," or at least the appearance of it, without any sacrifice. They want more spirituality but would never miss a meal in meaningful fasting or do one act [Top](#) of anonymous service to achieve it.

Politics Without Principle

If there is no principle, there is no true north, nothing you can depend upon. The focus on the personality ethic is the instant creation of an image that sells well in the social and economic marketplace.

You see politicians spending millions of dollars to create an image, even though it's superficial, lacking substance, in order to get votes and gain office. And when it works, it leads to a political system operating independently of the natural laws that should govern - - that are built into the Declaration of Independence : "We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness "

In other words, they are describing self-evident, external, observable, natural, unarguable, self-evident laws: "We hold these Truths to be self-evident." The key to a healthy society is to get the social will, the value system, aligned with correct principles. You then have the compass needle pointing to true north - true north representing the external or the natural law - and the indicator says that is what we are building our value system on : they are aligned.

But if you get a sick social will behind the political will that is independent of principle, you could have a very sick organization or society with distorted values. For instance, the professed mission and shared values of criminals who rape, rob and plunder might sound very much like many corporate mission statements, using such words as "teamwork," "cooperation," "loyalty," "profitability," "innovation," and "creativity." The problem is that their value

system is not based on a natural law.

Figuratively, inside many corporations with lofty mission statements, many people are being mugged in broad daylight in front of witnesses. Or they are being robbed of self-esteem, money, or position without due process. And if there is no social will behind the principles of due process, and if you can't get due process, you have to go to the jury of your peers and engage in counterculture sabotage.

In the movie The Ten Commandments, Moses says to the pharaoh, "We are to be governed by God's law, not by you." In effect he's saying, "We will not be governed by a person unless that person embodies the law." In the best societies and organizations, natural laws and principles govern - that's the Constitution - and even the top people must bow to the principle. No one is [Top](#) above it.

The Seven Habits will help you avoid these Seven Deadly Sins. And if you don't buy into the Seven Habits, try the Ten Commandments.

Chapter 9 - Principle-Centered Power - Page 108

To some, these principles and the ideals they represent are readily attributable to notable leaders of distinction such as Mahatma Gandhi, but they are harder to find in the much more common experiences of everyday living. In response to this concern, Gandhi replied, "I claim to be no more than an average man with less than average ability. I am not a visionary. I claim to be a practical idealist. Nor can I claim any special merit for what I have been able to achieve with laborious research. I have not the shadow of a doubt that any man or woman can achieve what I have, if he or she would make the same effort and cultivate the same hope and faith.

A Personal Note - Page 323

Gandhi emphasized : "A person cannot do right in one department whilst attempting to do wrong in another department. Life is one indivisible whole. "



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THE FIVE AGGREGATES

This is the last in the series of twelve sessions that we have spent together, and in this last session we are going to look at the teaching of the five aggregates (Skandhas): Rupa, Vedana, Samjna, Samskara and Vijnana. In other words, we are going to look at the Buddhist analysis of personal experience or the Buddhist analysis of the personality.

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What we are going to do today is basically an extension and a refinement of what we were doing at the end of last week's lecture. There, we spent some time on the teachings of impermanence, suffering and notself. In the course of looking at the teaching on not-self, we have explored briefly how the analysis of personal experience can be carried out along two lines, and that is with regard to the body, and with regard to the mind. You will recall that we have examined the body and mind to see whether in either of them we can locate the self, and we have found that the self is not to be found in either of them. We have concluded that the name 'self' is just a convenient term for a collection of physical and mental factors, in the same way that the name 'forest' is just a convenient term for a collection of trees. This week, we are going to take our analysis still further, and rather than looking at personal experience simply in terms of body and mind, we are going to analyze personal experience in terms of the five aggregates.

Let us first look at the aggregate of matter or form (Rupa). The aggregate of form corresponds to what we would call material or physical factors. It includes not only our own bodies, but also the material objects that surround us - the earth, the oceans, the trees, the buildings, and so forth. Specifically, the aggregate of form includes the five physical sense organs and the corresponding physical objects of the sense organs. These are the eyes and visible objects, the ears and sound, the nose and smell, the tongue and taste, and the skin and tangible objects.

But physical elements by themselves are not enough to produce experience. The simple contact between the eyes and visible objects, or between the ears and sound cannot result in experience without consciousness (Vijnana). The eyes can be in conjunction with the visible object indefinitely without producing experience. The ears too can be exposed to sound indefinitely without producing experience. Only the co-presence of consciousness together with the sense organ and the object of the sense organ produces the experience. In other words, it is when the eyes, the visible object and consciousness come together that the experience of a visible object is produced. Consciousness is therefore an indispensable element in the production of experience.

Before we go on to our consideration of the mental factors of personal experience, I would like to mention briefly the existence of one more set of an organ and its object, and here I speak of the sixth-sense -the mind. This is in addition to the five physical sense organs - eyes, ears, nose, tongue and skin. Just as the five physical sense organs have their corresponding physical objects, the mind has for its object ideas or properties (dharmas). And as in the case of the five physical sense organs, consciousness is present to unite the mind and its object so as to produce experience.

Let us now look at the mental factors of experience and let us see if we can understand how consciousness turns the physical factors of experience into personal conscious experience. First of all, we must remember that consciousness is mere awareness, or mere sensitivity to an object. When the physical factors of experience, as for example the eyes and a visible object, come into contact, and when consciousness too becomes associated with the physical

factors of experience, visual consciousness arises. This is mere awareness of a visible object, not anything like what we could call personal experience. The way that our personal experience is produced is through the functioning of the other three major mental factors of experience and they are the aggregate of feeling, the aggregate of perception and the aggregate of mental formation or volition. These three aggregates function to turn this mere awareness of the object into personal experience.

The aggregate of feeling or sensation (Vedana) is of three kinds - pleasant, unpleasant and indifferent. When an object is experienced, that experience takes on one of these emotional tones, either the tone of pleasure, or the tone of displeasure, or the tone of indifference.

Let us next look at the aggregate of perception (Samjna). This is an aggregate which many people find difficult to understand. When we speak of perception, we have in mind the activity of recognition, or identification. In a sense, we are talking about the attaching of a name to an object of experience. The function of perception is to turn an indefinite experience into an identified and recognized experience. Here, we are speaking of the formulation of a conception of an idea about a particular object. Just as with feeling where we have a emotional element in terms of pleasure, displeasure or indifference; with perception, we have a conceptual element in the sense of introducing a definite, determinate idea about the object of experience.

Finally, there is the aggregate of mental formation or volition (Samskara). This aggregate may be described as a conditioned response to the object of experience. In this sense, it partakes of the meaning of habit as well. We have spent some time discussing the component of mental formation when we considered the twelve components of dependent origination. You will remember that on that occasion, we described mental formation as the impression created by previous actions, the habit energy stored up from countless former lives. Here, as one of the five aggregates also, the aggregate of mental formation plays a similar role. But it has not only a static value, it also has a dynamic value because just as our reactions are conditioned by former deeds, so are our responses here and now motivated and directed in a particular way by our mental formation or volition. Mental formation or volition therefore has a moral dimension just as perception has a conceptual dimension, and feeling has a emotional dimension. You will notice I use the terms mental formation and volition together. This is because each of these terms represents one half of the meaning of Samskara - mental formation represents the half that comes from the past, and volition represents the half that functions here and now. So mental formation and volition function to determine our responses to the objects of experience and these responses have moral consequences in the sense of wholesome, unwholesome or neutral.

We can now see how the physical and mental factors of experience worked together to produce personal experience. To make this a little clearer, let us take the help of a couple of concrete examples. Let us say after today's lecture you decide to take a walk in the garden. As you walk in the garden, your eyes come into contact with a visible object. As your attention focuses on that visible object, your consciousness becomes aware of visible object as yet indeterminate. Your aggregate of perception will identify that visible object as, let us say, a snake. Once that happens, you will respond to that visible object with the aggregate of feeling - the feeling of displeasure, or more specifically that of fear. Finally, you will react to that visible object with the aggregate of mental formation or volition, with the intentional action of perhaps running away or perhaps picking up a stone.

