P.E.S. College of Engineering, Chh. Sambhajinagar

Department of Mechanical and Automation Engineering

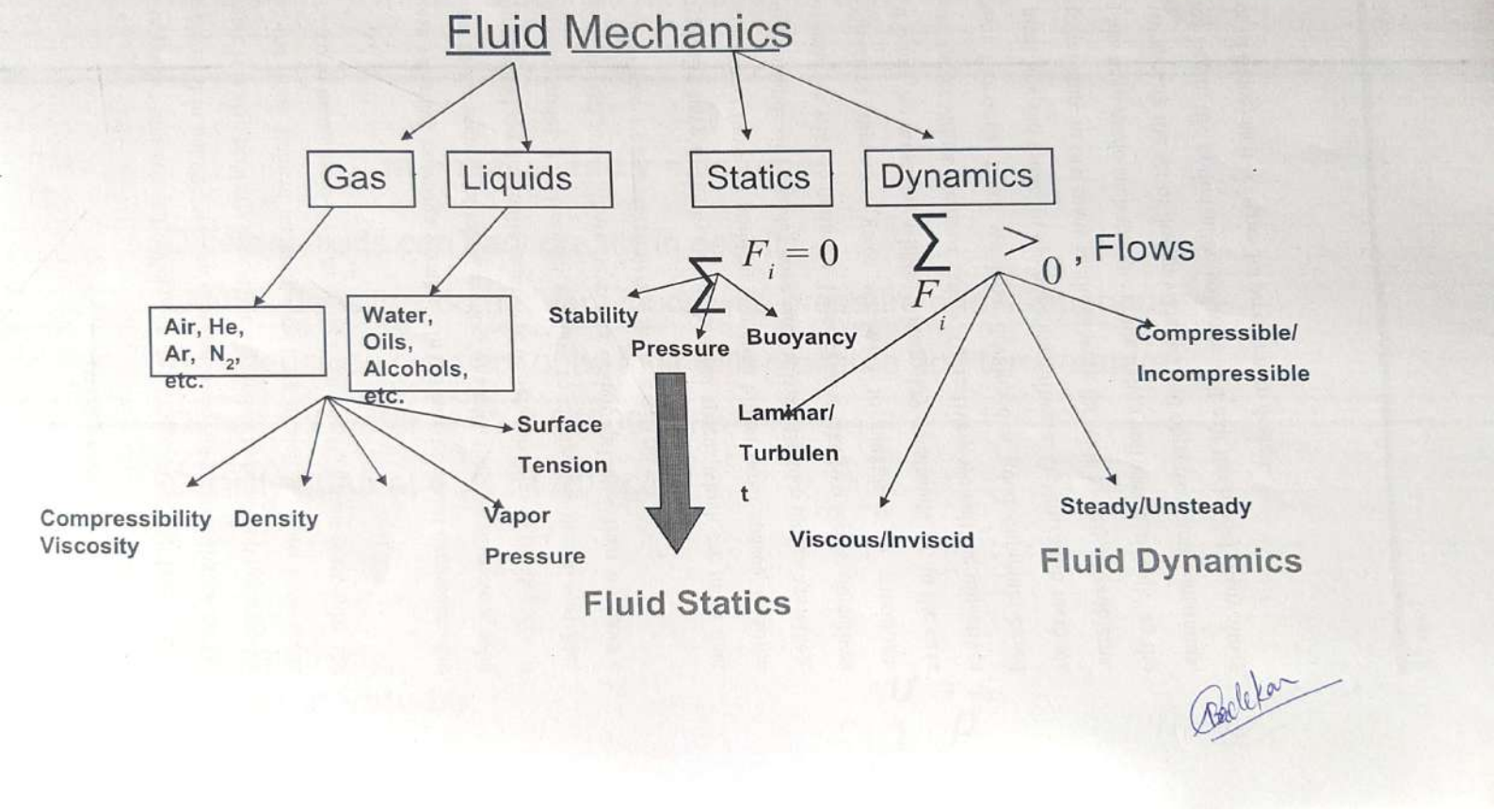
Fluid Mechanics

Unit 1 Properties of Fluids

S.Y. B.Tech

Prepared by
Assit. Prof. A. B. Gadekar

Fluid Mechanics



Measures of Fluid Mass and Weight: Density

The density of a fluid is defined as mass per unit volume.

$$\rho = \frac{m}{v}$$

m = mass, and v = volume.

- Different fluids can vary greatly in density
- Liquids densities do not vary much with pressure and temperature
- Gas densities can vary quite a bit with pressure and temperature
- Density of water at 4° C : 1000 kg/m^3
- Density of Air at 4° C : 1.20 kg/m^3

Alternatively,
Specific Volume:

$$U = \frac{1}{\rho}$$

P.E.S. College of Engineering

Mechanical Engineering Department

Thermodynamics

S.Y. B.Tech

Prof. Gawali A.A.

CHAPTER 1

Basic Concepts of Thermodynamics

What is thermodynamics?

- The study of thermodynamics is concerned with ways energy is stored within a body and how energy transformations, which involve heat and work, may take place.

- Approaches to studying thermodynamics
  - Macroscopic (Classical thermodynamics)
    - study large number of particles (molecules) that make up the substance in question
    - does not require knowledge of the behavior of individual molecules
  - Microscopic (Statistical thermodynamics)
    - concerned within behavior of individual particles (molecules)
    - study average behavior of large groups of individual particles

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Water Resources Engineering

Civil Engineering Department

P.E.S. College of Engineering, Aurangabad - 431001

Presented by

Mr. Phulpagar Sanju Ramesh

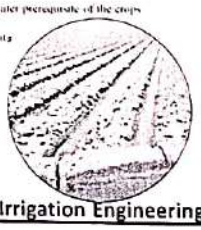
Contents

Module 1: Introduction (6 Lectures)

- **Irrigation definition:** The artificial application of water to land to assist in the production of crops
- The process of artificial application of water to the soil for the growth of agricultural crops is named as irrigation
- It is basically a study of arranging and planning a water supply framework for the agricultural land to shield the harvests from terrible impact of drought or minimum rainfall
- Irrigation engineering contains the investigation and the plan of works for association with river or waterway control, drainage of water logged areas and generates the hydroelectric power
- Here it is discussed about scope of irrigation engineering, necessity of irrigation engineering, advantages and disadvantages of irrigation engineering

Module 1: Introduction (6 Lectures)

- **Necessity of Irrigation Engineering:** There are many scope and necessity of irrigation engineering
- All through the yield time frame sufficient amounts of water is needed close to the root zone of the plants for their development
- At times, during the crop period, the rainfall may not be satisfactory to satisfy the water requirement of the crops
- The intensity of rainfall is basically unsure and outside the ability to control and it may not be all around dispersed all through the crop season of the cultivable area
- Along these lines, water system turns out to be totally important to satisfy the water prerequisite of the crops
- The necessity of irrigation engineering can be summarized in the following points



- 1. Less rainfall
- 2. Uneven distribution of rainfall
- 3. Improvement of perennial crops
- 4. Development of agriculture in dessert area
- 5. Growing a number of crops during a year

Irrigation Engineering

Module 1: Introduction (6 Lectures)

- The necessity of irrigation engineering can be summarized in the following points

- 1. **Less rainfall:** When the total rainfall is less then are needed for the crops, hence artificial supply is necessary. In such a case water system works might be developed at a spot where more water is accessible and then to pass on the water to the area where there is insufficiency of water.
- 2. **Uneven distribution of rainfall:** When the rainfall is not evenly distributed during the crop period, the irrigation is extremely necessary. In this collection of water during the abundance rainfall period, water might be provided to the crop during the period when there might be no rainfall.
- 3. **Improvement of perennial crops:** Some perennial crops like sugarcane, cotton etc. require water all through the significant piece of the year. Also the rainfall may satisfy the water necessity in the rainy season only. So, for the remaining part of the year irrigations become necessary.
- 4. **Development of agriculture in dessert area:** In desert areas where the rainfall is very scanty, irrigation is required for the development of agriculture.
- 5. **Growing a number of crops during a year:** The rainfall in an area may be sufficient to raise only one type of crop during the rainy season for which no irrigation may be required. However, with the provision of irrigation facilities in that area, crops can be raised in other seasons also.

Module 1: Introduction (6 Lectures)

- **Benefits and Ill Effects of Irrigation Engineering:** An irrigation engineering has both the benefits and ill effects of irrigation engineering. Some of the major benefits of irrigation engineering and ill effects of irrigation engineering are mentioned as below.

Advantages of Irrigation Engineering

- *1. Yield of crops:* In the time of low rainfall or drought, the yield of crop might be expanded by the water system framework.
- *2. Protection from famine:* The food creation of a nation can be improved by guaranteeing the development of crops by availing the irrigation facilities. A country is prevented from famine situation by irrigation engineering.
- *3. Prosperity of farmers:* When the supply of irrigation water is assured, the farmers can grow two or more crops in a year on the same land which is a proper benefits of irrigation engineering. Thus, the farmers may earn more money and improve their their living standards.
- *4. Improvement of cash crops:* Irrigation helps to improve the cultivation of cash crops like tobacco, cotton, sugarcane, coffee, tea etc.
- *5. Domestic and industrial water supply:* The irrigation canals may be utilized for domestic and industrial water supply. Some of the water system reservoirs likewise supply water to close by rural and urban areas. The canals also provide facilities for bathing, boating and other recreations.
- *6. Development of fisheries:* The reservoirs and the canals can be utilized for development of fishery projects.

