

**HINDUSTAN COLLEGE OF SCIENCE AND TECHNOLOGY
FARAH, MATHURA
(affiliated to Dr A.P.J.Abdul Kalam Technical
University,Lucknow,U.P)**



KEY INDICATOR 7.1.2

7.1.2 (3)

Water Conservation

HINDUSTAN COLLEGE OF SCIENCE AND TECHNOLOGY

Meeting Circular

HCST/IQAC/2017-18/ 09

Date:-25/01/2018

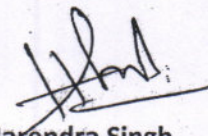
All The IQAC members and invitee members are here by informed that IQAC meeting will be held on January 27, 2018 in the Chairman Conference room at 01:30 PM. All committee members are requested to present in meeting.

Agenda of the Meeting

1. Endorsement of previous meeting
2. Water Conservation
3. Disabled friendly, barrier free environment

Following members are requested to present in the meeting

1	All IQAC committee members
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Dr. Harendra Singh
(Director, IQAC)

Director
Internal Quality Assurance Cell
Hindustan College of Science & Technology
Farah, Mathura


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HINDUSTAN COLLEGE OF
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Director
Hindustan College of
Science & Technology
FARAH (MATHURA)

HINDUSTAN COLLEGE OF SCIENCE AND TECHNOLOGY

Meeting Notes

HCST/IQAC/2017-18/ 09

Date:-27/01/2018

Venue: - Chairman office, HCST

Agenda of the Meeting

1. Endorsement of previous meeting
2. Water Conservation
3. Disabled friendly, barrier free environment

Members of Committee present in the meeting

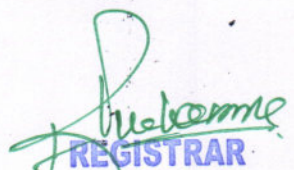
1	Dr.Rajeev Kumar Upadhyay	Chairperson, IQAC
2	Dr. Harendra Singh	(Director, IQAC)
3	Dr. M.S. Gaur	(Member)
4	Dr. Mamta Sharma	(Member)
5	Mr. Vijay Katta	(Secretary)
6	Mr. Kapil Gupta	(Member)
7	Dr. Sandeep Agrawal	(Member)
8	Dr. R.K.Tiwari, COE-HCST	Invitee Member


Following points were discussed in meeting held at 02:00 PM on 27/01/2018.

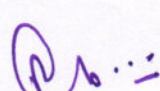
- 1) Dr. Mamta Sharma has proposed the policy documents for
 - a. Water Conservation
 - b. Disabled friendly, barrier free environment

IQAC has approved the policy documents proposed by Dr. Mamta Sharma with minor updates.

It has also been suggested to Dr. Mamta Sharma to proposed the policy for clean and green campus


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Dr. Harendra Singh
(Director, IQAC)


Director
Internal Quality Assurance Cell
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Farah, Mathura

Director
Hindustan College of
Science & Technology
FARAH (MATHURA)



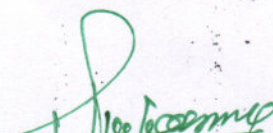
HINDUSTAN


College of Science & Technology

POLICY DOCUMENT FOR WATER CONSERVATION

Water conservation is a critical component of water resources management. While water conservation program and policies can originate at any level of government, primary responsibility for implementation of water conservation measures rests with local authorities, institutions and organisations. In this context as a premier and responsible education institution Hindustan College of science and technology has its water conservation policy as follows:

1. Ensure proper utilization of water resources for drinking.
2. Ensure utilization of water for maintaining greenery in the campus this further ensures the maintenance in the oxygen levels in the campus.
3. Make arrangement for alternate sources of water, like rainwater harvesting, bore wells, overhead tanks etc.
4. Ensure proper distribution of water resources for faculty quarters and in all sections and departments of the institute.
5. Proper utilization of the RO plants already installed and their regular maintenance.
6. Operation of the Sewage treatment plant and its maintenance should be ensured


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HCST Reverse Osmosis (RO) Water Plant DATA

S/No	YEARS	RO WATER (liter/day) (average)	Remark
1	2018	26000 liter/day	Utilized for drinking Purpose.
2	2019	24000 liter/day	Utilized for drinking Purpose.
3	2020	8000 liter/day	Covid Time College closes due to lock down. College across the country remains closed for 500+ days due to COVID19. Online classes comes to rescue to higher classes.
4	2021	7000 liter/day	Covid Time College closes due to lock down. College across the country remains closed for 500+ days due to COVID19. Online classes comes to rescue to higher classes.
5	2022	22000 liter/day	Utilized for drinking Purpose.
6	2023	25000 liter/day	Utilized for drinking Purpose.