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There is one point that has to be remembered regarding the nature of the five aggregates, and that is that each and all of them are in constant change. The elements that constitute the aggregate of form are impermanent and are in a state of constant change. We discussed this last week - the body grows old, weak, sick and so forth. The things around us are also impermanent and change constantly. Our feelings too are constantly changing. We may respond today to a particular situation with a feeling of pleasure. To-morrow, we may respond to that same situation with the feeling of displeasure. Today we may perceive an object in a particular way. At a later time, under different circumstances, our perception will change. In semi-darkness we perceive a rope to be a snake. The moment the light of the torch falls upon that object, we perceive it to be a rope. So our perceptions like our feelings and like the material objects of our experience are ever changing and impermanent. So too, our mental formations are impermanent and ever-changing. We alter our habits. We can learn to be kind and compassionate. We can acquire

the attitudes of renunciation and equanimity and so forth. Consciousness too is impermanent and constantly changing. Consciousness arises dependent upon an object and a sense organ. It cannot exist independently. As we have seen, all the physical and mental factors of our experience like our bodies, the physical objects around us, our minds and our ideas are impermanent and constantly changing. All these aggregates are constantly changing and impermanent. They are processes, not things. They are dynamic, not static.

What is the use of this analysis of personal experience in terms of the five aggregates? What is the use of this reduction of the apparent unity of personal experience into the various elements of form, feeling, perception, mental formation or volition, and consciousness? The purpose of this analysis is to create the wisdom of not-self. What we wish to achieve is to arrive at a way of experiencing the world which is not constructed upon and around the idea of a self. We want to see personal experience in terms of processes, in terms of impersonal functions rather than in terms of a self and what affects a self because this will create an attitude of equanimity, an attitude which will help us overcome the emotional disturbances of hope and fear. We hope for happiness, we fear pain. We hope for praise, we fear blame. We hope for gain, we fear loss. We hope for fame, we fear infamy. We live in a state of alternating between hope and fear. We experience these hopes and fears because we understand happiness and pain and so forth in terms of the self. We understand them as personal happiness and pain, as personal praise and blame, and so forth. But once we understand them in terms of impersonal processes, and once through this understanding we get rid of the idea of the self, we can overcome hope and fear. We can regard happiness and pain, praise and blame and all the rest with equanimity, with even-mindedness, and we will then no longer be subject to the imbalance of alternating between hope and fear.

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What is engineering ethics?

Engineering ethics is (1) the study of moral issues and decisions confronting individuals and organizations involved in engineering and (2) the study of related questions about moral conduct, character, ideals and relationships of peoples and organizations involved in technological development (Martin and Schinzinger, *Ethics in Engineering*).

What is the NSPE Code of Ethics for Engineers?

The [NSPE Code of Ethics for Engineers](#) is designed to provide positive stimulus for ethical conduct as well as helpful guidance and advice concerning the primary and basic obligations of engineers. The Code also establishes the ethical guideposts for the NSPE Board of Ethical Review in interpreting ethical dilemmas submitted by engineers, public officials, and members of the public.

What is the Engineers' Creed?

The [Engineers' Creed](#) was developed in response to a desire for a short statement of philosophy of service, similar to the Hippocratic Oath for medical practitioners or similar oaths of the legal profession, that can be used in ceremonies or in recognition of individuals. Approved in June 1954, the Creed is used widely in NSPE, state society, and local chapter officer installation ceremonies, licensure certificate presentations, and engineering school graduations.

What is the NSPE Board of Ethical Review?

The [Board of Ethical Review](#) was established in the 1950s to review factual situations involving ethical dilemmas submitted by engineers, public officials, and members of the public. These anonymous dilemma situations are reviewed by the members of the Board and considered in light of the language of the NSPE Code of Ethics, Board of Ethical Review precedents, and the practical experiences of the seven professional engineers selected by the President who serve on the Board. Following extensive deliberation, the Board issues written opinions which contain a description of the facts, pertinent Code citations, relevant questions, detailed discussions, and conclusions. Some opinions also include dissents.

What are the NCEES Model Rules of Professional Conduct?

The National Council for Examiners of Engineering and Surveying (NCEES) has developed a set of model rules of professional conduct as guidance to state engineering licensing boards in developing such rules. Each state licensing board is generally granted the statutory authority to promulgate its own set of rules, which are binding upon every person holding an engineering license which allows them to offer or perform engineering services in the state.

Code of Ethics Examination

NSPE's true/false exam tests your knowledge of professional engineering ethics. When you're done, click on the "Answers" link at the bottom of the page to see how well you did.

This test is intended to test individual knowledge of the specific language contained in the NSPE Code of Ethics and is not intended to measure individual knowledge of engineering ethics or the ethics of individual engineers or engineering students.

A series of true/false questions pertaining to the NSPE Code of Ethics follows.

1. Engineers, in the fulfillment of their professional duties, must carefully consider the safety, health, and welfare of the public.
2. Engineers may perform services outside of their areas of competence as long as they inform their employers or clients.
3. Engineers may issue subjective and partial statements if such statements are in writing and consistent with the best interests of their employers, clients, or the public.
4. Engineers shall act for each employer or client as faithful agents or trustees.
5. Engineers shall not be required to engage in truthful acts when required to protect the public health, safety, and welfare.
6. Engineers may not be required to follow the provisions of state or federal law when such actions could endanger or compromise their employer or their clients' interests.
7. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employers or clients and such other authority as may be appropriate.
8. Engineers may review but shall not approve those engineering documents that are in conformity with applicable standards.
9. Engineers shall not reveal facts, data...information without the prior consent of the client or employer except as authorized or required by law or this Code.
10. Engineers shall not permit the use of their names or associates in business ventures with any person or firm that they believe is engaged in fraudulent or dishonest enterprise, unless such enterprise or activity is deemed consistent with applicable state or federal law.
11. Engineers having knowledge of any alleged violation of this Code, following a period of 30 days during which the violation is not corrected, shall report thereon to appropriate professional bodies and, when relevant, also to public authorities, and cooperate with the proper authorities in furnishing such information or assistance as may be required.

Professional Practice

12. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.
13. Engineers shall not affix their signatures to plans or documents dealing with subject matter in which they lack competence, but may affix their signatures to plans or documents not prepared under their direction and control where they have a good faith belief that such plans or documents were competently prepared by another designated party.
14. Engineers may accept assignments and assume responsibility for coordination of an entire project and shall sign and seal the engineering documents for the entire project, including each technical segment of the plans and documents.
15. Engineers shall strive to be objective and truthful in professional reports, statements or testimony, with primary consideration for the best interests of the engineers' clients or employers. The engineers' reports shall include all relevant and pertinent information in such reports, statements, or testimony, which shall bear the date on which the engineers were retained by the clients to prepare the reports.
16. Engineers may express publicly technical opinions that are founded upon knowledge of the facts and competence in the subject matter.
17. Engineers shall not issue statements, criticisms, or arguments on technical matters that are inspired or paid for by interested parties, unless they have prefaced their comments by explicitly identifying the interested parties on whose behalf they are speaking and revealing the existence of any interest the engineers may have in the matters.
18. Engineers may not participate in any matter involving a conflict of interest if it could influence or appear to influence their judgment or the quality of their services.
19. Engineers shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties.
20. Engineers shall not solicit but may accept financial or other valuable consideration, directly or indirectly, from outside agents in connection with the work for which they are responsible, if such compensation is fully disclosed.
21. Engineers in public service as members, advisors, or employees of a governmental or quasi-governmental body or department may participate in decisions with respect to services solicited or provided by them or their organizations in private or public engineering practice as long as such decisions do not involve technical engineering matters for which they do not possess professional competence.
22. Engineers shall not solicit nor accept a contract from a governmental body on which a principal or officer of their organization serves as a member.
23. Engineers shall not intentionally falsify their qualifications nor actively permit written misrepresentation of their or their associate's qualifications. Engineers may accept credit for previous work performed where the work was performed during the period the engineers were employed by the previous employer. Brochures or other presentations incident to the solicitation of employment shall specifically indicate the work performed and the dates the engineers were employed by the firms.
24. Engineers shall not offer, give, solicit, nor receive, either directly or indirectly, any contribution to influence the award of a contract by a public authority, or which may be reasonably construed by the public as having the effect or intent of influencing the award of a contract unless such contribution is made in accordance with applicable federal or state election campaign finance laws and regulations.
25. Engineers shall acknowledge their errors after consulting with their employers or clients.

Exam Answers

1. False - see NSPE Code of Ethics I.1.
2. False - see NSPE Code of Ethics I.2.
3. False - see NSPE Code of Ethics I.3.
4. True - see NSPE Code of Ethics I.4.
5. False - see NSPE Code of Ethics I.5.
6. False - see NSPE Code of Ethics I.6.
7. True - see NSPE Code of Ethics II.1.a.
8. False - see NSPE Code of Ethics II.1.b.
9. True - see NSPE Code of Ethics II.1.c.
10. False - see NSPE Code of Ethics II.1.d.
11. False - see NSPE Code of Ethics II.1.e.
12. True - see NSPE Code of Ethics II.2.a.
13. False - see NSPE Code of Ethics II.2.b.
14. False - see NSPE Code of Ethics II.2.c.
15. False - see NSPE Code of Ethics II.3.a.
16. True - see NSPE Code of Ethics II.3.b.
17. True - see NSPE Code of Ethics II.3.c.
18. False - see NSPE Code of Ethics II.4.a.
19. True - see NSPE Code of Ethics II.4.b.
20. False - see NSPE Code of Ethics II.4.c.
21. False - see NSPE Code of Ethics II.4.d.
22. True - see NSPE Code of Ethics II.4.e.
23. False - see NSPE Code of Ethics II.5.a.
24. False - see NSPE Code of Ethics II.5.b.
25. False - see NSPE Code of Ethics III.1.a.

