2018-2022

INTERNSHIP REPORT
ON

"RURAL WATER SUPPLY SCHEME (JAL JEEVAN MISSION)"

Submitted to-

MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE GWALIOR
(A govt. Aided Autonomous Institute under RGPV, Bhopal (M.P) Established in 1957)

IN PARTIAL FULFILLMENT FOR REQUIREMENT FOR THE AWARD OF THE DEGREE OF

BACHELOR of TECHNOLOGY
In CIVIL ENGINEERING

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THIRD PARTY INSPECTION AGENCEYTHATIPUR,DIVISION-GWALIOR (M.P)

CERTIFICATE

This is to certify that VIKAS YADAV Enrollment No-0901CE181117Has completed internship program in RURAL WATER SUPPLY SCHEME (JAL JEEVAN MISSION)

FROM-16-01-2022 TO-16-05-2022

Conducted by PUBLIC HEALTH ENGINEERING DEPARTMAENT (TPI) Thatipurdivision-Gwalior, (M.P)

as a part of his institute grading, we would like to grade his excellence during the internship we wish all the best for his future.

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RECOMMENDATION

It is hereby recommended that the internship report entitled — Rural Water Supply Scheme (Jal Jeevan Mission) which is being submitted by Vikas yadav completed under the guidance of Prof. Anil Kumar Saxena may be accepted in the partial fulfillment of the award of the degree of Bachelor of Engineering in Civil Engineering.

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I take great pleasure for my institute **FORTRESS INFRACON LTD, Gwalior (M.P)** for providing the opportunities.

The environment of company has been valuable experience for me. It has provided an opportunity to learn at our own pace in discipline of interest. I would like to thank all those who helped me during different stages of completion of this project.

Vikas

VIKAS YADAV

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DEPARTMENT OF CIVIL ENGINEERING

MITS GWALIOR (M.P.)

ABSTRACT

All The requirement of world are depend on water ,according to the some reports Ground water level is depleted day by day and need of water is increasing day by day ,The vision of phe department to provide pure drinking water facilities and maintain them to provide pure drinking water free of any anamalities as improved portable water supply and sanitation facilities and services are critical to enhance public health and improve human development outcomes, more so for rural household.

The overhead water tank are constructed by the phe department which have the capacity according to their size of upper dome which may be 2.5 lakh litre but not at Least 50,000 litre ,and they are made up of Reinforced cement concrete in which mostly m30 mixture is used Before taking up the design, the most suitable type of staging of tanks and correct estimation of loads including statically equilibrium of structure particularly in regards to overturning of overhanging members are made.

In this project by performing the analysis of rcc over head water tank, deflection shape due to hydrostatic pressure and stresses, etc. are analysed.

ABSTRACT IN HINDI

कुछ रिपोर्टों के अनुसार, दुनिया की सभी आवश्यकताएँ पानी पर निर्भर हैं भूजल का स्तर दिन-ब-दिन कम होता जा रहा है और पानी की जरूरत दिन-ब-दिन बढ़ती जा रही है दिन, शुद्ध पेयजल सुविधाएं प्रदान करने के लिए पीएचई विभाग की दृष्टि और उन्हें किसी भी विसंगतियों से मुक्त शुद्ध पेयजल प्रदान करने के लिए बनाए रखने के लिए बेहतर पोर्टेबल जल आपूर्ति और स्वच्छता सुविधाएं और सेवाएं सार्वजनिक स्वास्थ्य को बढ़ाने और मानव विकास परिणामों में सुधार के लिए महत्वपूर्ण हैं, और भी बहुत कुछ के लिए ग्रामीण परिवार।

ओवरहेड पानी की टंकी का निर्माण पीएचई विभाग द्वारा किया जाता है जिसकी क्षमता उनके ऊपरी गुंबद के आकार के अनुसार होती है जो 2.5 लाख लीटर हो सकती है लेकिन नहीं

कम से कम 50,000 लीटर, और वे प्रबलित सीमेंट कंक्रीट से बने होते हैं जिसमें ज्यादातर एम 30 मिश्रण का उपयोग डिजाइन को लेने से पहले किया जाता है, टैंकों के मंचन का सबसे उपयुक्त प्रकार और भार का सही अनुमान जिसमें संरचना का स्थिर संतुलन विशेष रूप से पलटने के संबंध में होता है लटके हुए सदस्य बनाए जाते हैं।

इस परियोजना में आरसीसी ओवर हेड वाटर टैंक का विश्लेषण करके, हाइड्रोस्टेटिक दबाव और तनाव आदि के कारण विक्षेपण आकार का विश्लेषण किया जाता है।

List of Abbreviations

CPHEEO.....Central Health and Environmental Engineering Organisation

DN.....Diameter Nominal

ESR.....Elevated surface Reservoir

FTS.....Field Test Kit

GSR.....Ground Service Reservoir

HDPE.....High Density Poly Ethylene

MLD.....Million Litres per Day

PHED.....Public Health Engineering Department

PVC.....Poly Vinyl Chloride

RCC.....Reinforcement Concrete Cement

Cu. m. .....Cubic Meter

CONTENT

CHAPTER 1
INTRODUCTION

In India, water delivery is now envisioned as a community-based, demand-driven system, in which it is critical to increase the capacity of local communities in villages and small towns to construct and administer their own water supply system.

Community organisation role is to assure the effective and inclusive implementation of water supply system in their village/town, as well as water quality control, financial management, and effective operation and maintenance of the system as a result such community group must be knowledgeable of the fundamental of water supply system, as well as operation and maintenance of water asset and water supply system, as well as the fundamental of the sanitation and waste management.

Water is essential human necessity for daily existence, and its distribution is determined by construction of water tank in different location. Water supply is a life line that must say operational even of a calamity. A water storage container built to hold the water supply at a height sufficient to pressurize a water distribution is known as elevated water tank. Individual supply system of institution and industrial estates, which is include elevated tank, supplements the main supply scheme in major cities.