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Module 1: Introduction (6 Lectures)

- The scope of irrigation engineering as a core practice in civil engineering field.
- Irrigation engineering involves the arranging, planning and keeping up with irrigation frameworks for the reliable and dispersion of water in remote and farming destinations.
- The work involved in irrigation engineering may comprise the establishment of pipelines and sprinklers or be involved in directing water from dams, canals, and rivers.
- The work is done in the field to evaluate terrain, soil and climate characteristics to optimize the use of water for towns and agricultural areas.
- Irrigation engineering addresses ongoing issues of drought and national water shortages, focus on developing irrigation systems that promote water conservation.
- Irrigation engineering may be involved in researching water recycling methods and developing new ways of minimizing water wastage and evaporation loss.
- Irrigation engineering is frequently utilized in rural countries like cotton, dairy and agriculture.
- Other works involved the occupational and business workers in the construction of irrigation systems for homeowners and office buildings.

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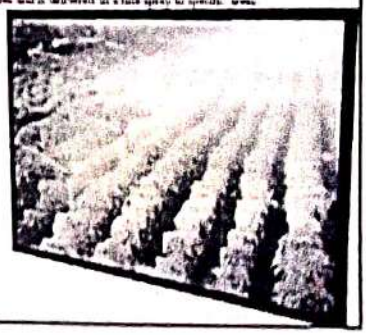
Module 1: Introduction (6 Lectures)

Types of Irrigation Systems

- In sprinkler irrigation systems water flows through a network of pipes and is delivered as a fine spray to specific areas.
- Many sprinklers are particularly efficient for tree crops.
- They also use less water and are cheaper to run.



- Affordable and easy to set up.
- Allows even distribution of water.
- Easy to convert large areas.
- Water at your chosen time of day to minimize evaporation.

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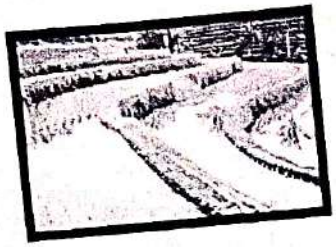
Types of Irrigation System

- Terrace irrigation is an ancient agriculture practice that still exists today, generally on mountainous regions.
- A series of steps are cut into the sloped land so that when it rains, the water flows down from the top step down to the succeeding steps releasing the soil nutrients as it goes.

- Manages water runoff
- Prevents soil runoff
- Improves soil fertility
- Improves land productivity



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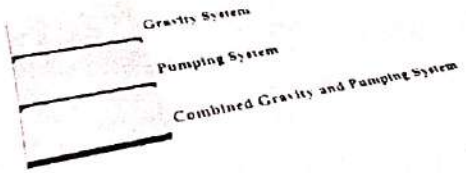
Types of Irrigation systems

- Water is scattered across events around the field with the help of manual power such as labors and watering cans.
- This system is very labor concentrated
- Each of these methods is useful in its own specific way and it depends on how you are using it and what you are using it on.
- The fade matters as sometimes the best irrigation system might seem to have flaws in it.
- Make sure you determine the soil you are using and check whether you have a good supply reservoir filled with water around you which would make it easier for you to take care of your plants.
- (Drip irrigation (trickle), Sprinkler irrigation, Surface)

METHODS OF WATER DISTRIBUTION SYSTEM

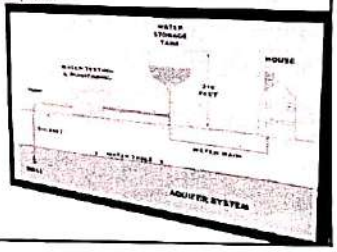
- For efficient distribution system adequate water pressure required various points
- Depending upon the level of source, topography of the area and other local conditions the water may be forced into distribution system by following ways -



METHODS OF WATER DISTRIBUTION SYSTEM

GRAVITY SYSTEM

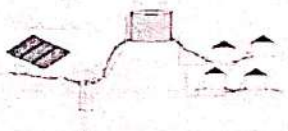
- Suitable when source of supply is at
- Most reliable and economical distribution system
- The water head available at the consumer is just minimum required.
- The remaining head is consumed in the friction of pipe water losses



METHODS OF WATER DISTRIBUTION SYSTEM

PUMPING SYSTEM

- Treated water is directly into the distribution main out storing
- Also called pumping without storing system
- High lifts pumps are required
- If power supply fails complete stoppage of water supply
- The method is



METHODS OF WATER DISTRIBUTION SYSTEM

COMBINED GRAVITY AND PUMPING SYSTEM

- Treated water is pumped and stored in an elevated distribution reservoir
- Then supplies to consumer by action of gravity
- The excess water during less demand periods
- Economical efficient
and reliable system

Module 1: Introduction (6 Lectures)

19

Module 1: Introduction (6 Lectures)

- Irrigation during Medieval India
- Irrigation development after Independence

20

Module 1: Introduction (6 Lectures)

- Irrigation in British India

21

Module 1: Introduction (6 Lectures)

- Irrigation development after Independence

22

Module 1: Introduction (6 Lectures)

- Future possibilities of Irrigation Development

23

Contents

Sr. No.	Contents	Slide No.
1	Water Requirement of Crops Water requirement of crops	4-4
2	Base, delta and duty	
3	Methods of improving duty	
4	Types of soil	
5	Types of soil water	
6	Soil moisture	
7	Consumptive use	
8	Irrigation frequency	
9	Irrigation methods	
10	Crops season	
11	Crop pattern	24-24

24

Water requirement of crops

- The water requirement of the crop is defined as the total quantity and the mode of water required for a crop from the time it is sown to the time it is harvested
- The water requirement varies from one crop to another and also with the agriculture land
- Hence, water requirement differs with crops and the same crop demands different water requirement for different places of cultivation
- Every crop planted demands a certain amount of water at certain intervals throughout their growth period
- If the demand is met by the rainfall at sufficient amount, then there is no requirement of irrigation water
- If the rainfall is not sufficient to meet the demands of the crops,
- Then, artificial satisfaction is necessary to determine the water requirement of crops are explained briefly
- Crop Period and Base Period
- **Crop Period**
- The time period from the sowing of the crop to the instant of its harvesting is called as crop period
- **Base Period**
- The time period from the first watering of the crop during its sowing to the last watering of the crop before its harvesting is called a base period. It is also called a base of the crop
- Usually, the crop period is greater than the base period. Practically, both terms are considered same and are expressed in days
- In the calculation of water requirements of crops, the crop period, base period and the growth period are considered same and represented by 'B' in days

Water requirement of crops

- **Duty and Delta of a Crop**
- **Delta**
- It is defined as the total depth of water required by a particular crop to attain its maturity condition
- It is represented by delta in cm
- Every crop requires a certain amount of water at certain intervals throughout its period of growth
- The time interval between such consecutive watering is called as "Frequency of irrigation" or "Rotation period".
- Usually, the water depth required by the crop varies from 5 to 10cm which again varies with the type of crop
- The rotation period can also vary in the range of 6 to 15 days depending on the type of crop
- Hence, the total depth of water required during the crop period represents the total quantity of water required for its complete nourishment
- This total quantity of water required by the crop measured in hectare-meter or acre-ft or million cubic meters or million cubic ft
- **The concept of the delta can be explained by a small example**
- If rice requires about 10cm depth of water at an average interval of 10 days and the crop period of the rice is 120 days. Determine delta?
- Crop Period, B = 120 days
- Interval of watering = 10days
- Number of intervals demanded by the crop = 120/10 = 12 Intervals
- The depth of water at each interval = 10cm
- Delta = Total depth of water throughout the crop period = 12 x 10 = 120cm

Water requirement of crops

- **Duty and Delta of a Crop**
- **Duty of Water (D)**
- Duty is defined as the number of hectares of land that is irrigated for the completely growth of a crop by supplying 1 meter cubes per second of water continuously throughout the crop or base period. It is the respective crop
- Duty gives a relation between the volume of water and the area of the crops that are harvested
- For example, "One hectare per cumec is the basis of 8 days means that the water flowing at a rate of 1 cubic per meter cube per second
- Relation between Duty and Delta
- The relationship between duty and delta is given by the formula :

Water requirement of crops

- **METHODS OF IMPROVING DUTY**
- The factors affecting the duty have been explained in previous article of this chapter
- If these factors are somehow made less effective the duty of water can be considerably increased
- Methods of improving duty have been enumerated as follows
1. By selecting such method of applying water
2. which should cause least wastage by way of seepage, percolation, and evaporation
3. Land should be properly ploughed and levelled so that a thin sheet of water may evenly be spread over it
4. The fields should be frequently ploughed
5. This measure reduces loss of moisture specially
6. when ground water is within capillary reach of the ground surface
7. Fields should be divided into small leaves
8. Smaller the size of leaves more will be the duty of water
9. Area to be irrigated should be located as near the canal as possible
10. This reduces conveyance losses and duty is increased