Background

It can be said that Nepal entered a modern phase in engineering after the political change in the sixties. Engineering activities began to contribute to the development of the country and the engineering profession started to gain respect in the society. The engineering community began to grow in number and was involved in all spheres of national development and engineers were allowed to compete in administrative service also for the post of secretary. Furthermore, the introduction of democracy in 1990 encouraged the growth of engineering colleges in Nepal and the enrolment of students into these engineering colleges was rising very fast. Hence it was expected that nearly 3000 engineers would be graduating from local engineering colleges every year with nearly an equal amount graduating from colleges abroad. So, a need was felt for an organization to manage the engineering profession. Therefore, to make the engineering profession more effective, Nepal Engineering Council was formed under the Nepal Engineering Council Act, 2055 promulgated by Nepal Government on B.S. 2055/11/27 (11th March, 1999 A.D.). As per the Act, NEC has been vested with the statutory authority for the planning, coordinated development and monitoring of engineering profession and education in the country. NEC Act 2055 gives an outline on the formation of the Council, its tenure and the roles and responsibilities of the Chairman, Vice Chairman and the Registrar.

Nepal Engineering Council Rules, 2057 has also been prepared and approved by Nepal Government as per the provision of Clause 37 of the Act. It defines the registration of engineers into three categories as well as the formats for application:

a)	General	Registered	Engineer
b)	Professional		Engineer
c)	non - Nepali	Registered	Engineer

NEC Rules 2057 also lays down the professional code of conduct for engineers registered with the Council. The first Executive Council was formed on Magh 2056 under the chairmanship of Er. Ram Babu Sharma and completed its tenure on Magh 2060.

The objective of Nepal Engineering Council is to make the engineering profession effective by mobilizing it in a more systematic and scientific and also to register the engineers as per their qualifications

Objective

The objective of Nepal Engineering Council is to make the engineering profession effective by mobilizing it in a more systematic and scientific and also to register the engineers as per their qualifications. Its duties and responsibilities are:

- To prepare policies, plans and programs for the smooth functioning of the engineering profession and to execute them
- To set norms and standards for engineering education in Nepal
- To grant permission and approval to carry out engineering education to those engineering colleges and institutions that meet the required norms and standards and to honor their degrees and certificates
- To monitor and inspect the quality of engineering education provided by the engineering colleges and institutions
- To fix the qualification necessary in order to practice engineering profession and to register their name in the Council
- To remove their name from the registration of the engineering council if found to violate the code of ethics.

Nepal Engineering Council Act

The Nepal Engineering Council Act, 2055 (1999)
 Date of Royal Seal and Publication
 2055-11-27 B.S. (March 9, 1999 A.D.)
 Act No. 23 of the year 2055
 An Act Made to Provide for Nepal Engineering Council

Preamble: Whereas, it is expedient to make the provision of Nepal Engineering Council in order to make the engineering profession effective in the State of Nepal and mobilize it in a systematic and scientific manner as well as to provide for, among other matters, the registration of the names of engineers as per their qualifications;

Now, therefore, be it enacted by Parliament in the twenty-seventh year of the reign of late King Birendra.

Chapter-1
Preliminary

1. Short Title and Commencement:

- (1) This Act may be called "The Nepal Engineering Council Act, 2055 (1999)".
(2) This Act shall come into force on such date as Nepal Government may, by publishing a notification in the Nepal Gazette, specify.

2. Definitions: Unless the subject or context otherwise requires, in this Act.

- (a) "Council" means the Nepal Engineering Council established under Section 3.
(b) "Chairman" means the Chairman of the Council.
(c) "Member" means the Member of the Council and this term also means and includes the Chairman, Vice Chairman and Member-Secretary of the Council.
(d) "Engineer" means a person who holds at least a Bachelor's Degree in an engineering subject from an academic institution recognized by the Council.
(e) "Engineering Profession" means the profession to be practiced by the engineers who have acquired the technical knowledge and skills in the subjects referred to in the Annex.
(f) "Registration Book" means the Registration Book prepared under Section 15.
(g) "Registered Engineer" means the engineer whose name has been registered in the Registration Book.
(h) "Registrar" means the person appointed under Section 27.
(i) "Subject Committee" means the Subject Committee constituted under Section 32.
(j) "Prescribed" or "As Prescribed" means prescribed or as prescribed in the Rules made under this Act.

Chapter-2

Establishment, Constitution, Functions, Duties and Powers of the Council

3. Establishment of Nepal Engineering Council: The Nepal Engineering Council has hereby been established in order to mobilize the engineering profession in a systematic and scientific manner by making it effective, as well as to make provision for, among other matters, the registration of the names of engineers as per their qualifications.

4. Council to be an Autonomous Body:

- (1) The Council shall be an autonomous and corporate body with perpetual succession.
(2) The Council shall have a separate seal of its own for all of its business and transactions.

(3) The Council may, like an individual, acquire, use, own, sell or distribute movable and immovable properties or make provision of them by any other manner.

(4) The Council may sue or be sued in its name like an individual.

5. Constitution of the Council:

(1) The Council established under Section 3 shall consist of the following Members:-

- (a) An engineer nominated by Nepal Government from amongst the engineers who have at least fifteen year's experience in the engineering profession after having obtained a Bachelor's Degree in subject of engineering -Chairman
(b) An engineer nominated by Nepal Government from amongst the engineers who have at least ten year's experience in the engineering profession after having obtained a Bachelor's Degree in a subject of engineering -Vice Chairman
(c) Five engineers nominated by Nepal Government from amongst the engineers engaged in the engineering profession -Member
(d) President, Nepal Engineers Association -Member
(e) Five engineers elected by Nepal Engineers Association -Member
(f) One Campus Chief nominated by Nepal Government from amongst the Campus Chiefs of the Engineering Colleges -Member

- (g) Representative, Institute of Engineering Tribhuvan University -Member
- (h) Two engineers nominated by the Council -Member
- (i) Registrar -Member

(2) While making the nomination and conducting election of the Members in accordance with clauses (c) and (e) of sub-section (1), such nomination and election are required to be made or conducted from separate subjects of the engineering profession on the subject-wise basis.

(3) Until election is held for the Members as referred to in clause (e) of sub-section (1), the engineers nominated by the Nepal Engineers Association shall be the Members of the Council.

(4) In making nomination for the representative in accordance with clause (g) of sub-section (1), such nomination shall be made from amongst the engineers. (5) The Council may, if it deems it necessary, invite any expert to participate at the meetings of the Council.

6. The Tenure of Office of the Members:

(1) The tenure of office of the Members nominated or elected to the Council shall be four years. The Members whose tenure of office has expired may be re-nominated or re-elected, subject to the other provisions laid down in this Act.

(2) If any seat of a Member falls vacant prior to the expiry of the tenure of office, the seat of the Member so fallen vacant shall be filled through nomination or election of another member for the remainder of the tenure.

7. Disqualifications for Being a Member:
Any of the following persons shall not be eligible to be nominated or elected to the post of a Member of the Council:-

- (a) Non-Nepalese citizen,
- (b) The person whose name has removed from the Registration Book,
- (c) The person whose property has been divided proportionately among the creditors for having failed to pay debts due to the creditors (bankrupt person),
- (d) The person who has been punished by a court upon being convicted in a criminal charge involving moral turpitude, and
- (e) The mentally disordered person.

8. Circumstances to Terminate the Membership:
The membership of the Council shall be deemed to have been terminated in the following circumstances:-

- (a) If he is disqualified under Section 7,
- (b) If the resignation tendered from the office of the Member is accepted,
- (c) If he, without giving prior notice with reasons to the Council, absents himself from the meetings of the Council for three consecutive times,
- (d) If he dies.