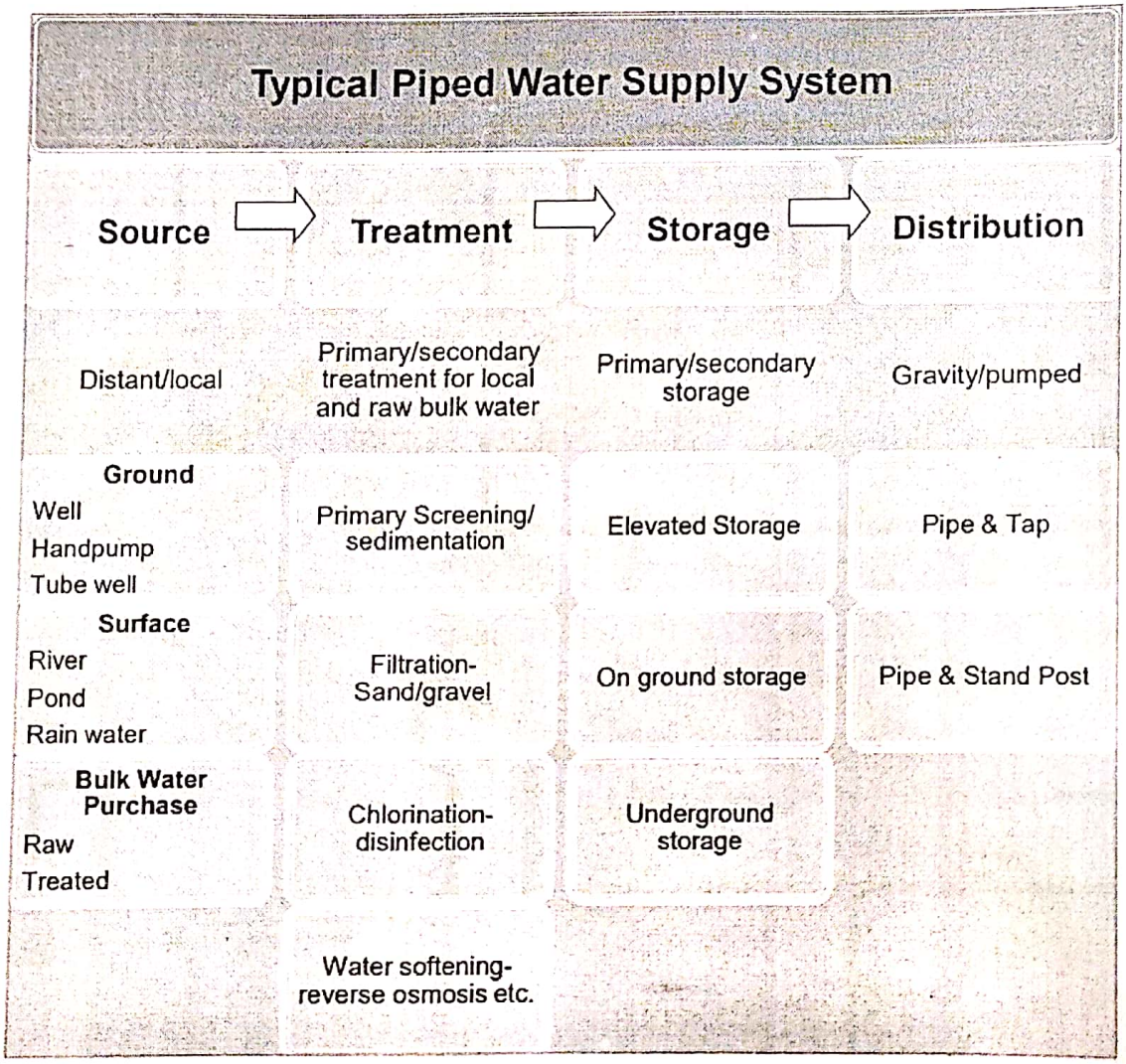
This training course series was created to help community organisations improve their ability to operate and maintain water supply and sanitation system in their village or town. The basics of water supply system module covers the fundamental component of water supply system their installation and distribution, estimation and measurement of water supply system component.

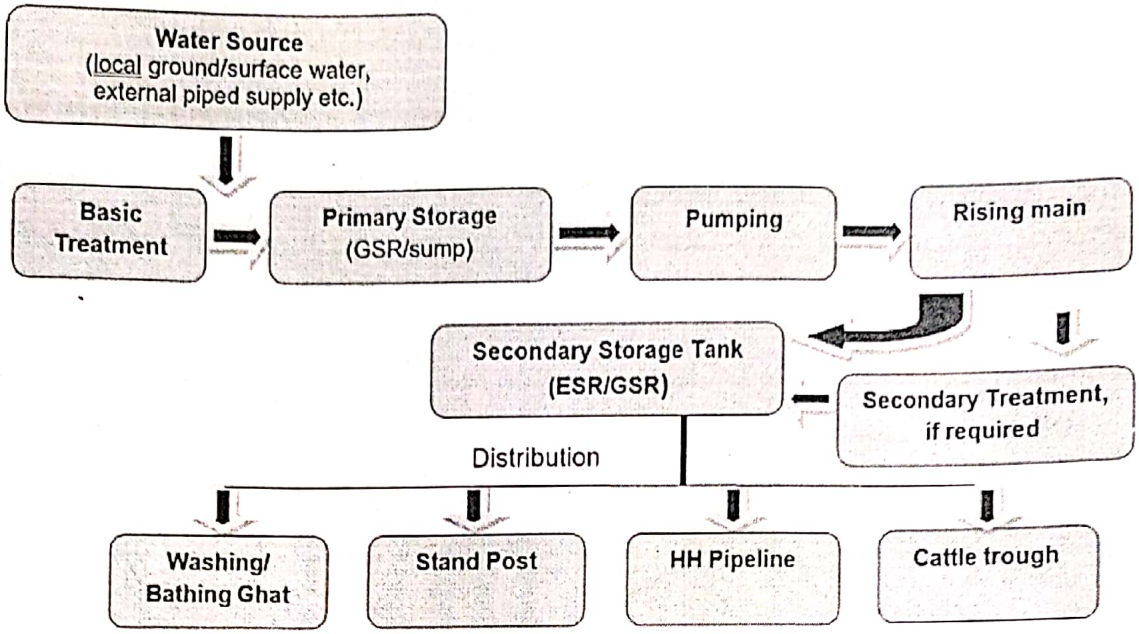
2.WATER SUPPLY SYSTEM COMPONENTS

a) To understand the fundamental component of village/town water supply.
b) To have a better understanding of the water supply system, storage facilities, and distribution system.
c) Should be aware of diverse water sources.