Water requirement of crops

Water requirement of crops

- Different Types of Soil – Sand, Silt, Clay and Loam
- Soil can be defined in many ways
- In civil engineering, soil is a naturally occurring loose unconsolidated weakly cemented relatively unconsolidated mineral particles, organic or inorganic in character lying over the bed rock which is formed by weathering of rocks
- Soil is formed by different processes such as grind rock, sand silt, clay, loam and humus

Sand, Silt, and Clay

Water requirement of crops

- **1. Sand**
- It is a coarse-grained, loose unconsolidated material
- It consists of particles of rock and hard minerals, such as silicon dioxide
- It is one of the largest type of soil particles, where each particle is visible to naked eye
- The large, relatively visible, sand particle size increases soil aeration, improves drainage in tight soils and creates plant growth opportunities, pathways or air
- The particle size of coarse sand ranges from 2 – 4.75mm. Medium sand ranges from 0.425 – 2 mm and fine sand ranges from 0.075 – 0.425 mm
- The largest particle size of the sand gives wet or dry sands soil a grainy texture when you rub it between your fingers and it makes the soil feel rough, even when you try to stick it together in a wet hand
- The particle shape is angular, subangular, rounded, flat or elongated. Its texture is rough, smooth or pebbled

Water requirement of crops

- **2. Silt**
- Silt is a sediment material with an intermediate size between sand and clay
- Carried by water during flood it forms a fertile deposit on valleys floor
- The particle size of silt ranges from 0.002 and 0.06 mm

- Silt is a non-plastic or low plasticity material due to its fineness
- Due to its fineness, when wet it becomes a smooth mud that you can form easily into balls or other shapes in your hand and when silt soil is very wet, it blends seamlessly with water to form fine, runny puddles of mud

Water requirement of crops

- **3. Clay**
- Clay particles are the finest of all the soil particles, measuring fewer than 0.002 mm in size
- It consists of macroscopic and submicroscopic particles derived from the chemical decomposition of rocks
- Clay is a fine grained cohesive soil
- They stick together readily and form a sticky or gluey texture when they are wet or dry

- Clay is made of over 25 percent clay and because of the spaces found between clay particles, clay soils hold a high amount of water
- Compared to sand particles, which are generally round, clay particles are flat and covered with tiny plates

Water requirement of crops

- **4. Loam**
- Loam is a mixture of clay, sand and silt and benefits from the qualities of these 3 different textures, favouring water retention, air circulation, drainage and fertility
- These soils are fertile, easy to work with and provide good drainage
- Depending on their predominant composition they can be either sandy or clay loam

- The way the other particles combine in the soil makes the loam
- For instance, a soil that is 40 per cent clay, 30 per cent sand and 20 per cent silt is a sandy clay loam, with the soil types before "loam" listed in the order their particles are most dominant in the loam
- The labels 'clay loam', 'silt loam' and 'sand loam' are used to refer to soils that are composed predominantly of those ingredients

Water requirement of crops

- **Soil Moisture**
- Soil moisture refers to the amount of water contained within a soil sample
- The moisture content of a soil is an indicative of the degree of saturation of the specimen and is represented by the ratio of the mass of water to the mass of solids in the soil sample
- Soil moisture content plays an essential role in groundwater recharge and soil chemistry
- The region where soil moisture and air coexist, also known as the zone of aeration, is especially crucial in the assessment of contrasts in metal leaving
- **Explains Soil Moisture**
- Soil is composed of masses of irregular-shaped particles (solids) of various sizes
- Between these particles exist voids (pores or spaces) where water is free to accumulate
- The water present in these voids make up the mass of water in the soil and directly influences the soil moisture content
- Soil moisture content may be expressed as a percentage, using the following equation

- w = Mw/Ms × 100

- Where:
- Mw = mass of water in the soil sample
- Ms = mass of solids in the soil sample

Water requirement of crops

- **Consumptive Use**
- It is the quantity of water used by the vegetation growth of a given area
- It is the amount of water required by a crop for its vegetative growth to evapotranspiration and building of plant tissues plus evaporation from soils and intercepted precipitation
- It is expressed in terms of depth of water
- Consumptive use varies with temperature, humidity, wind speed, topography, sunlight hours, method of irrigation, moisture availability,
- Mathematically,
- Consumptive Use = Evapotranspiration = Evaporation + transpiration It is expressed in terms of depth of water
- **Factors Affecting the Consumptive Use of Water**
- Consumptive use of water varies with
1. Evaporation which depends on humidity
2. Mean Monthly temperature
3. Growing season of crops and cropping pattern
4. Monthly precipitation in area
5. Wind velocity in locality
6. Soil and topographic
7. Irrigation practices and method of irrigation
8. Sunlight hours

Water requirement of crops

- **Irrigation frequency**
- **Definition**: Irrigation frequency is defined as the frequency of applying water to a particular crop at a certain stage of growth and is expressed in days
- Not all delectable rainfall is effective and some may be lost through surface runoff, deep percolation or evaporation
- Only a part of the rainfall can be effectively used by the crop depending on its root zone depth and the soil storage capacity
- This part is referred to as the Effective Rainfall
- The interval that can be safely allowed between two successive irrigations is known as frequency of irrigation
- Allowable soil moisture depletion
- Irrigation interval
- Daily water use
- Irrigation frequency will depend on soil, crop and climate because different type have different type of permeability, different crops require different depths of water and different periods and evaporation loss will be more in hotter climate than cooler climate therefore more water will be required

Water requirement of crops

- Cropping Seasons
- Cropping seasons are the seasons in which a particular crop is grown
- Agriculture and cropping provides a major source of raw materials for people and fodder for animals.
- The food crops are cultivated on 2/3rd of total cropped area
- The major cropping seasons of India are
- **Kharif Crops**: In this season the monsoon crops are cultivated and harvested which starts from June and ends in October in India.
- These types of crops require a lot of water
- Kharif crops depend both on the quantity and timing of rainwater
- Too much or little or rain at the wrong time will make the efforts of the whole year wasteful
- Examples: Rice, tea and coffee
- **Rabi Crops**: In this season the crops are cultivated in between October and November and harvested in the month of February to April
- These types of crops require less amount of water and need cold weather
- Examples: Wheats, oat and barley.
- **Zaid Crops**: In this season the crops are cultivated in between March and June which is between Kharif and Rabi cropping season
- These types of crops require warm and dry weather and a longer day length for flowering
- In comparison to the rabi crops grown during the dry season, the Kharif crops stand out.
- Examples: Seasonal fruits and vegetables like cucumber, pumpkin and bitter gourd. (

Water requirement of crops

- **Cropping Pattern**
- A cropping pattern refers to the proportion of land under cultivation of various crops at different points of your time
- This indicates the time and arrangement of crops during a particular acreage
- Changing cropping pattern would cause
- Change in the proportion of land under different crops
- Change in crops' sequence and time of crops
- The cropping pattern in India is mostly determined by the average rainfall, temperature, climate, technology, and the type of soil used for agriculture.
- The different patterns of cropping are practiced to obtain the maximum yield
- A cropping pattern that changes across time and space, is a dynamic idea
- It can be defined as the percentage of land covered by diverse crops at any given period
- In other terms, it is a yearly pattern of sowing and following on a certain region
- Cropping patterns of India are influenced by rainfall, climate, temperature, soil type, and technology
- Cropping Patterns in India can be depicted by using the primary crops as the base crop and all other possible alternative crops as alternative crops
- It is critical to incorporate crops and their agro-climatic conditions to categories them
- Wheat, barley, and oats, for example, are grouped

Water requirement of crops

- **Cropping Pattern**
- The major cropping pattern types include the following.
- Mono cropping: Growing one agricultural species at a time in agricultural land is the meaning of monocropping
- Monocropping can reduce the fertility of the soil and destroy the structure of the soil
- Chemical fertilizers are required to spur the production
- The practice allows the spread of pests and diseases. Monocropping and monoculture convey the same meaning
- **Mixed Cropping**: When two or more crops are grown on an equivalent land simultaneously, it's referred to as mixed cropping
- For example, growing wheat and gram on an equivalent land at an equivalent time is mixed cropping
- The practice of this method helps to minimize the risk of the failure of one of the crops and provides insurance against the crop failure due to abnormal weather conditions
- The crops that are grown together should have a different maturation time and different water requirements
- **Inter cropping**: Intercropping is the practice of planting quite one crop on an equivalent field at an equivalent time during a definite row pattern.
- After one row of the most crop, three rows of intercrops are often grown. This increases productivity per unit area.
- **Crop Rotation**: In this pattern, different crops are grown on an equivalent land in pre-planned succession.
- The crops are classified based on the time they are rotated one-year rotation, two-year rotation, and three-year rotation, depending upon their duration
- Legumes are included within the crop rotation program to extend soil fertility.
- The crops which require a high fertility level are often grown after the legumes.
- The crops which require low inputs are often grown after the crops that need high inputs. (