9. Functions, Duties and Powers of the Council:
In addition to the functions, duties and powers set forth elsewhere in this Act, the Council shall have the functions, duties and powers as follows:-

- (a) To prepare and implement the policy, plan and programs as required for carrying out the engineering profession in a proper manner,
- (b) To recognize, as prescribed, the academic institutions providing the engineering education and the certificates and degrees granted by such institutions,
- (c) To determine the qualifications required for practicing the engineering profession and

to register as prescribed with the Council the names of the persons having possessed the specified qualifications,

(d) If a registered engineer violates the professional code of conduct as prescribed or does not comply with it, to remove the name of such engineer from the Council by fulfilling the procedures as prescribed.

10. Meeting and Decision of the Council:
The meeting of the Council shall generally be held four times in a year. Provided that the Chairman may, if he so desires, also convene the meetings for more than the said times.
(2) The meetings of the Council shall be held at the time and venue specified by the Chairman.

(3) The presence of more than fifty percent Members of the total number of Members of the Council shall be deemed to have constituted a quorum for the meeting of the Council.

(4) The Chairman shall preside over the meetings of the Council and, in his absence, the Vice-Chairman shall preside over. In the absence of both the Chairman and Vice-Chairman, the person selected by the Members present in the meeting from among themselves shall preside over the meeting.

(5) The opinion of a majority shall be binding in the meeting of the Council and, in the event of tie of votes, the person presiding over the meeting may exercise the casting vote.

(6) The decisions of the Council shall be authenticated by the Member-secretary.

(7) Other procedures regarding the meetings of the Council shall be as determined by the Council itself.

Chapter-3

Provisions Regarding the Registration of Name

11. Prohibition to Practice Engineering Profession without Getting Registered the Name:
After one year from the date of commencement of this Act, no person shall practice the engineering profession without getting his name registered in the Council.

12. Application to be Made for the Registration of Name:

(1) Any person desirous to register his name in the Council shall be required to make an application to the Council in a format as prescribed.

(2) The persons, who are practicing the engineering profession at the time of commencement of this Act, shall be required to make applications in accordance with sub-section (1) within six months from the date of commencement of this Act in order to get registered their names in the Council. (3) The persons making applications in accordance with sub-section (1) or (2) to get registered their names shall have to enclose the certificates, degree and other documents related there to be obtained from the academic institutions as well as the fees as prescribed, with the application.

13. Inquiry on Application: The Registrar shall carry out necessary inquiry on the application registered in accordance with Section 12 and submit it to the concerned Subject Committee.

14. Examination and Recommendation on the Application:

(1) The Subject Committee shall conduct necessary examination on the application submitted by the Registrar in accordance with Section 13.

(2) If any matter appeared to be unclear in conducting examination pursuant to sub-section (1), the Subject Committee may demand necessary evidence and documents from the concerned applicant in order to make clear the matters related thereto.

(3) It shall be the duty of the concerned applicant to submit the evidence and documents

demand under sub-section (2) to the Subject Committee.
(4) The Subject Committee shall, if it found the name of the applicant being eligible to be registered in the Council upon conducting an examination in accordance with sub-sections (1), (2) and (3), make a recommendation to the Council therefore.

15. Registration of Name:
If the Council considers it appropriate to register in the Council the name of the applicant recommended by the Subject Committee for the registration of name after having conducted necessary examination in accordance with Section 14, it shall decide to register the name of such applicant in the Registration Book of the Council prepared in a format as prescribed.

16. Name Registration Certificate to be Issued: The Registrar shall register in the Registration Book the name of the applicant in respect of whom a decision is taken to Register the name by the Council pursuant to Section 15, and shall issue the Name registration Certificate to the applicant in a format as prescribed.

17. Information to Given if a Decision is Taken not to Register the Name: If the Council finds any reason which makes it inappropriate to register the name of any applicant submitting an application for the registration of name in the Council and the Council therefore, decides not to register the name; then the Registrar shall have to give the information of such matter to the concerned applicant in writing.

18. Name to be Removed from the Registration Book:
(1) Except in the following circumstances, the name of a registered engineer shall not be removed from the Registration Book:-
(a) If he becomes mentally unsound,
(b) If his property has been divided proportionately among the creditors for having failed to pay the debts due to the creditors (If he becomes bankrupt),
(c) If a motion submitted to a meeting of the Council to remove the name from the Registration Book on the charge of violating the professional code of conduct as prescribed is passed by a two-thirds majority,
(d) If he is convicted by a court in a criminal charge involving moral turpitude,
(e) If the name of a person who does not possess the required qualifications has happened to be registered by fraud or error.
(2) Prior to the submission of the motion to remove the name of any registered engineer from the Registration Book on a charge as referred to in clauses (c) and (e) of sub-section (1) to a meeting of the Council, the Council shall constitute an inquiry committee requiring to submit a report after having conducted an inquiry in regard to the charge imposed on such a person.
(3) The procedures to be followed by the Inquiry Committee constituted under sub-section (2) while conducting the inquiry shall be as prescribed.

19. Certificate to be Cancelled:
In cases where the Council takes a decision to remove the name from the Registration Book in accordance with Section 18, the Registrar shall have to remove the name of such person from the Registration Book, cancel the Name Registration Certificate issued in accordance with Section 16 and give information of such matter to the concerned person.

20. Name to be Registered Again:

(1) If the decision to remove the name from the Registration Book is taken on the occurrence of the circumstances as referred to in clauses (a), (b) and (c) of sub-section (1) of Section 18; the concerned person may after a duration of at least one year from the date on which such decision for removal is taken, submit an application to the Council in accordance with Section 12 specifying the justifiable reasons therein for re-registration of the name.

(2) In case an application is submitted for re-registration of the name in accordance with sub-section (1); the Council may, if it considers it justifiable to re-register the name of such applicant, decide to re-register the name accordingly.

(3) In cases where the Council decided to re-register the name of the applicant in accordance with sub-section (2), the Registrar shall have to re-register the name of such applicant in the Registration Book and issue a certificate of re-registration of name to the applicant in a format as prescribed.

Chapter-4

Recognition of Certificates of Academic Qualification or Degree

21. Recognition of Certificates of Academic Qualification or Degree:

(1) The Council shall recognize the certificates of academic qualification or degree in an engineering subject granted by any academic institution.

(2) The names of the certificates of academic qualification or degrees recognized by the Council pursuant to sub-section (1) and the names of the academic institutions granting such certificates or degrees shall be published in the Nepal Gazette.

22. Details May Be Demanded :

(1) In course of recognizing the certificate of any academic qualification or degree in accordance with Section 21, the Council may demand the set curriculum for such certificate of academic qualification or degree and the specified terms and conditions for admission as well as other details related thereto from the concerned academic institution.

(2) It shall be the duty of the concerned academic institution to make available the necessary details as demanded by the Council in accordance with sub-section (1)

23. Inspection of Examination:

(1) In course of recognizing certificate of any academic qualification or degree pursuant to Section 21 or after granting such recognition, the Council may appoint and send an inspector to carryout inspection in regard to the system of examination to be conducted by the concerned academic institution granting the said certificate of academic qualification or degree.

(2) The inspector sent under sub-section (1) shall not have the right to interfere in any manner in the examination in course of carrying out inspection.

(3) The inspector carrying out the inspection of examination in accordance with sub-section (2) shall have to prepare a report on the matters found by him in course of carrying out the inspection of examination and submit such report to the Council.

24. Recognition to be Withdrawn:

(1) Considering the details received in accordance with Section 22 from the concerned academic institution in respect of the certificate or any academic qualification or degree to which the recognition is granted under Section 21 or the report received in accordance with sub-section (3) of Section 23, if the Council thinks that the curriculum, conditions for admission and the examination system set by such academic institution are not appropriate and sufficient; then, it shall submit its report in this respect to Nepal

Government.

(2) Nepal Government may, upon receipt of the report of the Council in accordance with sub-section (1), seek clarification in that respect from the concerned institution.

(3) Nepal Government shall consider in regard to the clarification submitted and received as sought from the concerned academic institution pursuant to sub-section (2) and conduct necessary inquiries, if any such inquiry is required to be conducted into any other matter in that respect; and consequently, Nepal Government may, on the basis of such inquiry as well, withdraw the recognition of the certificate of any academic qualification or degree granted by such academic institution on and after any specific date.

(4) The notification on the withdrawal of recognition of the certificate of any academic qualification or degree in accordance with sub-section (3) shall be published in the Nepal Gazette.

Chapter-5

Functions, Duties and Powers of the Chairman, Vice-Chairman and Registrar

25. Functions, Duties and Powers of the Chairman:
In addition to the functions, duties and powers set forth elsewhere in this Act, the Chairman shall have the following functions, duties and powers:-

(a) To determine the priority order of the matters to be discussed in the meetings of the Council,

(b) To monitor and evaluate or cause to be monitored or evaluated the plans and programs being carried out by the Council and to give necessary directions in regard thereto,

(c) To carry out or cause to be carried out the business and transactions of the Council in a systematic, effective and proper manner,

(d) To perform other functions as prescribed.