An Example of a Water Supply System

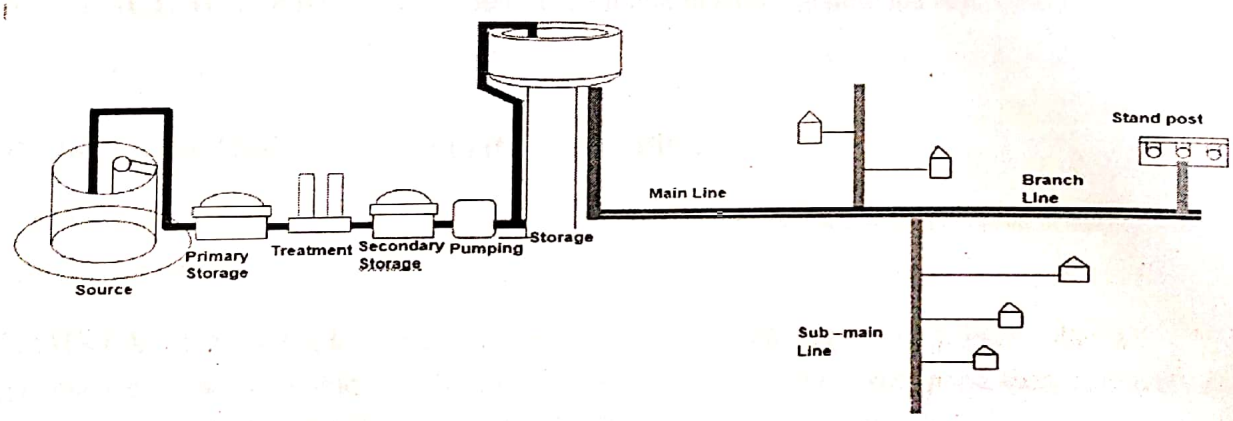
A typical village/town water supply system consists of a gravity/pump-based transmission and distribution system from a nearby or distant water source, as well as the necessary water treatment system.





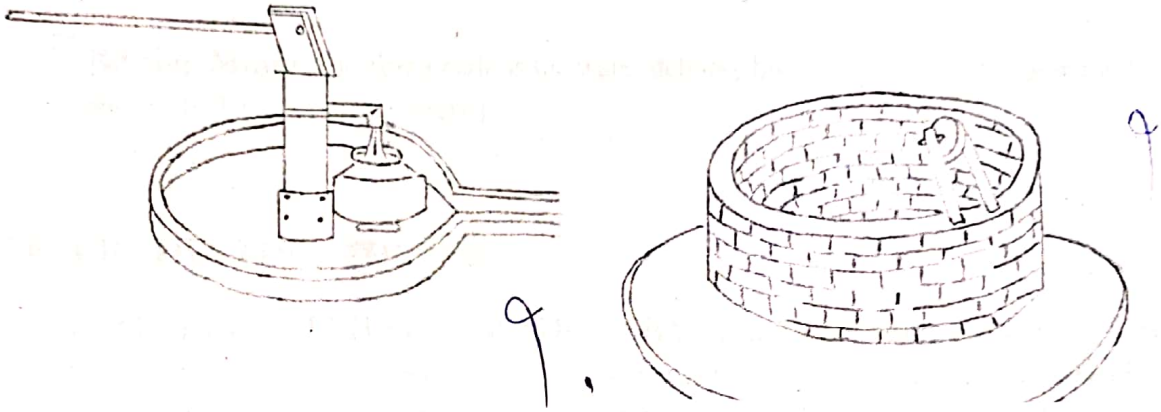
Standard Water supply System in village/town

sources	Open Well, Tube Well, Hand pump, Pond, Dam Site, ExternalPipe Supply, Rain Water Harvesting System/Tank
Village/town level treatment	Open Well, Tube Well, Hand pump, Pond, Dam Site, ExternalPipe Supply, Rain Water Harvesting System/Tank
storage	Elevated Surface Reservoirs (ESR), Ground ServiceReservoirs (GSR), Sump
distribution	Main Line, Sub-Main Line, Branch Pipe Line, HouseholdLevel Tape, Stand Post, Washing Unit.



3.Water Resources

Ground water: Open wells, tube wells/bore wells, and hand pumps are examples of groundwater sources.



OPEN WELL: Open wells are used if ground water is available at a shallow depth (less than 15 metres) and water is available all year.

HAND PUMP: Hand pumps are an excellent alternative for a cluster or habitation when safe ground water is available up to a depth of 60 metres.

BORE WELL/TUBE WELL: Bore wells or tube wells are used when ground water is at a greater depth and open wells or hand pumps aren't practical.

SURFACE WATER: Surface water can be found in rivers, ponds, and dam sites

Water is classified according to its availability.

1.LOCAL SOURCE: Rivers, ponds, open wells, and bore wells are all available at the village/town level.

2. DISTANT SOURCE: When a constant, trustworthy, and safe source is unavailable, a pipeline from afar can be laid. This bulk water can be obtained from a river, pond, dam, bore well, or the storage tank itself, depending on the availability of water

4.WATER SUPPLY MECHANISM

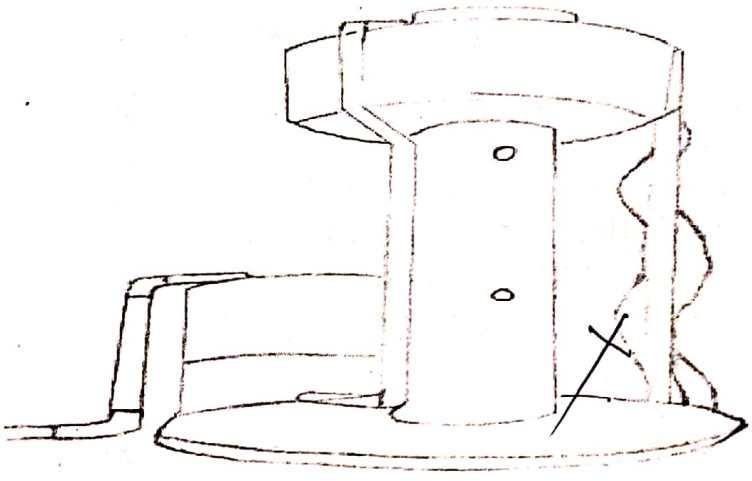
1. **Pumping Station and Pumping Equipment:** Pumps are used to transport water from sources such as bore wells, open wells, sump tanks, and ground water storage to pipelines or elevated storage. The following are the three main components: a) the pump; b) the electrical or oil engine; and c) the panel board. Pump house is built for the machineries' security and safety.