Basic Human Rights

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Contents

An Individuel

- Man is a social animal. He has a natural urge to live an associated life with others
- The human child depends on its parents and others for its survival and growth
- Man is biologically and psychologically equipped to live in groups
- No human being can exist fully without association
- An man's life is an continuous extend a group life. Because individuals cannot be understood apart from their relations with one another, the relations cannot be understood apart from the units or terms of the relationship
- Man is a social animal because his nature makes him so. So he is urged to unite
- Man is a social animal

- He lives, develops through interaction with others
- He is born in the family of relatives. His nature compels him to live with fellow beings
- He also shares his skills
- Human values help people to lead their lives in a group. He survives, grows, learns by sharing with his fellow beings
- Man is a social animal not only by nature but also by necessity
- His real their needs and desperations makes man social

An Individuel

- Man has many needs and necessities. Out of these different needs, social, mental and physical needs are very important and need fulfilment
- He can't fulfill these needs without living in a group, so called society
- All the needs and necessities of man compel him to live in society
- Many of his needs and necessities will remain unfulfilled without the cooperation of his fellow beings
- His psychological safety, social recognition, loves and self- actualization needs are fulfilled only within the course of living in the society
- Man is totally dependent for his survival upon the existence of society
- He can't survive [illegible] under the care of his parents and family members
- It would not survive even a day without the support of society
- Many of basic needs like food, clothing, shelter, health and education are fulfilled only within the framework of society
- He also needs society for his social and mental developments. His need for self-existence compels him to live in society
- Individual also satisfies his natural physical needs in a socially accepted way in a society

An Individuel

- To fulfill his various needs in the old age, individual lives in society
- Normally, beginner in the line of thrift, compels him to live in society
- The various studies in normal and effective social attitudes, help to live in society
- Due to the specialization in human needs man lives in society
- Having a look, we find that the activities that are only for the fulfillment of his needs and necessities man lives in society
- [illegible] for satisfaction for needs and satisfaction & fulfillment

- Man's various needs such as physical needs, and achievement are social. Same are not achievable by individuals and needs the cooperation and assistance of human minds
- Not only physical & human needs the development of the mind are also necessary to society
- The social attitudes, beliefs, concepts, skills and thoughts origin [illegible] in society
- Thus man is a social animal. His nature and necessities make him a social being
- In the absence of society man is human being. He acquires necessities within society

Group

- Living in groups is one pre-reflected social system because we came of this world naturally as that way
- Having most of our personal on this planet, no individual human being was just another pre-mammal having our frightening health or claws
- Every whole worked with a short space of living lately. The human being, as an individual, is no way equal, in strength, a rather lowly of and some could hardly endeavor any large game without team work
- As we can go [illegible] it was the discovery of fallow that occasional some assistance between people, as no individual could usually be self-sufficient
- Today, getting urbanized and getting upward and people are compatible without any assistance, to form a social commitment to be one of belonging to a group
- It is in our nature to associate ourselves with friends, close associates, study, sports, some as one and so forth
- We are naturally fond of company, quite simply because it is in our genes
- Humans are social animals
- Each have assistance and their need one another to make their existence worthwhile
- For ages of their existence humans have shared warm things, ceremonies and also be [illegible] of their fortune with sorrows they depend on one another for security, gladness, pleasure and to share others

21-12-2024

Group

- By [illegible] we've managed [illegible] so far more or less successfully because we've learned to work with one another
- People don't always become [illegible] is not highly [illegible]
- We have developed [illegible] habits of life and our diversities enabled us
- We have [illegible] work to improve the standard of living of the human society
- We have learned from one another and rephrase good virtues and set precedence
- Life is much easier when people can depend on another for various things
- People all have different tastes, skills etc., so we make our lives easier by grouping together to utilize others uniquely different qualities
- Living in groups has always been the way of all societies in this world
- Ever since mankind came into being on this planet earth the basic way to survive was through living in groups

Group

- Through this basic concept of living together in groups, mankind has been able to make it to where he is to this day
- Man has evolved to the level of the whole animal kingdom by finding the best tasks in society that can be used to his advantage for survival
- For man, mastering the art of survival meant learning how to live in groups and using all that these groups have to offer for the betterment of the whole group
- One person can do something one way, and to this, another person doing the same thing another way, now using their abilities in the same thing can result in that thing being accomplished for the best that has to offer the whole of the society, in the end.
- Basically, bringing people together to achieve the best way at getting a thing done, has concluded in major advancements for all of society, to the end

Civil Society

- The term society indicates people living together in an ordered community
- Society sets free as well as limits the activities of men and it is not only important but a necessary condition of human being and it is needed for the fulfillment of life
- Society exists only where social beings behave towards each other in ways determined by their recognition of one another
- It has been observed that wherever there is life there is society
- This is so because life means heredity and as it is known to all heredity can be only out of and in the presence of other life
- All higher animals at least have a very definite society arising out of their natural requirements and the conditions involved in the never ending or never changing process of their species
- In a society each member seeks something and gives something
- A society may also comprise like-minded people having their own norms and values within the society
- A society may be made up of a varied collection of individuals
- Ultimately, it can be said that society is universal and is present throughout. It has no defined boundary or no durable limits
- A society is a collection of individuals united by certain relations or modes of behavior which mark them different from others who do not enter into those relations or who differ from those individuals in behavior
- Thus, society is the complex of social behavior and the network of social relationship

Civil Society

- Society is a conceptual or intangible term that predicts or indicates the complex of inter-relations that exist between and among the members of the group
- Society exists wherever there are good or bad, proper or improper relationships between human beings
- As these social relationships are not evident, they do not have any concrete form and hence society is abstract
- In essence, society means a state or condition, a relationship and is therefore necessarily an abstraction
- It is an organization of relationship
- It is the total complex of human relationships
- Society includes whole range of human relations
- Social relationships invariably possess a physical element which takes the form of awareness of another's presence, common objective or common interest
- So, it can be concluded saying that society is the union itself, the organization, the sum of formal relations in which associating individuals are bound together
- Societies are made up of mutual interaction and inter relation of individuals and of the structure formed by their relations

A State (An Organized Political Community)

- A state is a compulsory political organization with a centralized government that has a complete control of the legitimate use of force within a certain geographical territory
- Many human societies have been governed by states for millennia, however most of prehistoric people lived in stateless societies
- The first states arose about 5,500 years ago in conjunction with rapid growth of cities, invention of writing, and codification of new forms of religion. Over time, a variety of different forms developed, employing a variety of justifications for their existence
- Today, however, the modern nation-state is the predominant form
- A state of which people are the subjects. Some states are sovereign
- Some states are subject to external sovereignty or formal leadership where ultimate sovereignty lies in another state
- The term state is also applied to federated states that are members of a federal union, which is the sovereign state
- Thus, a state is an organized political group that exercises authority over a particular territory

Equality

- Equality means that all people have the same worth and must be treated equally, regardless of ethnic background, sexual orientation or functional impairments
- The word equality comes from the UN's Universal Declaration of Human
- Rights from 1948.
- The Universal Declaration of Human Rights is about all people having the same dignity and rights
- All people have a right to say what they think, believe in whichever god they want and choose whichever partner they want to live with
- The Declaration of Human Rights applies to all people in the world
- A modern democracies does not function well if human rights are not respected. The state must be able to protect its inhabitants from discrimination and oppression

Justice (Social Justice)

- Justice, or rather Social justice is defined as justice in terms of the distribution of wealth, opportunities and privileges within a society.
- It is also the idea that is achieved through institutions or services that work to make sure that people can equally access the benefits of social cooperation and that also guard people against socio-economic inequality.
- While social justice and human rights are two different concepts, they are closely linked. In 1948, **Universal Declaration of Human Rights** includes economic, social and cultural rights such as the right to health, security in the event of unemployment, and education.
- In 1966, these rights were brought into the International Covenant on Economic, Social and Cultural Rights (ICESCR), part of the International Bill of Human Rights.
- The UK is a signatory to the ICESCR. In 1993, the Vienna Declaration and Programme of Action highlighted that extreme poverty inhibits the full and effective enjoyment of human rights."
- In the UK, there are various domestic laws which aim to ensure that people enjoy equal opportunities and privileges within society, including the Human Rights Act 1998, which gives effect to the European Convention on Human Rights (ECHR).