26. Functions, Duties and Powers of the Vice-Chairman:
It shall be the duty of the Vice-Chairman, in the absence of the Chairman, to perform or exercise the functions, duties and powers to be performed or exercised by the Chairman under this Act.

27. Appointment and Functions, Duties and Powers of the Registrar:
(1) Nepal Government may appoint the Registrar of the Council from amongst the persons who have possessed the qualifications required for the registration of name in the Council.

(2) In addition to the functions, duties and powers set forth elsewhere in this Act, the Registrar shall have the following functions, duties and powers:-

(a) To carry out the business of general administration and management of the Council,
(b) To make or cause to be made arrangements for supervision and control of the fund and for management and taking care as well as for repair and maintenance of the assets of the Council,

(c) To formulate the annual programme and plan of the Council and submit them to the Council,

(d) To prepare the statement of annual income and expenditure and supplementary income and expenditure of the Council,

(e) To implement the budget, plan and programme approved by the Council,

(f) To make arrangement for carrying out the internal and final audit of the Council,

(g) To act as a liaison officer between the Council and engineers,

(h) To carry out or cause to be carried out other functions as directed by the Council,

(i) To carry out other functions as prescribed.

Chapter-6

Fund of the Council

28. Fund of the Council:

(1) The Council shall have a separate fund of its own.

(2) The fund referred to in sub-section (1) shall include the following amounts:-

(a) The amount received from Nepal Government,

(b) The amount received as a loan, donation, assistance, grant or contribution or gift from domestic or foreign individual, institution, government or international association or organization,

(c) The amount received for the services made available on behalf of the Council,

(d) The amount received from any other source.

(3) The Council shall be required to obtain the prior approval of Nepal Government before it receives a loan, donation, assistance, grant or contribution or gift from any foreign individual, institution, government or international association or organization in accordance with clause (b) of sub-section (2).

(4) The amount received to the fund of the Council shall be deposited by opening a bank account in any commercial bank.

(5) The operation of the fund and account of the Council shall be as prescribed.

29. Accounts and Audit:

(1) The accounts of the income and expenditure of the Council shall be maintained as prescribed.

(2) The audit of the Council shall be carried out as prescribed.

(3) Nepal Government may, if it so desires, examine or cause to be examined the books and accounts of the Council.

Chapter-7

Miscellaneous

30. Offences and Punishment and Penalties:

(1) An offence under this Act shall be deemed to be committed if any person practices the engineering profession without getting his name registered in the Council pursuant to Section 11.

(2) The person who commits an offence referred to in sub-section (1) may be liable to a punishment with a fine of an amount of up to three thousand rupees or with an imprisonment of duration of up to three months or both.

(3) Except as provided for in sub-section (2), any person who commits any act violating this Act or the Rules made under this Act shall be liable to a fine of an amount of up to two thousand rupees.

31. Dissolution of the Council:

(1) If Nepal Government considers that the Council has failed to exercise the powers conferred to it by this Act or the Rules made under this Act or abused the powers or exercised the powers more than those conferred to it or failed to perform the duties to be performed by the Council in accordance with this Act or the Rules made under this Act, Nepal Government may, then, dissolve the Council.

(2) After the dissolution of the Council in accordance with sub-section (1), Nepal Government shall take under its custody the fund and assets of the Council and may carry out all the business and transactions to be carried out by the Council under this Act or the Rules made under this Act pending the constitution of another Council, or may form a

committee and cause such committee to carry out the said business and transactions.
(3) Nepal Government shall constitute another Council in accordance with Section 5 generally within three months from the date of dissolution of the Council pursuant to sub-section (1).

(4) After the constitution of another Council pursuant to sub-section (3), Nepal Government shall hand over the fund and assets taken by it under its custody in accordance with sub-section (2) to the said Council.

32. Subject Committee and Other Committees May Be Constituted:

(1) The Council may constitute the Subject Committee and other committees as required.

(2) The functions, duties and powers of the Subject Committee and the committees constituted under sub-section (1) shall be as fixed by the Council.

33. Meeting Allowance and Other Facilities of the Members: The meeting allowance and other facilities of the Members and the members of the Subject Committee and other Committees constituted under Section 32 shall be as prescribed.

34. Employees of the Council:

(1) The Council may appoint the employees as required.

(2) The terms and conditions of service and facilities of the employees appointed in accordance with sub-section (1) shall be as prescribed in the bye-laws.

35. The Authority to Carry out Inquiry and Investigation and to Institute a Law Suit: The authority or body to carry out the inquiry and investigation of the offences referred to in Section 30 and to institute a law suit as well as the procedures related thereto shall be as prescribed by Nepal Government by publishing a notification in the Nepal Gazette.

36. Contact with Nepal Government: The Council shall, in making contacts with Nepal Government, do so through the Ministry of Works and Transport.

37. Power to Make Rules and Bye-laws:

(1) In order to implement the is objectives of this Act, the Council may make necessary Rules, and the Rules so made shall come into force only after they are approved by Nepal Government.

(2) The Council may make necessary bye-laws without making them contrary to this Act and the Rules made in accordance with sub-rule (1).

38. Addition May Be Made to the Annex: Nepal Government may add the engineering subjects as required to the Annex by publishing a notification to that effect in the Nepal Gazette.

Annex

(Relating to Clause (e) of Section 2) Profession

1.	Civil	Engineering
(a)		General
(b)		Highway
(c)		Sanitary
(d)	Building	and Architect

					Professional Practice
(e)					Irrigation
(f)					Hydrology
(g)					Hydro-power
(h)					Airport
2.					Electrical
(a)			General		Electrical
(b)			Aviation		Electrical
3.		Electronic		and	Communication
4.					Mechanical
(a)			General		Mechanical
(b)			Aviation		Mechanical
(c)	Construction		Equipment	Repair and	Maintenance
5.					Aeronautical
6.					Mining
7.					Chemical
8.					Metallurgical
9.					Metrology
10.					Meteorology
11.					Geology
(a)					General
(b)					Hydro-geology
(c)			Engineering		Geology
12.	Civil	Aviation	Operation	and	Engineering
(a)		Civil	Aviation		Operation
(b)			Flight		Operation
(c)		Aviation		Fire	Services
13.					Survey
14.					Chemistry
15.	Agri-irrigation Engineering				

Who is a professional?

J. Richard Cottingham, P.E., P.L.S., National Society of Professional Engineers, USA

The terms *profession* and *professional* have many uses in the public vernacular. A fundamental distinction in our society is *professional* versus *amateur*. A *professional* is one who performs for pay - athletics provides the best example.

Another meaning is doing full-time what others do part-time-photography for example. *Professional* also relates to a standard of workmanship.

Craftspeople perform professional-quality work; for example, an electrician might install light fixtures in a professional as opposed to an unprofessional, or shoddy, manner.

With respect to engineering and other learned professions, however, the term professional takes on a higher significance than merely earning a living or performing quality work. In general, learned professions have the following identifying characteristics:

1. High Academic Standards—Having knowledge and skill not possessed by the general public (for example, high levels of technical competence)
2. Continual Renewal of Knowledge—Staying abreast of developments through journals, publications, conferences, and seminars
3. Service for Society—Performing services that affect the public health, safety, and welfare (beneficial application of technical competence)
4. Personal Responsibility for Work—Continually looking for own mistakes and opportunities/methods for improvement
5. Display of Self-Confidence—Who wants a nervous dentist, unsure of which tooth to drill?
6. Exercise of Judgment and Discretion—Having flexibility/authority to make decisions based upon a defined body of knowledge
7. Predominantly Intellectual Work—Generally white-collar and not readily subject to productivity measurement
8. Regulated/ Registration required —Quality of work is subject to established standards. Members of the profession risk loss of right to practice for misconduct, incompetence, or gross negligence
9. Dedication Beyond Pecuniary and Personal Considerations—Commitment to the "calling" with ethics and quality of work transcending any other issues

1.0. Legal aspects of professional engineering in Nepal

The Nepalese legal system as it affects the practice of engineering

Provision for private practice and employee engineer

Contract law

Tendering

Contract documents

Liability and negligence

Relationship to foreign firms working in Nepal

MSc in Environmental Engineering

Contract Management

Modern economic life is based on contracts.

You are free to make any bargain you wish, provided that it does not conflict with the public interest, but when you have made your bargain then carry it out or compensate the other party for the bargain he has lost.