2. **Raising Main:** The rising main is the water delivery line that runs from the pump to the storage tank (elevated or ground).

5.FACILITIES FOR STORAGE

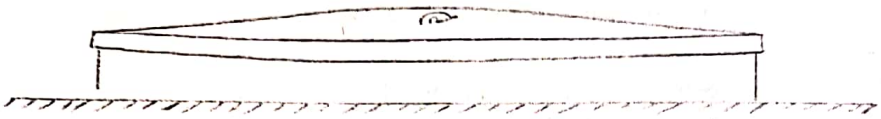
1.(ESR) ELEVATED SURFACE RESERVOIR: Elevated Surface Reservoir (ESR) or elevated storage tank: ESR is built when water must be provided at a higher elevation (than ESR) or when the distance is great and the topography is undulating. ESR is usually found at a height of more than 15 metres. Water can be pumped or gravity fed directly from this storage tank.

2.(GSR) GROUND SURFACE RESERVOIR: GSR stands for ground storage tank or plinth storage tank. The plinth level is usually no higher than 3 metres. Pumping hours, demand and supply hours, and electricity available for pumping are used to determine the storage capacity of service reservoirs. Pumping systems with longer pumping hours require less storage. Typically, such reservoirs are designed to hold half to one day's worth of water.



GSR & ESR

3. **SUMP**: Sump is a type of storage that can be employed at the village/town or cluster level. It is not utilised for direct water distribution. Rather, it serves as interim or backup storage for water before it is piped to the ESR/GSR. The sump is a circular underground storage tank with a dome line covering. In general, the capacity of the sump is greater (one and a half to two times) than the ESR or GSR, or two to five days' water requirement, so that even if the supply is disrupted for that period, the inhabitants will have access to water.



SUMP

6.DISTRIBUTION OF WATER

Water must reach end use with the proper flow rate and pressure in the piping system to ensure effective distribution. In villages and towns, there are three primary types of distribution systems that can be used.

1. Gravity Fed Distribution: Such a system can be used for distribution when the ground level of the water source/storage is sufficiently higher than the core village/town area. There is no need for pumping because the water in the distribution network flows by gravity. Such a system is both dependable and cost-effective.

2. Pumping System: Continuous pumping is used to supply water in such a system. Without intermediate storage, treated water is piped straight into the distribution main at constant pressure. When there is a power outage or a pump breakdown, the supply can be disrupted. As a result, diesel pumps, in addition to electrical pumps, must be maintained. Such a system can only work in situations where there is a constant power supply, a steady water supply, and an intermediate storage system is not possible to establish.

3. Dual Combination: Both gravity and well pumping techniques are used in this system. Where there are changes in topography in the town/village
A distribution system's minimum residual pressure should be 7 m for single-story buildings, 12 m for two-story buildings, and 17 m for three-story buildings.

4. Distribution Lines: Distribution lines transport water from storage to its final destination (stand post/household tap, etc.). For distribution to houses, distribution pipelines consist of a main pipeline connected to secondary storage, sub-main pipes connected to the main pipeline, and service/branch pipes connected to the sub-main. Mild Steel (MS), Galvanized Iron (GI), High Density Polyethylene (HDPE)/Poly Vinyl Chloride (PVC) pipes, and Ductile Iron (DI) pipes with diameters ranging from 15-200 mm are commonly used in distribution. The majority of these lines are subterranean (1-3 feet below ground). The distribution is controlled through valves.

5. Stand Post: Stand post with one or more taps are installed at cluster level or near the storage tank, in the villages/towns where household tap connection is not available or possible. Stand posts are constructed of masonry or concrete structures. Stand posts should have normal output of 12 litres/minute. One stand post is estimated for every 250 persons. In case of independent habitation, even if population is less than 250 and there is no potable water source, once stand post is provided. Moreover, stand posts should not be more than 500 m from any such targeted household.

6. Cattle Trough: These structures are made of masonry and RCC and are used to provide water to animals.

7. Bathing or Washing cubicles: The purpose of these masonry buildings is to make it easier to wash clothes and bathe.

7.TYPES OF WATER SUPPLY

1. **Continuous**: There is a constant supply of water in this system (for 24 hours). This is achievable if a sufficient amount of water is present. The fundamental benefit of such a system is that water remains fresh owing to continuous flow, and pipe rusting is reduced. However, in the event of a leak, water losses will be greater.
2. **Intermittent:** In such a system, water is either distributed across the village/town for set hours, or it is separated into zones, with each zone receiving water for certain hours during the day or on a specific day. When there is a shortage of water, this approach is used; however, in some circumstances, water is wasted due to the community's predisposition to store more water than is required. Pipelines are more susceptible to rust in such a system due to soaking and drying.

8.WATER PUMPING AND DISTRIBUTION PRINCIPLES

1. To understand the fundamentals of pumping and the various types of pumps used in water supply

2. To understand the fundamentals of pipelines and distribution networks

3. Understand the fundamentals of pipe materials, pipe fitting, pipe joining, and pipeline laying (with a concentration on sub-mains/branch pipes).

(1) The Fundamentals of Water Pumping

(a) Pumping machinery is used to move water from one location to another as well as to pump water from a water source. Pumping is necessary for

(1) Pumping water from a source (surface or underground) to purifying plants or a storage reservoir

(2) Water transfer from the source to the distribution system

(3) Pumping water from a sump to elevated or ground-level tanks.

(b) A pump house (civil works) is built to house the pumping machinery.

(c) The pump house is built to last at least 30 years, while the pumping

apparatus is built to last at least 15 years.

(d) Pumping machinery is made up of three main parts:

1. Pump for lifting water: Pumps are used to move water to higher elevations or at higher pressures. Electricity, diesel, or even solar power are used to power pumps. Pumping water from the sources, such as from the intake to the treatment plant and from the treatment plant to the distribution system or service reservoir, is made easier using them.

2. A motor that is powered by electricity, diesel, or solar energy.

Pumping requires a three-phase electric hookup.

3. Panel board For the transmission of electric power, a panel board contains circuit breakers, switches, and fuses, as well as starter level controls.