HUMAN VALUES

- Values are the guiding principles of human lives
- They are essential for positive human behaviour and actions in our daily lives
- They are formed on the basis of interests, choices, needs, desires and preferences
- They have played important role in not only sociology, but also psychology, anthropology and related disciplines.
- **Basic human values refer to those values which are at the core of being human.**
- **The values which are considered basic inherent values in humans include truth, honesty, loyalty, love, peace, etc.**
- **Because they bring out the fundamental goodness of human beings and society at large.**
- **Further, since these values are unifying in nature and cut across individual's social, cultural, religious and sectarian interests, they are also considered universal, timeless and eternal applying to all human beings.**
- Values are the ideals, customs or institutions from which we make decisions about right and wrong
- They also help weighing out what is important and useful when we need to choose between two options or decisions.
- Values are the beliefs of an individual or a social group in which there is emotional investment
- Values also tell us which are more or less important, also which is useful when we have to trade off meeting one value over another

HUMAN RIGHTS AND HUMAN DUTIES

- In the **Universal Declaration of Human Rights (UDHR) Article 1** "duty" and "responsibility" are defined for the purpose of the declaration. "duty" means an ethical or moral obligation, and "responsibility" an obligation that is legally binding under existing international law.
- The UDHR explains in details the complexity of the exercise of responsibilities.
- The bearers are the members of the global community that have collective, as well as individual duties and responsibilities to promote universal observance of human rights and fundamental freedoms.
- "Global community" means both States and non-States actors: international, regional and subregional intergovernmental organizations, non-governmental organizations, public and private, secular (laïque) national corporations, other entities of civil society, peoples, communities and individuals taken as a collective.
- The UDHR reflects the rights or direct suggestions of both states and non-states actors that have to be mutual supporting bearers of [illegible] responsibilities.
- On the contrary, the UN Millennium Declaration (MD), recent international document of the governments, has focused primarily on the States responsibilities that are shared and collective. It is depicted there that "We heads of State and Government ... recognize that, in addition to our separate responsibilities to our individual societies, we have a collective responsibility to uphold the principles of human dignity, equality and equity at the global level.
- As leaders we have a duty therefore to the entire world's people ..."
- The UDHR Article 2 is dedicated to postulate exhaustively the bearers of duties and responsibilities. "Members of the global community have collective, as well as individual duties and responsibilities, to promote universal respect for and observance of human rights and fundamental freedoms.
- This declaration considers the existence of collective responsibilities inside the limits traced by the universally recognized rights, with the implicit consequences of accountability that would be fairly distributed.

HUMAN RIGHTS AND HUMAN DUTIES

- The UDHR addresses simultaneously the responsibilities of individuals and groups.
- It states "As the holders of human rights and fundamental freedoms, all individuals, peoples and communities in the exercise of their rights and freedoms, have the duty and responsibility to respect those of others, and a duty to strive for the promotion and observance thereof.
- This statement continues appropriately the way initiated by the UDHR in Article 29 and reiterates the interaction of duties, responsibilities and rights of the International Covenants on Human Rights of 1966.
- In general, human rights are understood to regulate the relationship between states and individuals in the context of ordinary life.
- International Human Rights standards were developed to protect people's human rights against violations by individuals, groups or nations.
- International human rights law refers to the body of international law to promote and protect human rights at the international, regional and domestic levels and is primarily made up of treaties and agreements between states to have binding legal effect between the parties that have agreed to them.
- When a state ratifies the human rights treaties they make a commitment to respect those rights and ensure that their domestic law is compatible with international legislation.
- Justice Cardozo has given his opinion that "We are free only if we know, and so in proportion to our knowledge."
- "There is no freedom without choice, and there is no choice without knowledge."
- The Nobel Laurel Dr. Amartya Sen has rightly said that "Development consists of the removal of various types of unfreedoms that leave people with little choice and little opportunity of exercising their reasoned agency."

HUMAN RIGHTS AND HUMAN DUTIES

- **Contribution of American Bill of Rights**
- The American bill of rights contributed to develop the main international framework for human rights.
- From its inception in 1945 the United Nations (UN) has affirmed its commitment to human rights.
- This is apparent most significantly through the drafting of the Universal Declaration of Human Rights (UDHR).
- A series of international human rights treaties and other instruments adopted since 1945 have conferred legal form on inherent human rights and developed the body of international human rights.
- The international human rights movement was strengthened when the United Nations General Assembly adopted the UDHR on 10th December 1948.
- Drafted as a common standard of achievement for all people and nations, the Declaration for the first time in human history spell out basic civil, political, economic, social and cultural rights that all human beings should enjoy.
- It has over time, been widely accepted as the fundamental norms of human rights that everyone should respect and protect.

French Revolution

- The French Revolution was a major event in the history of Western societies, and had a profound effect on the world today.
- Beginning in 1789, the French Revolution saw the French people overthrowing their absolute monarchy and bringing about a republic that was based on the principles of equality, liberty and fraternity.
- Before the French Revolution, French society was structured in the rules of a social system the system known as the Estates System.
- The estate to which a person belonged was very important because it determined that person's rights and status in society.
- Usually, a person remains in one estate for his or her lifetime, and any movement from upwards in the estate system can take many generations.
- The first estate was the clergy, the second estate was the nobility and the third estate was the peasants.
- While the peasants made up the vast majority of the people in French society, over 96%, they lacked any political or economic power.
- By 1789, this began to cause anger amongst the peasant class, as many of them began to question the authority of their monarch, Louis XVI.
- In addition to that, several other elements combined to cause the French Revolution to begin. For example, in the decades before the French Revolution, Europe was being transformed by the Age of Enlightenment.
- The Enlightenment involved an intellectual movement, in which famous thinkers and philosophers challenged some of the basic foundations of society, including: role of the government, basic human nature, sources of authority and ideas centered on liberty.
- These new ideas caused people in France to begin questioning the role and authority of Louis XVI and inspired French commoners to work to overthrow their absolute monarch.

French Revolution

- The revolution itself unfolded a series of significant events, which showed the growth of the peasant class and the fall of the French monarchy.
- The first step of the revolution began in 1789 when Louis XVI called the meeting of Estates-General representatives of each of the three estates.
- Louis XVI called the meeting in order to solve the economic crisis facing the country at the time.
- Unfortunately, the three estates could not decide how to vote during the meeting of the Estates-General representatives and the meeting ended.
- Angered with the inaction of the Estates-General and upset with their position in French society, many of the third estate representatives left and met to take the Tennis Court Oath.
- It was here that the third estate established the National Assembly, the new revolutionary government, and pledged "not to separate, and to reassemble wherever circumstances require, until the constitution of the kingdom is established."
- Next, the French Revolution took a violent turn when the Parisian citizens carried out the storming of the Bastille.
- The Bastille was a prison fortress in Paris that the French monarchy used to store weapons and imprison enemies of the state.
- For many years the Bastille symbolized the kings absolute authority.
- On July 14, 1789 a Paris mob stormed the Bastille and demolished it brick by brick with their hands.
- Considered by many historians to be the "spark of the French Revolution, the storming of the Bastille was a significant event because it saw the third estate citizens successfully challenging the authority of Louis XVI.

French Revolution

- Then, on August 26th, 1789, the National Assembly adopted the Declaration of the Rights of Man and of the Citizen.
- The Declaration was written by Marquis de Lafayette, a French military officer who fought in the American Revolution and was inspired by the ideals of liberty expressed by Thomas Jefferson in the Declaration of Independence.
- The Declaration of the Rights of Man and of the Citizen was vitally important to the French Revolution because it directly challenged the authority of Louis XVI.
- For example, the Declaration of the Rights of Man and of the Citizen set out a series of individual rights protected by law.
- Today, many historians view the Declaration of the Rights of Man and of the Citizen as an important document in both the history of the French Revolution and the history of democracy and individual rights in the world.

RIGHTS OF CITIZENS

- The Universal Declaration of Human Rights (UDHR), adopted by the UN General Assembly in 1948, is one of the most important sources of economic, social and cultural rights.
- It recognizes the right to social security in Article 22, the right to work in Article 23, the right to rest and leisure in Article 24, the right to an adequate standard of living in Article 25, the right to education in Article26 and the right to benefits of science and culture in Article 27.
- The International Covenant on Economic, Social and Cultural Rights (ICESCR) is the primary international legal source of economic, social and cultural rights.
- The Covenant recognized and protects the right to work and to justice and favourable working conditions in Article 6 and 7, the right to join trade unions and take collective labour action in Article 8, the right to social security in Article 9, the right to protection of the family including protection for mothers and children in Article 10, the right to an adequate standard of living including the right to food and the right to housing in Article 11, the right to health in Article 12, the right to education in Article 13 as well as the right to participate in cultural life and the right to benefits of science and culture in Article 15.

RIGHTS OF CITIZENS

- The International Covenant on Civil and Political Rights, adopted at the same time as the ICESCR, recognizes and protects a number of core economic, social and cultural rights, including the right to join trade unions in Article 22, and the right of ethnic, religious or linguistic minorities to engage in their culture, practice their religion and use their language in Article 27.
- The convention on the Rights of the Child recognizes and protects many of the economic, social and cultural rights recognized in the ICESCR in relation to children including the right to health in Article 24, the right to social security in Article 26, the right to an adequate standard of living in Article 27, the right to education in Article 28 and the right to protection from economic exploitation in Article 32.
- The Convention on the Elimination of All Forms of Racial Discrimination prohibits discrimination on the basis of racial or ethnic origin in relation to a number of economic, social and cultural rights.
- The Convention on the Elimination of All Forms of Discrimination Against Women affirms a range of economic, social and cultural rights to women.
- The Conventions of the International Labour Organization (ILO) protects a range of work related economic, social and cultural rights.
- It is the Government's responsibility to ensure the above rights to the citizens.