The theory of contract is that when two companies enter into a contract they are presumed in law to do so by agreeing between themselves on a set of conditions of contract which is a complete and exact statement of all the conditions they have agreed to, and which then only needs to be read in the event of any dispute in order to decide what the true position of the parties is. Both parties are presumed to be professional in outlook and therefore to know what contract means.

In practice it is never that simple. Most contracts are not written by experts. They are often a negotiated compromise and therefore loosely worded. You can never cover for every contingency. Finally your contracts do not mean what you think they mean, They mean what a JUDGE would think that they mean.

Hence, standard contract documents are to be followed.

What is a contract?

According to the dictionary, a contract is "an agreement to do something, especially one that is enforceable by law." Contracts are so important in construction, that the common name of someone who constructs or builds is a CONTRACTOR. Why is that contracts are used in construction? What purposes do contracts serve? The following list shows some.

1. To make an agreement law-enforceable.
2. To record the terms of an agreement.
3. To specify what the contractor must do and what the owner must pay.
4. To specify what will be done if either party fails to perform.
5. To specify the quantity and the quality of work to be done.
6. To specify the time frame within which the work is to be completed and payment made.
7. To specify the means, method, terms and time of payment
8. To identify the parties to the agreement.
9. To identify the official agents or representatives of parties to the agreement and define their authority and responsibility.
10. To set out in advance the courses of action that will be taken in different possible situations.
11. To define words and establish common meanings.
12. To specify what is and what is not included in contract.
13. To specify how contract will be terminated.
14. To specify the responsibilities of the parties not just to each other, but to third parties such as: the government, the community in which the work is to be done, the workers, subcontractors, materials suppliers, unions, etc.

Even this partial list shows us that a contract serves many very real needs in construction.

A Contract is a bargain - Where two parties freely make a bargain with each other that bargain is to be respected and if necessary enforced by the law. Therefore once you have reached a bargain, however inadequate the price that may actually be paid by either party the law requires you to carry out the terms of your bargain or to compensate the other party for not doing so. As far as the law is concerned it is your affair what bargain you wish to make.

A Contract is Risk - In the final analysis what the Buyer pays the seller to do is to take RISK. However in taking a risk the policy of the seller must always be to take as few risk as possible. Any company that takes risk without evaluating and quantifying just what risks are involved is likely to suffer serious loss at some time or other. Obviously there are many ways of dealing RISK. You can exclude it, limit liability for it, insure against it, pass it on to subcontractors' etc. The important thing is to do something about it. Take risks but don't take risks.

A contract is money - All organizations need to make a profit from their contracts

Functions of a contract

- It defines the normal performance required from each party, variance in certain circumstances should be within the framework of the contract.
- It defines the share of technical, commercial and economic risks between the parties,
- It identifies most of the predictable problems which may arise during the contract and prescribe machinery and procedures for dealing with them if they arise.

Formation of a contract

- Every contract is an agreement but not every agreement is a contract.
- A contract gives rise to obligations that are enforced or recognized by law.
- The following elements must be present for a contract to exist.
 - Intention to create legal relations
 - Offer - specification, price and terms of payment, COC
 - Acceptance - in full (in part, rejected, run out of time)
 - Consideration

A Letter of Intent is not a contract.

Construction contracts - key issues

- **Essential requirements**
 - Incentive - for efficient performance
 - Flexibility - to permit anticipated change and to provide fair method of evaluation of such change
 - Risk sharing - to party best able to control the risk
- **Contract provides a clear division of**
 - Responsibilities
 - Legal obligations
 - risk allocation
 - payment regime
- **Contract documents**
 - form of agreement
 - general conditions
 - special conditions
 - specifications
 - drawings
 - pricing document
 - programs, sometime
 - record of post bid negotiations
- **Matter dealt within the documents are**
 - Legal
 - Technical
 - Financial
 - Organizational

- Procedural

It is unfortunate that contracts are often treated as mere formalities which have little to do with the work to be accomplished.

The contract should be used like script in a theater performance. It should be designed to suit the specific needs of the project and referred to throughout the life of project to guide the performers through the drama. Whenever any actor is not sure of what he is supposed to do, he can refer to the contract.

Before contract is signed and work started, both parties to the contract agree to the terms. We do this because we understand that we act more rationally at some times than at others. In the heat of conflict, we may see only one side of an argument. Therefore, we set up a program of procedures in advance, which we hope will safeguard the interests of everyone involved.

It is extremely important that we prepare contracts with as much foresight as possible. We need to use our own experience and that of others to make sure that any situation that can arise during the life of the contract is provided for.

If a contract is prepared with this kind of foresight and care, it becomes a powerful tool in the hands of construction manager.

FACTORS TO BE CONSIDERED IN PREPARING A CONTRACT

THE CONTRACT MUST BE FAIR

Since it is usually the owner who prepares the contract, there is tendency for a contract to be biased in the owner's favor. We must be careful about this. It is important to honestly look at the motives that both parties have for entering into contract.

The owner wants to have his project constructed.

&

The contractor wants a profit.

Both of these are legitimate motives, and the contract drawn up between the two parties must protect both interests, the owner who takes advantage of the contractor by writing an unfair contract will pay for this advantage. He pays in several ways.

The first way will be through high tender prices. Since the contractor feels that the contract terms make it difficult or risky for him to earn a profit, he will naturally charge more money to cover his risks and difficulty.

If there is a lot of competition for a contract, so that the contractor can't submit a high bid in order to cover his increased difficulty and risks, prudent contractors will refrain from tendering at all. This leaves the owner with tenders from imprudent contractors. These contractors will have to bid low, and resort to other methods to make their profit margin. They might resort to making excessive claims for extra payment, reducing services to the owner, or cheating.

One of the worst consequences of an unfair contract is that the contractor won't take it seriously. From the very beginning of the project, he will have no intention of working according to the contract. This kind of situation sets the scene for two possible working relationships between the contractor and the construction manager.

1. One in which the owner must fight with the contractor at every stage of contract in order to prevent bad practices (which often leads to default and/or litigation).

2. One in which the contractor tries to gain the favor of the manager so that the manager will overlook the contractor's bad practices (which often leads to corruption and bribes).

Quite clearly, neither of these cases serves the interests of the project. Fairness then, is one of the main qualities that a manageable contract must have.

THE CONTRACT MUST BE CLEAR

The intention of the contract is to communicate precise information to people who must act on it. Construction errors are costly and difficult to correct. There is no need to use confusing legalistic language in a contract. Contract language must be clear and precise. It does not have to impress anyone with the use of "therefore", "whereas", "herein after", or any other terms that don't serve the interests of clarity.

CONTRACT LANGUAGE MUST BE CONSISTENT

We often see contracts that use five or more words to refer to the same thing or person. This can be quite confusing. There is no need to use: the owner, the project, the party of the first part and the client, when all of these mean the same thing. In literature, variety is important. In writing contracts the need for clarity comes first.

Similarly, we must take care not to call two different things by the same name. Drawings, contracts drawing, approved drawings, plans, shop drawings, working drawings, detail drawings, design drawings etc. must be defined and used in restricted way.

DON'T REPEAT

Unless there is some special reason for doing so, there is no need to put the same requirement or term in three different places in the same contract. This can lead to difficulty later on if you need to change the term. The working rule is:

SAY IT ONCE - SAY IT IN THE PROPER PLACE - LET IT BE.

USE EACH PART OF THE CONTRACT FOR ITS PROPER PURPOSE

Don't put technical specification in the General Conditions. Don't put commercial terms in the Technical Specifications. This makes it difficult to find specific information when it is needed.

One common error is worth special mention. Don't make notes on a drawing when the same purpose could be served by writing a requirement into the Technical Specifications. If a change has to be made in the future, it is much easier to make a change in the Technical Specifications than it is to revise every set of drawings that had been issued.

CONTRACT INFORMATION MUST BE RETRIVABLE

Remember that the contract is going to be used to guide and manage the construction process. It is not enough to put the right information into the contract; users have to be able to find it when they need it and they have to be able to find it quickly. Number each article, each section, each clause, each page. Provide a clear index.

USE FORESIGHT

Try to foresee any possible area of confusion and clear them up in advance.

IF YOU WANT IT, GET IT IN THE CONTRACT

The contractor can not read your mind. If the contract does not clearly state that something is to be done, do not expect the contractor guess that you want it done. The contractor is not giving things away. He is in business to make a profit. When he submits a tender, he is bidding on the work specified in the contract. It does not matter whether you think. It is obvious that a BASE COURSE must be provided, if it is not specified in the contract, it is not part of the contract. If it is not part of the contract it is not included in the contract price. If it is not included in the contract price it is an extra cost item.