- **There are mainly three types of pumps are used for water supply system**

1.Centrifugal Pump

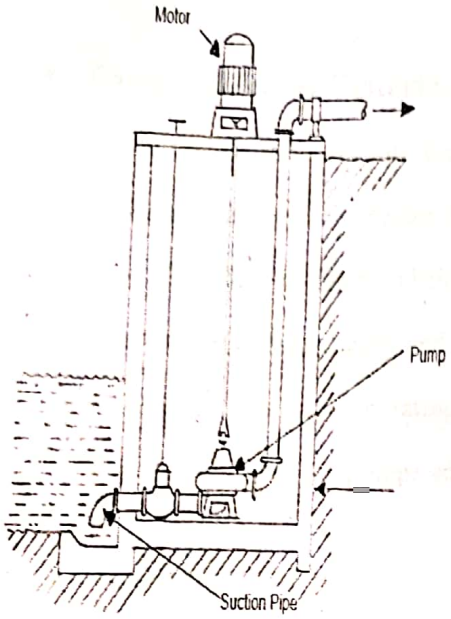
2.Turbine Pump

3. Submersible pump

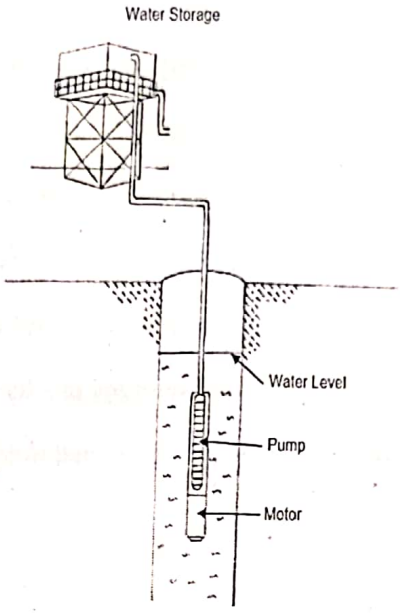
1. **Centrifugal Pump:** A centrifugal pump is used to pump water from a well or a sump. It is a sort of velocity pump that moves water by continuously applying power. Pumps of this type are commonly employed in water delivery systems that contain sand, silt, and other contaminants. In order to lift water, centrifugal force is used. Water's potential or pressure energy is transformed from electrical energy. The pump consists of an Impeller which is enclosed in a water tight casing. Water at lower level is sucked into the impellor through a suction pipe. Suction pipe is air tight. A strainer foot valve is connected at the bottom of the suction pipe to prevent entry of foreign matter and to hold water during pumping. Suction pipe is kept larger in diameter than delivery pipe to reduce cavitations and losses due to friction.

2. **Turbine Pump:** The impeller of a pump used as a turbine will run in reverse when water flows back through it, and the pump will work as a turbine. The energy recovered from pressure differential, heads, or flow can be fed back into the system or into the distribution system. Turbine pumps are mostly utilised for pumping from deep wells/tube wells or elevating water from ground level storage to raised areas/storage. Turbine-pump sets can be the ideal choice if the water demand is high and there is a large supply of falling water (head and flow rate) nearby.

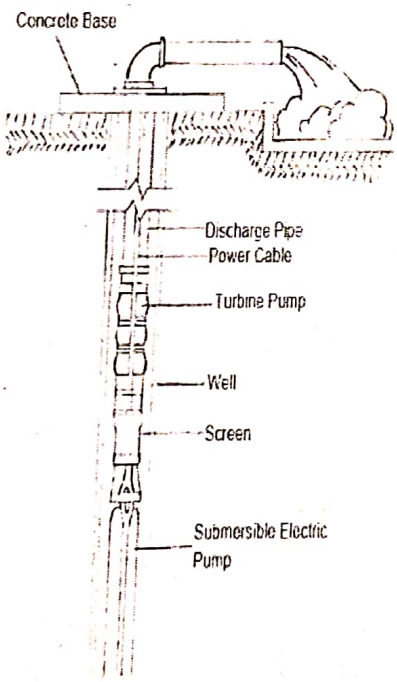
3. **Submersible Pump:** The submersible pump is designed to be inserted into the well casing and lowered to the well's bottom. Pumping from bore wells and subterranean sumps is a common application. Pumps of this type are used to produce 100 litres of water per minute. It's powered by an electric motor that's connected directly to the pumping element and therefore completely submerged. This sort of pump is most commonly utilised where electric power is available, or in conjunction with a Solar Pumping System.



Centrifugal Pump



Turbine Pump



Submersible Pump

- **Pump Selection Criteria for Water Supply**

1. Whether continuous, intermittent, or cyclic pumping is required.

2. Current and projected demand, as well as the trend of demand change.

3. Specifications for head and flow rate are necessary.

4. The type of power supply and how long it will be available.

5. Choosing the pump's operating speed and appropriate drive/driving gear.

6. The efficiency of the pumps and the impact on power consumption and operating expenses as a result.

7. Installation is simple.

9.Pipeline Distribution Network

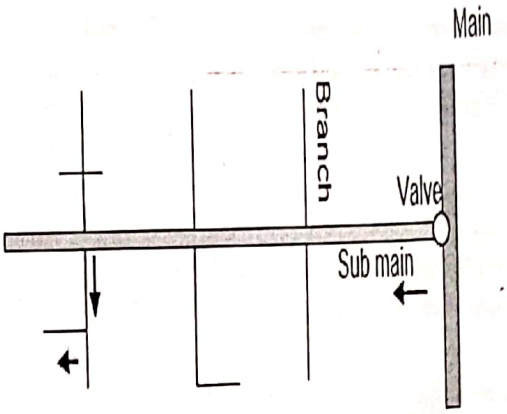
Pipeline distribution networks are intended to develop suitable piping routes. For proper water pressure, construction costs, and operation and maintenance costs, it is critical. Different types of networks are used according on the pressure required, the O&M strategy used, the cost parameter, and the overall length of the distribution system.

1.Dead end distribution system: The goal of pipeline distribution networks is to create adequate piping routes. It is crucial for optimal water pressure, building expenses, and operation and maintenance costs. Depending on the pressure necessary, the O&M strategy employed, the cost parameter, and the overall length of the distribution system, many types of networks are used.