RIGHTS OF WORKING PEOPLE

- The rights of working people include freedom of association, freedom of safety and freedom of dignity in the workplace.
- Freedom of Association
- Freedom of association is a fundamental human right guaranteed by major international human rights standards, including the European Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights, International Covenant on Economic, Social and Cultural Rights (ICESCR) and International Labour Organization (ILO) conventions.
- It is critical to the functioning of democracies and an essential condition for the exercise of other human rights.
- In the human rights and business context, freedom of association is most frequently understood as the right of workers "to join organizations of their own choice without previous authorization," which is a fundamental enabling right.
- It is also frequently lost in many other basic labour rights as the ability of workers to organize allows them to use their collective power to achieve improved labour rights, health and safety at the workplace, the right not to be discriminated against and freedom from forced labour and child labour.
- The principle of freedom of association is at the core of the ILO's values, as enshrined in the ILO constitution (1919), the ILO Declaration of Philadelphia (1944), and the ILO Declaration on Fundamental Principles and Rights at Work (1998).
- It is also a right proclaimed in the Universal Declaration of Human Rights (1948) and has been included in a number of voluntary initiatives such as the Ethical Trading Initiative Base Code of India Ministry of Labour and Employment.
- National Policy on Safety, Dignity, Health and Environment at Work Place
- The Constitution of India provides detailed provisions for the rights of the citizens and also lays down the Directive Principles of State Policy which set an aim to which the activities of the state are to be guided.

RIGHTS OF WORKING PEOPLE

- These Directive Principles provide for securing the health and strength of employees, men and women and state.
- That the tender age of children are not abused.
- That citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.
- That just and humane conditions of work and maternity relief are provided.
- That the Government shall take steps, by suitable legislation or in any other way, to secure the participation of employee to the management of undertakings, establishments or other organisations engaged in any industry.
- On the basis of these Directive Principles as well as international instruments, Government is committed to regulate all economic activities for management of safety and health risks at workplaces and to provide measures so as to ensure safe and healthy working conditions for every working man and woman in the nation.
- Government recognizes that safety and health of workers has a positive impact on productivity and economic and social development.
- As prevention is an integral part of economic activities high safety and health standard at work is as important as good business performance for new as well as existing industries.
- The formulation of policy, priorities and strategies in occupational safety, health and environment at work places, is undertaken by national authorities in consultation with social partners for fulfilling such objectives.
- A critical role is played by the Government and the social partners, professional safety and health organizations in ensuring preventive and in also providing treatment, support and rehabilitation services.
- Government of India firmly believes that without safe, clean environment as well as healthy working conditions, social justice and economic growth cannot be achieved and that safe and healthy working environment is recognized as a fundamental human right. Education, training, consultation and exchange of information and good practices are essential for prevention and promotion of such measures.

RIGHTS OF EXPLOITED PEOPLE

- India is a source destination and transit country for men, women and children trafficked for the purposes of forced labour and commercial sexual exploitation
- Forced labour now constitutes India's largest trafficking
- [illegible] and children are held in debt bondage and face forced labour, working in brick kilns, rice mills, agriculture, and garment factories
- The estimates include that the problem affects 2 to 65 million Indians
- Women and girls are trafficked within the country for the purposes of commercial sexual exploitation and forced marriage especially in those areas where the sex ratio is highly skewed in favour of men
- Children are subjected to forced labour as factory workers, domestic servants, beggars, and agriculture workers, and have been used as armed combatants by some leftwing and insurgent groups
- In order to take care of the human rights of these exploited people the Government of India prohibits some forms of trafficking for commercial sexual exploitation through the Immoral Trafficking Prevention Act (ITPA)
- Prescribed penalties under the ITPA ranging from seven years' to life imprisonment are sufficiently stringent and commensurate with those for other grave crimes
- India also prohibits bonded and forced labour through the Bonded Labour Abolition Act, the Child Labour Act, and the Juvenile Justice Act
- Indian authorities also use Sections 366A and 372 of the Indian Penal Code, prohibiting kidnapping and selling minors into prostitution, especially to arrest traffickers
- Penalties under these provisions are a maximum of ten years' imprisonment and a fine.

Role of the Government to Stop Exploitation of Labour

- State Governments regularly conduct campaigns through their welfare Departments along with police raids
- India's Central Bureau of Investigation incorporated anti-trafficking training into its standard curriculum
- In November, the State of Maharashtra developed an action plan to combat trafficking
- India's efforts to protect victims of trafficking varies from state to state. Victims of bonded labour are entitled to 10,000 rupees ($225) from the central government for rehabilitation
- Children trafficked for forced labour may be housed in government shelters and are entitled to 20,000 rupees ($450)
- Some states provide services to victims of bonded labour, but Non- Governmental Organizations provide the majority of protection services to these victims
- The central government does not provide protection services to Indian victims trafficked abroad for forced labour or commercial sexual exploitation
- Indian diplomatic missions in destination countries may offer temporary shelter to nationals who have been trafficked, once repatriated. However, neither the central government nor most state governments offer any medical, psychological, legal, or reintegration assistance for these victims
- Section 8 of the ITPA permits the arrest of women in prostitution
- The government and some NGOs report that, through sensitization and training, police officers no longer use this provision of the law

1.7.2 Preventive Measures In India

- Ministry of Labour and Employment displays full-page advertisements against child labour in national newspapers at periodic intervals. The government has also instituted pre-departure information sessions for domestic workers migrating abroad on the risks of exploitation. Most of the Indian workers pay huge sums of money to agents who facilitate their emigration outside the official channels and willingly emigrate despite being aware of the conditions prevailing in those destinations. This is because of the fact that most of the destinations abroad pay better sums of money.

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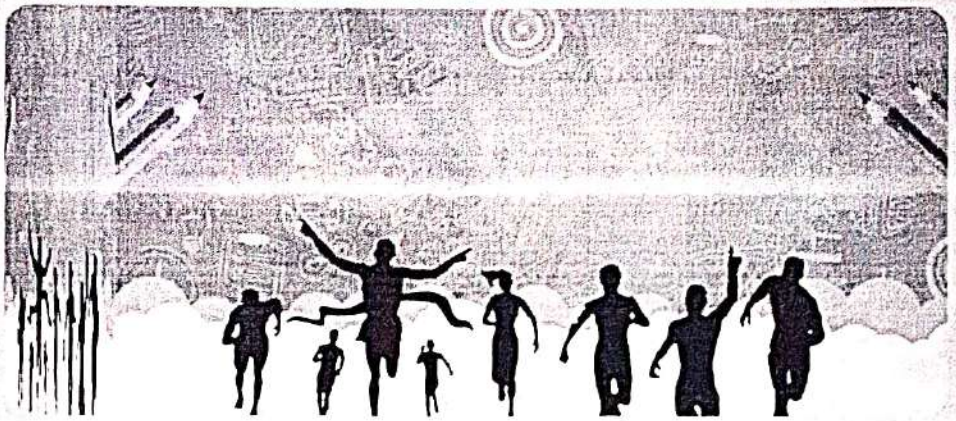
2.3.2

15:16

Good Morning
GHUSINGE C R

P.E.S COLLEGE OF ENGINEERING

2024-2025



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15:16

Attendance Dashboard

Session

ODD 24-25

8	239	107
Subjects	Total Student	Total Lecture Conducted
14	0	261
This Months Lecture Conducted	Today's Lecture Conducted	Total Missing Lectures

Mark Attendance

Today's Lecture Conducted | Tomorrow's Lecture | Missing Lecture's

FINAL YEAR B.TECH CIVIL ENGINEERING ->BTCVC704 -> Professional Practices

Subject Wise Student Register

50

40

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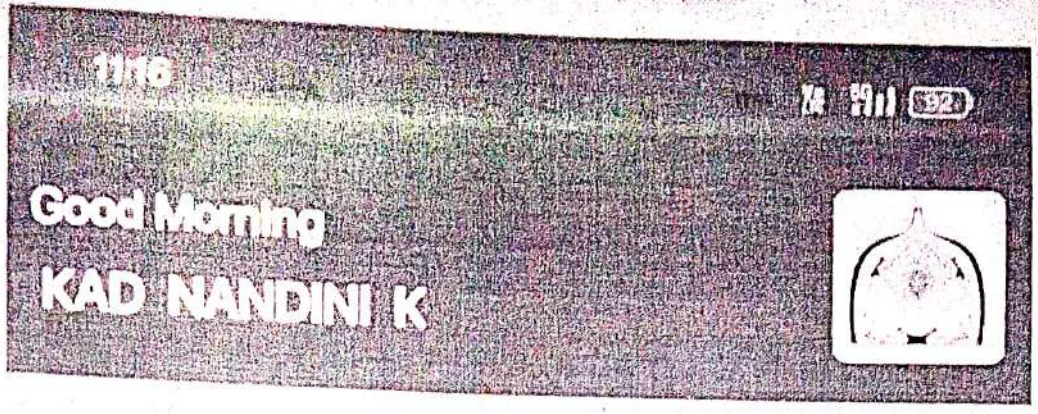