Types of contracts

Once the decision to build has been taken, the next decision is how to build. In order to take such decision we must be aware of the choices and the implications of each choice.

Since there is no one best strategy for all circumstances, let us briefly discuss the following types of contract strategies that can be used for a construction contract.

**Conventional,
Turnkey (package deal),
Management and
Target cost contracts.**

Major differences between these contracts could be related to:

- a) Roles played by client, designer and contractor during its implementation. “ Who is responsible for what in the project?
- b) Environment/emphasis of the client in the management of the project. How much the client can interfere/improve the project without considerable cost variation.
- c) Allocation of risk on the parties concerned. Who bears which risks?
- d) Payment mode and methods. What are the terms of payments?

Non of the above methods are universal as each and every method has certain strengths and weaknesses. Hence their appropriateness can be evaluated/judged in the given circumstances only. Nevertheless selection of most appropriate type of contract leads a project to a success i.e. better quality, in time at reasonable cost. The choice of strategy depends on the client’s aim, the type of project and level of clients participation in the project.

Conventional Contract

In this type of contract, design and supervision of construction, and implementation is carried out by consulting engineers or architects or design contractors. Construction is undertaken by a contractor, usually under unit rates or occasionally lump sum contract.

Advantages

- The risks are shared between the parties. Consultant takes the design risks and contractor the construction risk.
- It is well understood, widely used type of contract.
- The tender total gives a good indication of final price, where the likelihood of change, disruption and risk is low.
- There is a good competition at tender.

Weaknesses

- The biggest weakness of this contract is that design is completed before tender. As a result this type of contract is relatively inflexible. New items of work are difficult to price.
- The division of responsibilities can cause conflict.
- The promoter and design organisation have minimal opportunity for involvement in the management of construction.

Turnkey Contracts

In Turnkey contracts, a single contractor is appointed to design, construct/erect, supply equipment and plant required and maintain (maintenance period) a project to the satisfaction of the client. All the client needs to do is turn the key to begin full and effective usage of the new facility.

Advantages

Professional Practice

- A fixed price offered in the Turnkey contract protects the client from cost overrun.
- The project is put into operation more rapidly as both design and construction are the responsibility of one entity. So it has shorter overall duration from conception to commissioning.
- The responsibility of the contract lies with a single source. Hence there is no disputed responsibilities.
- Provides all elements of the project including process design, civil, architectural and structural engineering design up to commissioning and hand over of a plant as an operational unit.
- The contractor is responsible for all the defects. Hence the contractor is always interested for effective quality control without the need for redundant reviews.

Weaknesses

- The cost of a turnkey contract may be significantly higher than a traditional form of contract because cost estimates are often expressed on overall terms without a detailed breakdown.
- As contractor has to do a lot of work to prepare the tender for bidding, there may be reduced competition. Hence the rate and contract price may not be competitive.
- The promoter has to settle all commitments at early stage. This type of contracts are very inflexible once they are awarded.
- As the turnkey contract does not permit the normal checking procedure associated with traditional form of contract, there may not be enough participation of the promoter to familiarize with the facility that he will operate after hand over.

Management contract

In management contract an external organization (management Contractor) is appointed by the client to manage and co-ordinate the design and construction phases of the project. Management contracting is quite different from the conventional approach as management contractor, providing professional services, becomes a member of the client's team. Client's involvement in the project is mandatory in this case.

Advantages

- Project being constantly co-ordinated by the management contractor, construction can be divided into large number of small packages and put out to tender only when required by the design and construction planning. This gives an opportunity to overlap design and construction and still obtain fixed prices for the construction work.
- As the work can be split into parts based on the discipline, handling size, expertise required - a good package competition can always be achieved.
- Project construction can be started early as work can proceed for part of the design and completed early as good overlapping between the construction activities can be achieved by better planning. This may result to subsequent reduction.
- Client has better flexibility for making changes in the project even after the start of the project. However flexibility is usually brought at some cost and excessive flexibility in most of the cases adversely effect on the early completion of the project.
- Client even being unaware of various knack of contract management can lead the project to a success by taking advantage of experience of management contractor.

Weaknesses

- Management contractor usually bears the risk for his professional negligence only. Hence the client is exposed to greater risk from construction contracts than in a conventional approach.
- As overall tender price is not known, final cost for the complete work is likely to remain uncertain for longer period of time.
- Additional verification/ inspection is required from the part of the client with some duplication of staff in supervision plus additional administrative staff.

Target Contract

In the cost contract, the contractor is paid the actual cost, monitored and agreed during the execution of contract along with contractors fee (overheads, profit and other non - quantifiable exposures). The contractor being appointed at earliest stage, can contribute in joint planning, value management and design - in terms of constructability as well. A target cost is set before the start of the work and any difference between the final actual and final target cost is shared by the client and the contractor as defined by the incentive mechanism. Target cost contract promotes good management, goodwill and co-operation between parties and important and beneficial for complex, risky and ill- defined projects.

Advantages

- Client and contractor both have a common interest in minimising actual cost. This may result to fewer claims and easy settlement of disputes.
- The client has more flexibility in changing the design before its actual construction. This becomes more important when detailed design is proceeding concurrently with construction.
- Promoter's (client's) involvement is very high as he is constantly active in management role for the joint planning, design, construction and efficient use of resources and satisfactory achievement of objectives.
- Knowledge of actual costs enhances better control and enables the cost of any proposed changes to be properly evaluated before the decision is taken.
- Client and Contractor both are involved to control the risk efficiently and client shall pay only for the risk which has been materialised

Weaknesses

- Little incentive to the contractor. If well designed incentive mechanism is not introduced, there may be no sufficient motivation to the contractor to be effective and efficient.
- However the target cost is fixed at the very beginning of the project, there is little certainty of final cost. It is likely to have various changes in cost. There may be some misunderstanding in adjusting target cost.
- Complicated administration - Auditing and accounting is cumbersome. It is extremely difficult to undertake the audit retrospectively, if not proceeded concurrently with the work. Client has to make additional auditing to be sure whether the contractor is making only the appropriate claims.

THE FORCE ACCOUNT

Known as 'Amanat', departmental works or called owner built approach strategy, Under this system, the workforce is on the owners payroll or account, The owner constructs the works using his own tools, staff, equipment etc. He himself handles procurement, logistics, supervision, scheduling , testing, inspections etc.

Advantages

- The owner retains the money that would be paid out under other approaches as the construction profit and overheads.
- The owner has direct day to day control over all operations
- No contractor claims
- No risk of having to change incapable contractors during construction

Disadvantages

- The owner assumes the full responsibility of the contractor.
- Owner's staffing requirements are high
- Owner must handle procurement, logistics, recruitment, training, labor relations, security, site amenities, scheduling, payroll, inspections, testing, legal obligations etc.

Terms of payment in the contracts

1. Price based - lump sum or unit rate contracts - price or rates are submitted by the contractor in his tender
2. Cost based - cost-reimbursable and target cost contract - actual cost incurred by the contractor is reimbursed, together with a fee for overheads and profit.

Lump sum contract

Advantages

- High degree of certainty about the final cost
- Contract administration is easy, if there is no or little changes
- It facilitates keen pricing
- Employer's management personnel are free for other projects

Disadvantages

- Unsuitable when change is expected
- Possibility of low bidding and loss making situation to the contractor, which may lead to cost cutting, trivial claims, bankruptcy.
- Employer's minimum involvement in construction management

Unit rate

Advantages

- Well understood and widely accepted type of contract
- Some flexibility for design change
- Some overlap with design and construction
- Good competition at tender
- Tender total gives a good indication of final price, where the likelihood of change and risk is low.

Disadvantages

- Claims resolution is difficult, quantity based and adversarial contract
- New items of work are difficult to price, limits to flexibility
- Limits on employer's involvement in management
- If risk is high and likelihood of change there would be no good indication of final price.

Cost - reimbursable

Strengths

- Extreme flexibility
- Fair payment for work and good control of risk
- Allow and require high level of employer's involvement
- Facilitate joint planning

Weakness

- Little incentive for the contractor to perform efficiently
- No estimate of final price at tender
- Administrative procedures may be difficult and unfamiliar to all parties.

Negotiation

The negotiation is a crucial milestone and one upon which the company may stand to win or lose its shirt.

In the commercial relationships there is usually a second bite at the cherry.
The commercial relationship is a continuous negotiation.

We negotiate about – pre-contract issues, the contract itself, contract interpretation, contract breaches, third-party matters, disputes, problems, claims.

Probing and testing in negotiation

1. Closed questions are those which can be answered ‘yes’ or ‘no’ they do not help
2. Open questions are those which ask the other side to explain their position – they provide data, give you control, avoid direct disagreement; keep the other party busy, that gives you time to think.