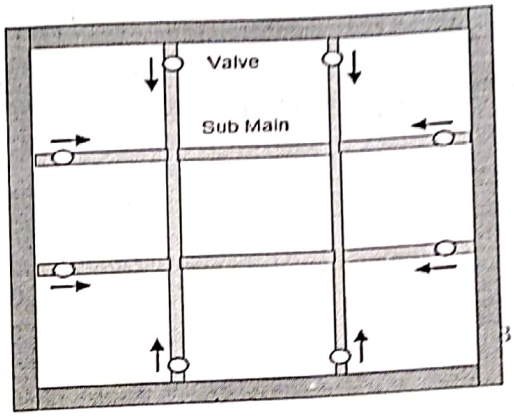
2.Grid iron system: Main, sub main, and branch pipes are all interconnected in such a system. The Main Line system is laid out in a grid pattern. The overall length of pipeline required is long in this case, however it aids in distributing water pressure evenly. Furthermore, because each section has many supply points, a blockage of a pipe in one area has no effect on the supply in the rest of the area. This will also aid in the prevention of water stagnation. The system necessitated the use of a greater number of valves.

3. Ring system: The entire system is encased in a radial or rectangular main pipeline. Sub-main pipelines encompass smaller areas. A very tiny area will be affected if the system fails. Water can be obtained from other sources in the area ahead of the impacted area.

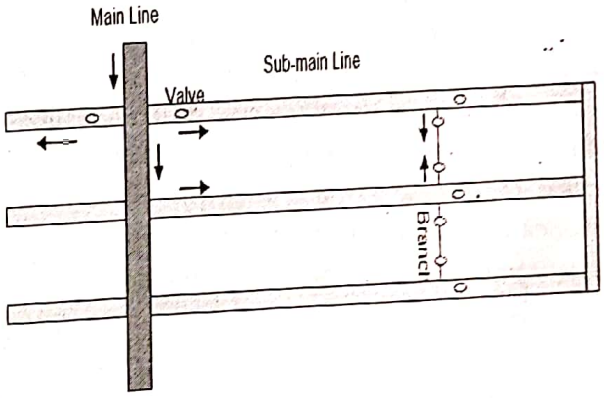
4. Radial system: Different zones have been established throughout the area. Water is poured into a distribution reservoir in the centre of each zone, and supply lines are built radially outward.



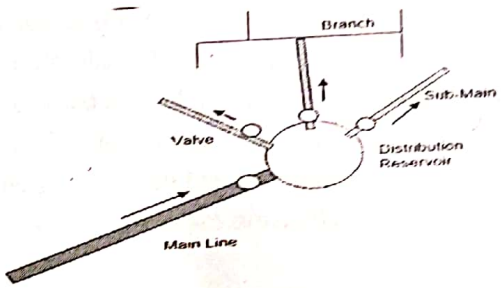
Dead end distribution system



Ring System



Grid Iron System



Radial System

10.Pipe Material Types for Water Distribution Pipelines

1.Galvanised Iron Pipes – metal pipe
2.Mild Steel Pipes – metal pipe
3.Poly Vinyl Chloride Pipes – non-metal pipe
4.High Density Poly Ethylene Pipes – non-metal pipe
5.Ductile Iron Pipes

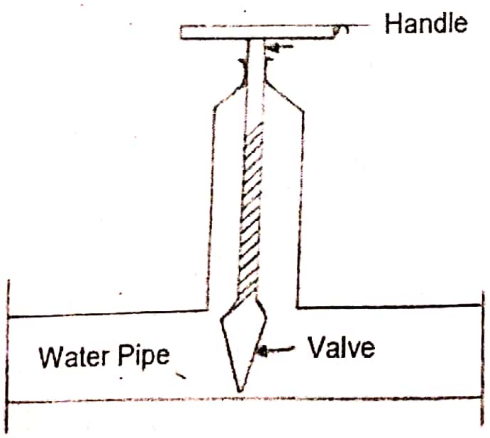
Type of Valves for Water Flow Control and Estimation

Valves are used for control of water flow in pipeline and cleaning of pipes.

1. Sluice Valve :It is used for control on water flow in pipeline. It is fixed in main line and at start of branch line. It is also used as scour valve for cleaning of pipeline. They are provided in straight pipeline at 150-200 m intervals. When two pipes lines interest, valves are fixed in both sides of intersection.

2. Air Valve: Air valve are fixed in order to allow air circulation in pipeline. It is placed in pumping main line and distribution line mainly which are at higher levels. Air valves may be placed at every 1000 m for pipe lines upto 600 mm dia.

3.Water Meters: These are devices installed on pipes to measure quantity of water flowing in particular area. These are installed to keep control on water usage in case of metered water supply. Meters installed to measure household consumption are called domestic water meters. Water meters can also be installed for measuring quantity at stand posts. Water meters having sizes from 15 mm to 50 mm are considered for domestic water meters. Water meters are made normally of cast iron/brass/plastic body and plastic gears. Meters are classified according to the operating principle, type of end connections, the standard by which the same are covered, constructional features, method of coupling between the counter and primary sensor, the metrological characteristics etc. • Automatic water meter reading system are used now in order to collect data from all the meters at central point through GSM/internet. This help in saving Handle Water Pipe Valve Connection to Pipe Valve Float Opening for Air Hinge Basics of Water Supply System- Training Module for Local Water and Sanitation Management 29 time for collecting data from each individual place. This system helps in collection, displaying and processing of data at one single place. It also helps in monitoring of data daily. • Sizing of water meter Water meter has to be selected according to the flow to be measured and not necessarily to suit a certain size of water main. The maximum flow shall not exceed the maximum flow rating. The nominal flow should not be greater than the nominal flow rating. • Installation guidelines and sizing reccomendations for water meters are normally given by the supplier.



Sluice Valve

11.TYPES OF PIPE FITTINGS

Pipe fittings are essential parts of pipelines because they connect pipes and prevent leaks. The distribution piping system employs a variety of pipe fittings. The diameter of the fitting should be determined by the pipe size. Threading is offered on these fittings, which are mostly for metallic pipes. For lower diameter PVC pipes, non-threaded fittings are typically used.

1.Socket or coupling- t's used to join two straight pipe lengths. After threading, the outer diameter of the pipe will be identical to the inner diameter of the socket.

2.Elbow- It connects two pipes of same diameter at different angle, normally 90 degrees.