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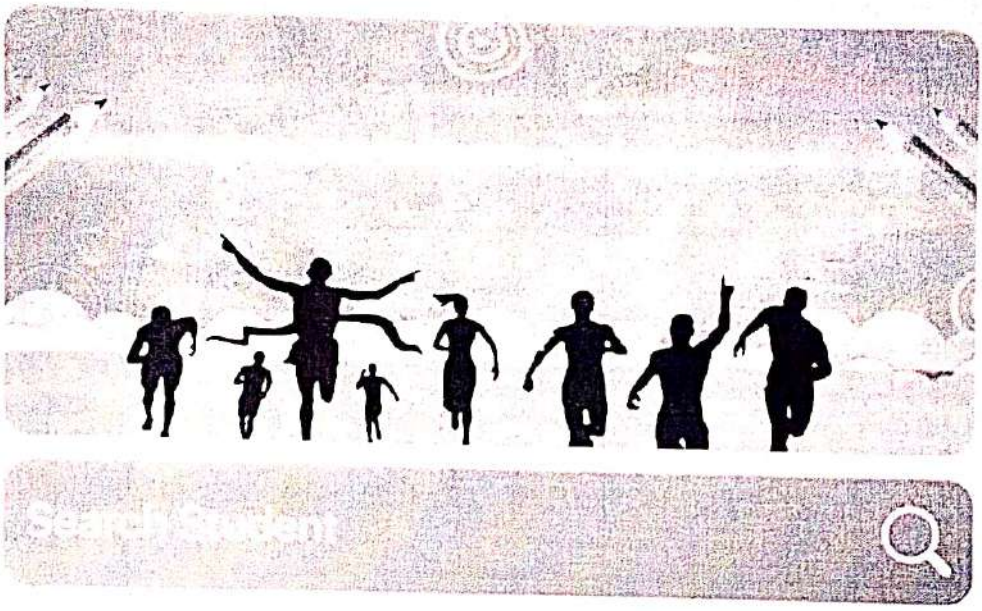

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Good Afternoon
PHULPAGAR S R

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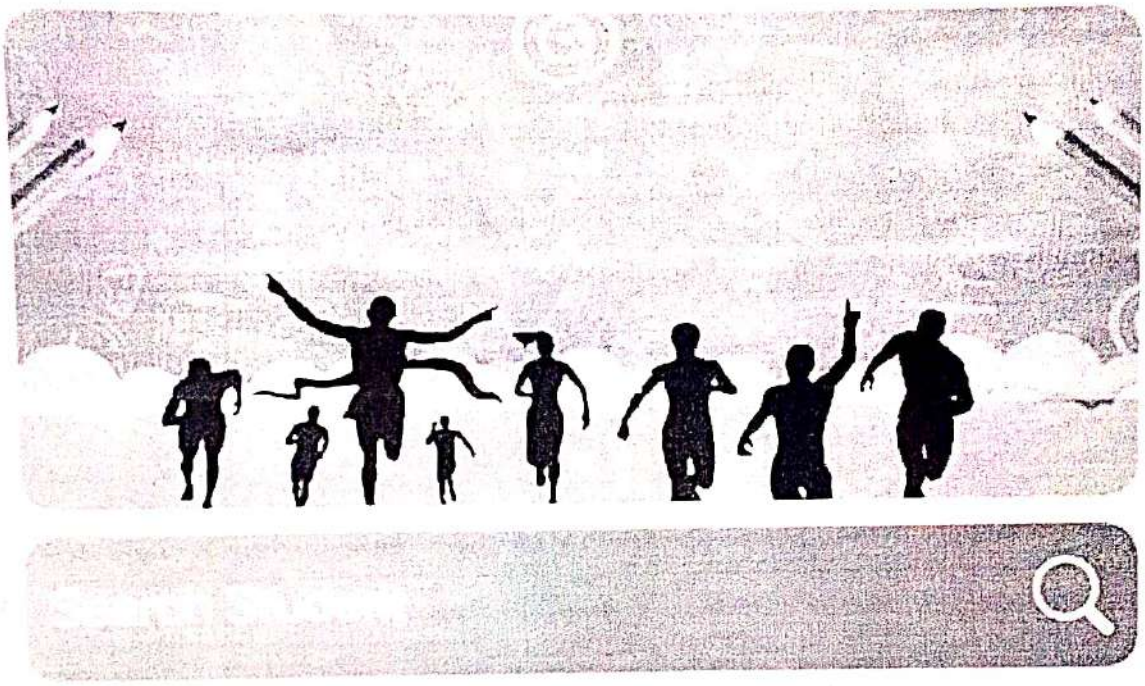

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This is to certify that **SARIKA. B.DHULE** has successfully completed the ISTE approved Self-Financing Faculty Development Program on "**A Comprehensive Training Program on ERP Technology and Implementation Strategies**" held during **03.06.2024** to **14.06.2024** organized by **P.E.S. College of Engineering, Chh. Sambhaji Nagar, Aurangabad, Maharashtra.**

FDP/2024-25/613

Executive Secretary

2.3.2

F.No AICTE/FDP-SI/WRO/343/210139

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

Certificate of Participation

This is to certify that Mr. Jaykumar Ramesh Gaikwad from P.E.S. College of Engineering, Aurangabad has participated and successfully completed the 5-day Face-to-Face UHV-II FDP organized by All India Council for Technical Education (AICTE) at PVG's College of Engineering and Technology and G.K. Pate Wani Institute of Management, Pune from 16th January to 20th January 2024.

Dr. Rajneesh Arora
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Member Secretary, AICTE

2.3.2

F.No AICTE/FDP-SI/WRO/343/210169

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

Certificate of Participation

This is to certify that Ms. Nandini Khanderao Kad from P.E.S. College of Engineering, Aurangabad has participated and successfully completed the 5-day Face-to-Face UHV-II FDP organized by All India Council for Technical Education (AICTE) at PVG's College of Engineering and Technology and G.K. Pate Wani Institute of Management, Pune from 16th January to 20th January 2024.

Dr. Rajneesh Arora
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Member Secretary, AICTE

Tax Invoice

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GSTN - 27AAJCM7667D1Z4
CIN - U72900MH2015PTC264680
E-MAIL - accounts@erpns.co.in

Our Bank Details as follows

Company Name - Mastersoft ERP Solutions Pvt. Ltd.
Bank Name - State Bank of India
Branch Name - Nandvan Nagpur
Account No - 34979484917
IFS Code - SBIN0011144

Invoice No. 2020-21/01004	Dated 13-Feb-2021
Delivery Note	Mode/Terms Of Payment
Supplier's Ref	Other Reference(s)
Buyer's Order No PESCOE/Office/2020-21/487	Dated 08-Dec-2020
Despatch Document No	Dated
Terms of Delivery	

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AURANGABAD.

Sl No	Description Of Goods	HSN/SAC	Quantity	Rate	Per	Amount
1	ONE TIME SETUP COST	998319	0.00 NO	1,50,000.00	NO	1,50,000.00
	CGST@9%			9.00		13,500.00
	SGST@9%			9.00		13,500.00
	Total					1,77,000.00

Amount Chargeabel (in words) E. & O.E

Rupees One Lakhs Seventy-Seven Thousand Only

	Taxable Value	Central Tax		State Tax	
		Rate	Amount	Rate	Amount
Total	1,50,000.00	9.00	13,500.00	9.00	13,500.00

Tax Amount (in words) Rupees Thirteen Thousand Five Hundred Only

Company's PAN : AAJCM7667D

Declaration
We Declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.

NOTE:- Interest will be charged 1.5% per month, if payment not received within 35 days from the date of this Invoice

For MASTERSOFT ERP SOLUTIONS PVT LTD

MasterSoft ERP Solutions Pvt. Ltd. NAGPUR

Authorised Signatory

This is a System Generated Invoice Hence, Signature is not required.

Cloud server for ERP for P.E. engineering

17/12/2021

17/12/2021

To,
MasterSoft ERP Solution Pvt. Ltd.

Date : 05/12/2020

Sub: Supply of Cloud based Centralized Campus Management System

Dear Sir:
As per discussions it is decided to accept your offer of Cloud based Centralized Campus Management System with all terms & conditions. Kindly create Cloud setup with following details for our College Necessary first year advance payment cheque / RTGS enclosed.

SN	PARTICULARS	PRICE (In Rs.)
1.	**One time** Cloud Setup, Implementation, Training	Rs.1,50,000/- + 18% GST Per College
2.	**Onetime** Payment Gateway Integration with your Bank Accounts & Fees Head Mapping	
3.	**One time** SMS & Email Gateway integration	
	CORE MODULES	
01	On Line Student Registration with Online Payment	Rs. 300/- + 18% GST Per Student Per Year (PSPY)
02	Merit List Generation	
03	Student Admission	
04	Fees Collection Online / On Counter	
05	Student Information System & Reports	
06	Student Certification-TC/LC/Bonafide/Character/NOC/Passing	
07	Student I-Card with Barcode (Plane/PVC)	
08	MIS Reports- according to Caste, Category, Gender, Religion, Course etc...	
09	University Reports	
10	Student Time Table Attendance	
11	Student Attendance	
12	Student Examination Systems (Internal)	
13	Library Management System	
14	Library OPAC System	
15	Communication -SMS (25,000 Free) Per Year	
16	LMS-Learning Management System	
17	Students / Parents, Faculty, Staff Logins	
18	Mobile Apps for Students, Principal, Staff (Teaching & Non-Teaching)	

Payment : One time Cloud Setup payment with PO & remaining after admission every year.