Managing a negotiation

- Set the agenda – decide the issues
- The sequential approach – tie the other side down
- Select the location – feel comfortable
- Take the minutes – the pen is mightier
- Pick the team – size and composition

Prepare – try to decide

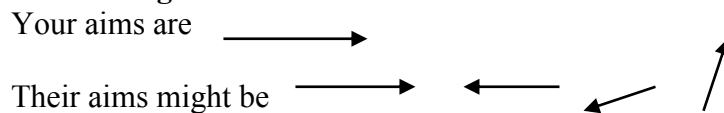
- Departure points – your opening offer
- Fall – back position if you have to concede (give up)
- Critical positions – beyond which you cant go

Negotiation – do’s and don’ts

1. Negotiation is not always a battle. There may be a better deal for both parties
2. You have more negotiating power than you think
3. Plan and Prepare
4. Never be afraid to negotiate, however far apart you are
5. Don’t field a second rate team
6. Be ready to defend against the arguments
7. Don’t talk. Listen
8. Don’t be intimidated (frightened) by ‘ facts figures and statistics’

9. Let the other side worry about the dead lock.
10. Don't be intimidated by final offer or take-it-or-leave-it
11. negotiate in dept. you may need to help your opponent to get a 'yes' from his own organization
12. Profit is Satisfaction as well as Money
13. Deadlock is sometimes Necessary and Useful
14. Negotiations have to have a little Iron in the Soul. People who want to be liked make unnecessary concessions
15. set your targets high
16. test your opponents, They might concede
17. learn the techniques

Aims in negotiation



Professional negotiator

1. aim for Justifiable solution to a joint problem
2. soft on people tough on problems
3. yield to reason not power
4. proceed independent of trust
5. generate win/win options
6. encourage both sides to be flexible
7. do not meet power with power

Common mistakes in negotiation

1. unnecessary deviation from the plan
2. asking closed question
3. insufficient open questions
4. not listening to what is being said or to how it is being said
5. giving poor answers
6. relaying on untested assumptions
7. not choosing words carefully
8. missing opportunities
9. missing signals – verbal and non-verbal
10. low aspiration levels
11. talking too much
12. losing control of one's emotions
13. diffidence or reserved
14. making a bad impression
- 15.

Professional negotiators do the followings for negotiation

While Planning

1. they consider a Wider range of options per issue (average negotiator are less likely to consider options proposed by the other side)
2. they plan for areas of common ground as well as areas of conflict (they look for ways to give the other side the best deal in these areas to make it easier for them to give something in areas of conflict)
3. They plan for the long term as well as short term issues.

4. They prepare plans which are flexible (average negotiator tend to plan sequentially, so that they can be thrown off balance easily)
5. They set Range objectives (ideal/realistic/walkway) average negotiator set fixed objectives

While in negotiation

1. Avoid insults and irritators
2. Test and probe a proposal before making a counter – proposal
3. Avoid attack/defend spirals
4. Signal problems in advance so that the other side has time to withdraw from possible confrontation
5. Give reasons
6. Probe and question
7. talk about – how I feel – not what you have done
8. give very little factual information away
9. summarizes often – testing understanding – avoiding ambiguity – provoking comments
10. review afterwards

Power in negotiation

You have more power than you think

Sources of power – competition, legitimacy, fairness, commitment, information and knowledge, risk-taking, time, effort, money, friendly associations, reputation, skill

Nicolai machhiavelli - Only a fool uses threatening or insulting language towards anyone. Neither changes anything, but the one makes him more cautious and the other makes him hate you and try even harder to injure you.

All parties to a negotiation should come out satisfied. This does not mean giving in, it means making the other man feel satisfied even when he should not be.

A good negotiator looks at the man on the other side of the table and tries to understand what his values are. He tries to look for the cause of what is happening and not the effect.

The professional negotiator, when necessary, will be

- slow
- unintelligent
- uncertain and
- indecisive

Negotiation – the two essentials

1. state your own position
2. listen to the other side when he states his position

Negotiation is not

- discussing
- instructing
- informing
- telling
- asking

Negotiation is

- mutual conceding
- mutual bargaining

- mutual agreeing

Negotiation – reaching the bargain

1. state/ probe – each side will set out its initial position and question and question the other's position
2. signal – one or both will then suggest possible areas of compromise to the other side
3. Respond – then propose – proposals ‘ if we do this – would you do that.
4. bargain
5. agree – when the point is agreed, make the deal positively

Negotiation – the two problems

1. relationships within your own negotiating team
2. Relationship with the other side – creating and maintaining a relationship versus or as well as getting a positive result from a difficult discussion.

Value management

Provides a structured framework in which requirements are evaluated against the means of achieving them as the project develops thereby insuring that money and effort is spent where it is most needed and best value for money is achieved.

VM is primarily about enhancing value and not cutting cost, cost is reduced as a by-product of VM.

VM embraces the whole value process and includes value planning, value engineering and value reviewing and includes; determining the functional requirements of the project or its parts, identifying alternatives and examining cost and value of each alternative to enable the best value selection.

Value analysis

It describes a value study of a project that is already built or designed and analyzes the project to see it can be improved.

The purpose of VA is to give a second look to the design of product with the aim to reduce cost without reducing its value. VA is applied after all aspects of design is ready or project completed by a separate team not involved in the design or implementation of a project.

Value engineering:

Value engineering is a discipline comprising a series of techniques aimed at an organized, systematic efforts directed at analyzing functions of items, products, equipment, process

and procedures for the purpose of accomplishing all the required functions at the lowest total cost.

Unnecessary cost built in design will have to be cut.

Functional balance between cost, performance and reliability by VE review.

The goal of VE is to ensure a design that meets the owner's required function at the most reasonable life cycle cost.

All designs have unnecessary costs - project is usually formed and designed under pressure of meeting with the deadlines the designer will not be able to review it for unnecessary cost.

The designer must understand that unnecessary cost in a design are not a reflection on his abilities as a professionals, but rather a management problems that needs to be addressed. Poor and wrong decisions can be made under the competing pressures of time, budget and quality. As a result all projects are likely to include unnecessary costs.

The reason for poor value occurs:

The challenge is to cut unnecessary costs or to keep at minimum level. Endless reasons for poor value in designs.

VM and cost reduction

- VM is positive, focused on value rather than cost, seeking to achieve an optimal balance between time, cost and quality.
- VM is structured, auditable and accountable
- VM is multi-disciplinary, seeking to maximize the creative potential working together.

Life cycle costing (capital costs, operating costs includes staffing, energy consumption, maintenance, cleaning, insurance etc and disposal cost) is a vital element when seeking to optimize value for money.

VM aims to eradicate the need for late changes, VM should not encourage them.

The first review of VM should include - list of objectives identified, objective hierarchy by ranking, feasibility of options and valuable option and selection of most promising option.

Second review should include - review of validity of the objectives, evaluate feasibility of options, examine most promising option, develop a project brief based on most promising option, program for developing the project.

Third review could be during design development (30-40% of design complete) and that include - review project requirements and objectives, check key design decisions taken are relevant, review key decisions against project brief, evaluate options, identify and develop the most valuable one to enhance value, agree a plan for the continued development of the design.

Who to involve:

- The value manager - client's professional advisor, project manager, construction manager
- The project team
- An external team

Techniques

- Information gathering
- Cost analysis
- Pareto rule
- Basic and secondary functions
- Cost and worth
- FAST (functional analysis)
- Creative thinking through brain storming
- Life-cycle costing
- Criteria weighting
- Analysis and ranking of alternatives value tree
- Weighted value tree etc

Benefit to promoter

- Improvement in value
- Reduction in risk
- Reduction of capital, operation and maintenance cost
- Improvement in delivery dates

Negative approach could be

- VM is already included in the service contract
- Uncertain about the process
- Thinking of increased risk through innovation

Benefit for the designer

- Reduction of his/her risk exposures
- Innovative and better design
- Integration of design with construction and safety
- Good professional reputation
- Financial gains through additional fees
- Marketing benefits for new methods and techniques

Negative approach could be

- Thinking that by VM the owner is criticizing his design capability
- Cost cutting exercise may result in reducing high quality elements
- expensive with no offsetting financial benefit
- risk may increase through innovation

Benefit for contractor

- Incentive through sharing of savings
- Improved relations
- Less interfaces and disruption to work
- Improved buildability and safety
- Expansion of experience
- Reduction in contract period and overhead costs
- Marketing benefits for new methods and techniques.

Negative approach could be

- Increased risk with new design
- Unwilling to loose high opportunity through variations and claims
- Thinking that the process may delay the construction start