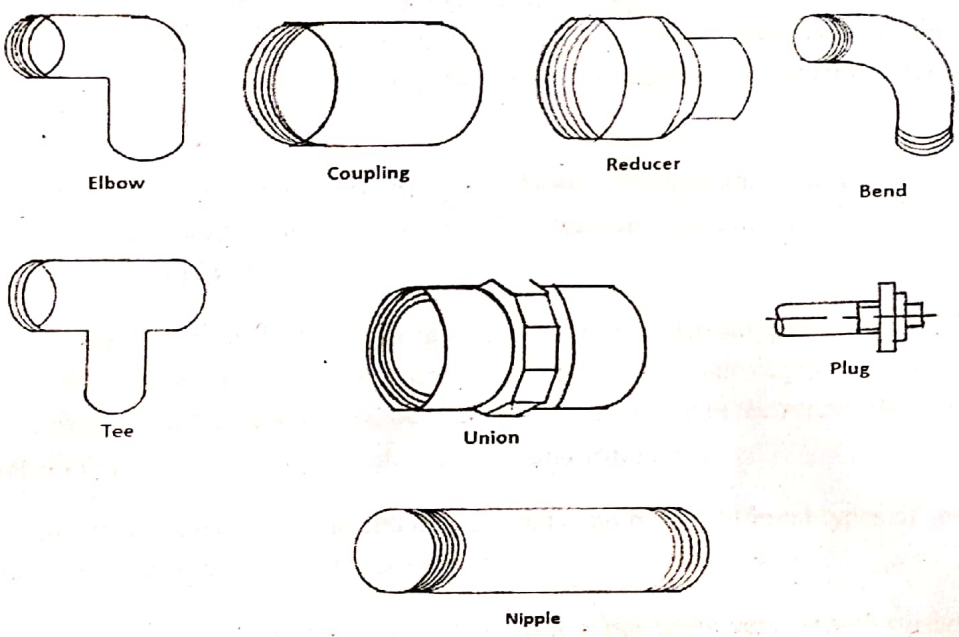
3.Tee - It will fit two straight pipes and have a right-angle output.

4.Union- It's used to attach the ends of two pipes that can't be rotated together. They're employed near all appliances and along stop valves in lengthy stretches of straight pipes at the start of a pipe system.

5.Reducer- It is used to join two pipes of different sizes (diameters) in order to reduce pipe size. According on the distribution network requirements, the reducer can be a socket, elbow, or tee.

6.Nipple- It is used to minimise pipe size by joining two pipes of different sizes (diameters). The reducer might be a socket, elbow, or tee, depending on the distribution network needs.

7.Plug- It's used to stop water from flowing in dead ends.



12.Types of Pipe Cutting and Assembling Tools

For pipe sizes greated than 25 mm, powered tools are used. And for pipe sizes below 25 mm following tools are used:

1. Pipe Vice - It is used for holding pipes in position rigidly for cutting and threading. Pipe vices are available in market in various sizes for holding pipes starting from 37 mm diameter.

2. Pipe Wrench - It is used for screwing and unscrewing small pipes. It is also used for tightening of nut and bolts, fixing of small taps, valves etc in pipelines. Pipe wrench size should be selected such that its opening exactly pits the pipe. Pipe wrench should not be used for bending, raising or lifting pipe.

3. Chain Wrench - It is used for turning and fixing large diameter threaded pipes. Chain wrenches are commonly available for holding pipes of 50 mm - 300 mm diameter.

4. Pipe Cutter - It is used for cutting of pipes. It is placed around pipes and tightens so that it holds the pipe tight. However, over tightening may damage pipe. The cutter is rotated around the pipe one to two times and then the pipe is tightened again. The process is repeated unless the pipe is cut. Pipe cutters are available for cutting of pipes from 25-150 mm.

5. Hack Saw with Blades - It is used for cutting pipes of smaller diameters (15-25 mm). It consists of frame, handle, prongs, tightening screw and nut. The frame may be fixed type or adjustable type. Blade is fixed in position by means of tightening screw. The direction of the cutting teeth of the blade is to be in the forward direction.

6. Pipe Reamer - It is used for chamfering on pipes. When the pipes are cut of threded, burr or metal parts remain which are removed with pipe reamer. Various sizes are available in market. It should be slected based on the the pipe diameter.

7. Pipe Bending Machine - It is used for bending pipes. Fix wooden stopper to one end of the pipe. Fill the pipe with sand completely. Fix wooden stopper from other side of pipe. Fix the pipe in the machine. Location of the the bend hsould be in centre of pulley. Tight the screw. Bend the pipe with help of lever till required bend. Remove stopper and sand from pipe.

8. Spanner – Spanner is used for fixing and opening nuts and bolts. Different types of spanners and size are availabel as per requirment of pipe size.

9. Chisel and Hammer - Chisel is meant for cutting metal pipes when very smooth surface is not required. Chisel is blown with hammer for cutting.

10. Pipe Threading Die Set - It is used for threading external taper threadeds of pipe. Pipe is fixed in the pipe vice and threading is done ith help of the die set as per pipe size requirement. Using instructions

a) Take required size of pipe threading die.

b) Fix the pipe in the pipe vice tightly.

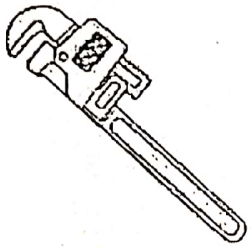
c) Cut the pipe to required szie at right angle.

d) Hold the die in right angle ot the pipe and put some oil on pie.

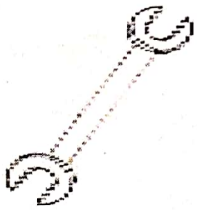
e) Cut the thread on the pie with die rotating in clockwise direction. Rotate the die in anti clockwise direction so that the cut material will come out.

f) Clean the chips or burr.