Training & Support : Onside Initial 4 days training on site. Subsequently support will be Online.
You are requested to immediately do the needful.

Principal
Principal
P.E.S. College of Engineering

Supplier's Address: O/o CGM, Mh Circle, 6Th Floor, B Wing, Admn Bldg,Juhu Danda Complex, Juhu Tara Road Santacruz West Mumbai-400054, Maharashtra

Name & Communication Address of the Customer

THE PRINCIPAL PES COLLEGE OF ENGINEERING

PANCHAKKI ROAD-NAGSENVANA AURANGABAD IN
AURANGABAD-AURANGABAD
431002
India

Customer GSTIN:

Deposit 0.00

Leased Circuit Bill/Tax Invoice*

Customer ID	7000290423
Account Number	**7000290435**
Invoice Number	NDCMH2400217298
Invoice Date	04/09/2024
Customer Type	LEASED CIRCUIT
Leased Circuit id	1000220989
Due Date	**23/09/2024**

Legacy Circuit Id

Reverse Charge Applicability: No

Account Summary

Previous Balance	-	Last Payment	+	Bandwidth & Other Current Charges	+	Tax Amount	=	Account Balance	=	Amount Payable
-0.83		0.00		199999.00		35999.82		235997.99		235998.00 (Rounded Up)

Amount In Words: Two Lakhs Thirty-Five Thousand Nine Hundred Ninety Eight Rupees and Zero Paisa

Dear Customer, You can now pay this Bill using VAN: BSNLLC7000290435 through NEFT/RTGS. Please add payee to your bank using Beneficiary Name : BHARAT SANCHAR NIGAM LIMITED, Account No: BSNLLC7000290435 , IFSC: SBIN0004266, Bank Name: SBI, Type of Account : Current . Initiate an amount transfer for the bill amount to the added payee. For further details, click the link https://portal2.bsnl.in/instapay/onboard

Lead A/Bill to Address:-
- PANCHAKKI ROAD NAGSENVANA AURANGABAD
AURANGABAD-AURANGABAD IN 431002

Lead B Address:-

Circuit Type :Internet Circuit/ 100 MBPS LLA:- 0 LLB :- CHD :- 0 NON-MLLN

Recurring Charges

Product	Plan	Period	Qty	Rate	Charges
Circuit Rent-SAC-998414	Internet Circuit	01/10/24 to 31/03/25	NA	NA	199999.00
Modem Discount-HSN-9973	Internet Circuit	01/10/24 to 31/03/25	1	0.00	0.00
LC_ONT_Type-A	Internet Circuit	01/10/24 to 31/03/25	1	0.00	0.00
LC_ONT_Type-A	Internet Circuit	01/10/24 to 31/03/25	1	0.00	0.00
Total Charges (Rs.)					199999.00

Half Yearly payment of BSNL Internet leased line by system Admin.

Prof. Kolambikar Remarks

Summary of Current Charges	Amount(Rs)
Recurring Charges	199999.00
One Time Charges	0.00
Usage Charges	0.00
Adjustments	0.00
Discount	0.00
Taxes	35999.82
Total Charges	**235998.82**

Tax Details

Description	Tax Rate	Amount	Taxable Value
CGST	9.00%	17999.91	199999.00
SGST/UTGST	9.00%	17999.91	199999.00

Scan QR COde to make Online UPI Payment

PAN NUMBER AABCB5576G CIN: U74899DL2000GOI107739

GST REGISTRATION NUMBER:27AABCB5576G1ZL

Dear Customer, Income Tax Department, Govt of India has granted certificate no. 197(1)/AABCB5576G/2024-25/1 Dt 09/05/2024 (can be downloaded from the link at https://www.bsnl.co.in/opencms/bsnl/BSNL/about_us/pdf/lower_tax_deduction_ltr_09052024.pdf) to BSNL relating to TDS at lower rates applicable from 0905/2024 to 31/03/2025. TDS may be recovered at the lower rates mentioned in the certificate issued by Income Tax Department.

Dear Customer Please dial toll free 1800-425-1957 (24 Hour) for any complaint regarding leased circuit.

Accounts Officer (TR)

This is a Computer generated Bill and hence does not require any Signature.

*Original For Recipient/Duplicate For Supplier

E & OE

Counter Foil

Invoice No: NDCMH2400217298
Invoice Date: 04/09/2024
Due Date: 23/09/2024

BHARAT SANCHAR NIGAM LTD

Account No.: 7000290435
Leased Circuit id.: 1000220989
Amount Payable : 235998.00

Mode of payment ☐ Cash ☐ Cheque/DD ☐ Credit / Debit Card ☐ E-payment ☐ EFT

Cheque/DD No. _____ Dated ☐☐ ☐☐ ☐☐☐☐ Bank _____ Branch _____

Please Charge Rs. _____ Against Card no. _____ ☐ Visa ☐ Masters ☐ Diners ☐ Amex

Expiry Date ☐☐ ☐☐☐☐ Signature _____ Card Holder's Name _____

Please make crossed Cheque/DD/Pay order for Amount Payable (Rounded Up) in favour of AO (Cash),BSNL,AURANGABAD

Note: Post Offices / Banks to accept Bills against Account Number on or before Due Date only

For bank use only

TAX INVOICE

GAZON
COMMUNICATIONS INDIA LTD

GAZON COMMUNICATIONS INDIA LIMITED
ADDRESS: Office No. 1001, 10th Floor, City Avenue,Kolte Patil Devlopers, Wakad, Pune 411057.
STATE: Maharashtra **STATE CODE:**27
TEL:(+91) 20 4690 6782
MOB NO:7030938375
EMAIL:accounts@gazonindia.com

INVOICE NO:GLL/24/09/13
INVOICE DATE:01-09-2024
PO NO: 790
DUE DATE:01-09-2024
COMPANY NAME:PES College Of Engineering
BILLING ADDRESS: Panchakki Rd, Nagsenvan, Chatrapati Sambhajinagar, Maharashtra 431002
INSTALLTION ADDRESS: Panchakki Rd, Nagsenvan, Chatrapati Sambhajinagar, Maharashtra 431002 Mobile/Contact No:- 9420622206
BUYERS GST NO:
USERNAME:pescoe_sambhajinagar

INVOICE SUMMARY

Sr	Description OF Goods / Services	HSN / SAC	Plan Duration	Amount			
1	pescoe_sambhajinagar_100Mbps_3m	998422	01-09-2024 To 30-11-2024	70000	0	12600	82600
2	Internet Leased Line						
3	ARC (280000)						
	Grand Total:						

Rupees in Words:- Eighty-two Thousand, Six Hundred only 82600

Tax Summary	HSN/SAC	Taxable Value	SGST (9%)	CGST (9%)	Total
	998422	70000	6300	6300	00

Notes:

1. All Cheques to be drawn favouring GAZON COMMUNICATIONS INDIA LIMITED.
2. Connectivity provided for legal purposes only.
3. Dishonoured Cheques shall be charged at the rate of Rs. 1000/- per Instrument.
4. Please clear your dues on time to enjoy uninterrupted connectivity.
5. Subject To Aurangabad Jurisdiction.
6. Our PAN: AAECG8392G
7. CIN: U72300MH2012PLC234237
8. GSTIN: 27AAECG8392G1Z9
9. We are Registered with MSME our UDYAM REG. No. Is - UDYAM-MH-04-0019625 ; Category - Small , Enterprises - Small ; So We hereby Request to you please make outstanding Payments Within specified date.

Our Banking Details:
Name: Gazon Communications India Limited
Account Number: 920030064383932
Bank: Axis Bank
Branch: Corporate Banking Branch Pune
IFSC: UTIB0001636

NOTE : This is a computer generated invoice. Hence, requires no signature.

Quarterly payment of Internet leased line. of Gazon.
Sd/-
System Admin.

241

AARIZ ENTERPRISE

Broadband Internet Services

INVOICE

GST NO. 901

Date : 22/05/2024.

Customer Name : PES College of Engeniering

Customer Address : PES College near Panchacki

Contact Person : 9423745087. Contact Number :

Plan Name : 100 MbPS. Unlimited Validity : 1 Year.

Tax : Total : 14500/- Grand Total

In Word: Fourteen Thousand Five hundred. GST NO. :

FOR OFFICE USE ONLY

Remark: Special Servic.

Reg. Add:. Aariz Enterprises, Kohinoor Colony, Panchaki Road,
Mogalpura, Aurangabad Contact us : 7972293[illegible], 7385100093

LL of AARIZ
100MBPS renewed.
for one year.

100 mbps with bill

IIC System Admin.

Pass For Payment Rs. 14500=00

Rs. Fourteen thouse Five hundred Only.

Budget Head Internet Expenses a/c

Accountant

Online paid
on 25/05/24

Principal
P.E.S. College of Engineering
Chhatrapati Sambhajinagar