AK Sharma

Technical Executive, Sharda Group of Institutions

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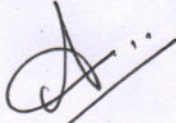
REVERSE OSMOSIS WATER PLANT



COPY OF ENTRIES

Sl. No.	Date	Particulars	Debit	Credit	Balance
1	10/10/21	10/10/21	1000		1000
2	11/10/21	11/10/21	1000		2000
3	12/10/21	12/10/21	1000		3000
4	13/10/21	13/10/21	1000		4000
5	14/10/21	14/10/21	1000		5000
6	15/10/21	15/10/21	1000		6000
7	16/10/21	16/10/21	1000		7000
8	17/10/21	17/10/21	1000		8000
9	18/10/21	18/10/21	1000		9000
10	19/10/21	19/10/21	1000		10000
11	20/10/21	20/10/21	1000		11000
12	21/10/21	21/10/21	1000		12000
13	22/10/21	22/10/21	1000		13000
14	23/10/21	23/10/21	1000		14000
15	24/10/21	24/10/21	1000		15000
16	25/10/21	25/10/21	1000		16000
17	26/10/21	26/10/21	1000		17000
18	27/10/21	27/10/21	1000		18000
19	28/10/21	28/10/21	1000		19000
20	29/10/21	29/10/21	1000		20000
21	30/10/21	30/10/21	1000		21000
22	31/10/21	31/10/21	1000		22000


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NAVRANG[®]

REGD. TRADE MARK No. 224179

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HCST, MATHURA

R O PLANT
Register

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Hindustan College of
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दि०	प्रातः सत्र	शुक्र सत्र	कुल सत्र	रिजि० फीस	प्रातः फीस	कुल फीस	शु०	शु०	शु०	अन०	कुल
15-05-23	8:40 Am	4:40 Pm	8.00	4200	2000	16000	1.2	.7	13.4		20
16-05-23	8:45 Am	4:45 Pm	8.00	4200	2000	16000	1.2	.7	13.5		
17-05-23	8:40 Pm	4:40 Pm	8.00	4200	2000	16000	1.3	.7	13.5		
18-05-23	8:40 Am	4:40 Pm	8.00	4200	2000	16000	1.2	.7	13.5		
19-05-23	8:45 Am	4:45 Pm	8.00	4200	2000	16000	1.3	.7	13.5		
20-05-23	7:00 Am	5:00 Pm	10.00	4200	2000	20000	1.5	.8	13.5		
21-05-23											
22-05-23	7:30 Am	4:00 Pm	9.00	4200	2000	18000	1.4	.9	13.4		
23-05-23	8:00 Am	5:00 Pm	9.00	4200	2000	18000	1.4	.8	13.6		
24-05-23	6:00 Am	4:00 Pm	10.00	4200	2000	20,000	1.3	.7	13.5		

Director
Hindustan College of
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(Signature)