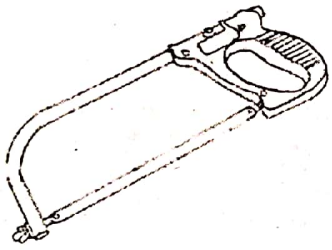
Chain Wrench



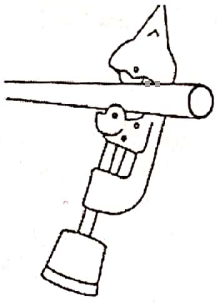
Pipe Wrench



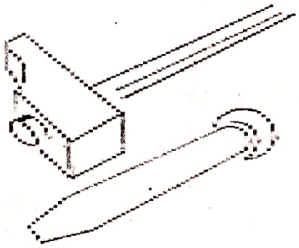
Scanner



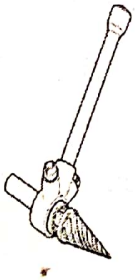
Hack Saw



Pipe Cutter



Chisel & Hammer



Pipe Reamer

SITE VISIT

CONCLUSION

It is my great experience period of my college journey because I learnt lot of things from this internship. I learnt how to supply water from water treatment plant to homes through various method and how to make GSR tank. We deal with surveying, investigating, planning and implementing water supply scheme for village in order to save and portable water conservation and maintenance of the rural sump. Implementation of pipe water supply schemes in village.

The design of an underground water tank, in particular, necessitates a large number of mathematical formulae and calculations. It is also time demanding, and water storage in the form of tanks for drinking and washing, swimming pools for exercise and recreation, and sewage sedimentation tanks is becoming increasingly important in today's society. We use rectangular water tanks for small capacities and circular water tanks for larger capacities.

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Name of student	Vikas Yadav		Department	PHED Gwalior
Industry/Organization	Govt.		Date/Duration	16/1/22 - 01/2/22
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assignedwork				✓	
Learningcapacity/Knowledge up gradation				✓	
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	foundation Excavation & PCC work				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓				
Name of Industry Mentor	Satyam Chaturvedi Team Leader TPI (PHED) Gwalior				
Signature of Industry Mentor	Team Leader (TPI) Fortress Infracon Ltd. Gwalior (M.P.)				

Receiving Date		**Name of Faculty Mentor**	A.K. Saxena	**Sign**	

FORMAT

FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Vikas Yadav		Department	PHED Gwalior
Industry/Organization	Govt.		Date/Duration	1/2/22 - 16/2/22
Criterion	**Poor**	**Average**	**Good**	**Very Good** / **Excellent**
Punctuality/Timely completion of assignedwork				✓
Learningcapacity/Knowledge up gradation				✓
Performance/Quality of work				✓
Behaviour/Discipline/Team work				✓
Sincerity/Hard work				✓
Comment on nature of work done/Area/Topic	foundation Reiforcement work. (main bars)			
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓			
Name of Industry Mentor	Satyam Chaturvedi Team Leader TPI (PHED) Gwalior (M.P.)			
Signature of Industry Mentor	Team Leader (TPI) Fortress Infracon Ltd. Gwalior (M.P.)			

Receiving Date		**Name of Faculty Mentor**	A.K Saxena	**Sign**	

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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Vikas Yadav		Department	PHED Gwalior
Industry/Organization	Govt.		Date/Duration	16/2/22 - 3/3/22
Criterion	**Poor**	**Average**	**Good**	**Very Good** / **Excellent**
Punctuality/Timely completion of assignedwork				✓
Learningcapacity/Knowledge up gradation				✓
Performance/Quality of work				✓
Behaviour/Discipline/Team work				✓
Sincerity/Hard work				✓
Comment on nature of work done/Area/Topic	Radial bors (distribution bors)			
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓			
Name of Industry Mentor	Satyam Chaturvedi Team leader TPI (PHED) Gwalior (M.P)			
Signature of Industry Mentor	Team Leader (TPI) Fortress Infracon Ltd. Gwalior (M.P.)			

Receiving Date		**Name of Faculty Mentor**	A. K. Saxena	**Sign**	

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Name of student	Vikas Yadav		Department	PHED Gwalior	
Industry/Organization	Govt.		Date/Duration	3/3/22 - 18/3/22	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assignedwork				✓	
Learningcapacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Steel binding for Beam				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Satyam Chaturvedi, Team Leader TPI (PHED) Gwalior				
Signature of Industry Mentor	Team Leader (TPI) Fortress Infrac... Gwalior (M.P.)				

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Name of student	Vikas Yadav		Department	PHED Gwalior	
Industry/Organization	Govt.		Date/Duration	18/3/22 - 2/4/22	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assignedwork				✓	
Learningcapacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	foundation Casting work. ✓				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Satyam Chaturvedi, Team Leader TPI (PHED) Gwalior				
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Name of student	Vikas Yadav		Department	PHED Gwalior
Industry/Organization	Govt.		Date/Duration	2/4/22 - 17/4/22
Criterion	**Poor**	**Average**	**Good**	**Very Good** / **Excellent**
Punctuality/Timely completion of assignedwork				✓
Learningcapacity/Knowledge up gradation				✓
Performance/Quality of work				✓
Behaviour/Discipline/Team work				✓
Sincerity/Hard work				✓
Comment on nature of work done/Area/Topic	Cube test & Column Casting. ✓			
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**			
Name of Industry Mentor	Satyam Chaturvedi, Team Leader TPI (PHED) Gwalior			
Signature of Industry Mentor	Team Leader (TPI) Fortress Infracon Ltd. Gwalior (M.P.)			

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Name of student	Vikas Yadav			Department	PHED Gwalior	
Industry/Organization	Govt.			Date/Duration	17/4/22 - 1/5/22	
Criterion	**Poor**	**Average**	**Good**		**Very Good**	**Excellent**
Punctuality/Timely completion of assignedwork						✓
Learningcapacity/Knowledge up gradation					✓	
Performance/Quality of work						✓
Behaviour/Discipline/Team work						✓
Sincerity/Hard work					✓	
Comment on nature of work done/Area/Topic	First brace casting. ✓					
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**					
Name of Industry Mentor	Satyam Chaturvedi, Team Leader TPI (PHED) Gwalior					
Signature of Industry Mentor	Team Leader (I.. Fortress Infracon Ltd. Gwalior (M.P.)					

Receiving Date		**Name of Faculty Mentor**	A.K. Saxena	**Sign**	

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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Vikas Yadav		Department	PHED Gwalior	
Industry/Organization	Govt.		Date/Duration	1/5/22 - 16/5/22	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assignedwork				✓	
Learningcapacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	foam work Ring beam Bottom done.				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Satyam Chaturvedi, Team Leader TPI (PHED) Gwalior				
Signature of Industry Mentor	Team Leader (TPI) Fortress Infracon Ltd. Gwalior (M.P.)				

Receiving Date		**Name of Faculty Mentor**	A.K. Saxena	**Sign**	