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FARAH, MATHURA

अप्रैल 2023

दिनांक	चालू समय	बन्द समय	कुल समय	रिजिस्टर फ्लो	परमिट फ्लो	कुल परमिट	FEED शीट	Reel नं. (2)	रिजिस्टर शीट नं. 4	Amount	HEL	P
1.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5	01		
2.04.23	10:00 Am	4:00 Pm	6:00	4200	2000	12000	.8	.6	13.4		02	
3.04.23	11:00 Am	5:00 Pm	6:00	4200	2000	12000	.8	.6	13.5		20	
4.4.23	10:10 Am	4:40 Pm	6:00	4200	2000	12000	.8	.6	13.5	1		
5/4/23	10:10 Am	4:40 Pm	6:00	4200	2000	12000	.8	.6	13.5			
6/4/23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5		04	
7.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5			
8.4.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5		10	
9.4.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5	01		
10.4.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5			
11.04.23	10:00 Am	5:00 Pm	7:00	4200	2000	14000	.8	.6	13.5			
12.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5		10	
13.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	.8	.6	13.5			
14.04.23	11:00 Am	5:00 Pm	6:00	4200	2000	12000	.8	.6	13.5			
15.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.5	13.4			
16.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.5	13.0		15	
17.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.5	12.7			
18.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.7	13.7	01		
19.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.7	13.7			
20.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.7	13.8		20	
21.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.7	13.8			
22.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.6	13.7			
23.04.23	10:30 Am	4:50 Pm	6:00	4100	2000	12000	1.00	.7	13.8			
24.04.23	10:30 Am	4:30 Pm	6:00	4100	2000	12000	1.00	.7	13.8			
25.04.23	10:30 Am	4:30 Pm	6:00	4100	2000	12000	1.00	.7	13.8			
27.04.23	10:30 Am	4:30 Pm	6:00	4400	2000	12000	1.00	.6	13.5		10	02
28.04.23	10:30 Am	4:30 Pm	6:00	4200	2000	12000	1.00	.6	13.5	01		
29.04.23	10:00 Am	3:00 Pm	5:00	4200	2000	12000	1.00	.6	13.5			
30.04.23	10:30 Am	4:30 Pm	5:00	4200	2000	12000	1.00	.6	13.5			

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Director
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15/02/23

दि०	चाकू समय	पठक समय	कुल समय	रिजिस्ट्रार	परिष्कार	कुल परीक्षे	शे० 1	शे० 2	शे० 4	
01.05.23	10.30 Am	4.30 Pm	6.00	4200	2000	12000	1.2	.8	13.5	Re
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03.05.23	10.30 Am	4.30 Pm	6.00	4300	2000	12000	1.3	.8	13.5	Re
04.05.23	10.30 Am	4.30 Pm	6.00	4000	2000	12000	1.1	.8	13.5	Re
05.05.23	10.30 Am	4.30 Pm	6.00	4000	2000	12000	1.0	.8	13.5	Re
06.05.23	10.00 Am	5.00 Pm	7.00	4600	2000	12000	1.1	.8	13.5	Re
07.05.23	9.00 Am	4.30 Pm	7.30	4100	2000	15000	1.0	.8	13.5	Re
08.05.23	9.00 Am	5.00 Pm	8.00	4100	2000	16000	1.0	.7	13.5	Re
09.05.23	9.00 Am	5.00 Pm	8.00	4100	2000	16000	1.0	.7	13.5	Re
10.05.23	9.00 Am	5.00 Pm	8.00	4100	2000	16000	1.0	.7	13.5	Re
11.05.23	8.45 Am	4.45 Pm	8.00	4100	2000	16000	1.0	.7	13.4	Re
12.05.23	8.40 Am	4.40 Pm	8.00	4100	2000	16000	1.0	.7	13.6	Re
13.05.23	8.50 Am	4.50 Pm	8.00	4100	2000	16000	1.0	.7	13.6	Re
14.05.23	8.50 Am	4.50 Pm	8.00	4100	2000	16000	1.0	.7	13.6	Re

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Director



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SEWAGE TREATMENT PLANT DATA

S/No.	Years	STP Treated water(average)	Remark
1.	2018	218000 Liter/per day	A part of the treated water is utilized for irrigation and the remaining is sent to the storage pond for ground recharge
2.	2019	195000 Liter/per day	A part of the treated water is utilized for irrigation and the remaining is sent to the storage pond for ground recharge
3.	2020	75000 Liter/per day	Covid Time College close due to lock down, colleges across the country remain closed for 500+ days due to COVID19. 'Online classes' come to rescue for higher classes
4.	2021	80000 Liter/per day	Covid Time College close due to lock down college across the country remain closed for 500+ days due to COVID19. 'Online classes' come to rescue for higher classes
5.	2022	140000 Liter/per day	A part of the treated water is utilized for irrigation and the remaining is sent to the storage pond for ground recharge
6.	2023	145000 liter/perday	A part of the treated water is utilized for irrigation and the remaining is sent to the storage pond for ground recharge


AK Sharma

Technical Executive, Sharda Group of Institutions


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Hindustan College of Science And Technology ,Farah, Mathura

SEWAGE TREATMENT PLANT (WASTE WATER MANAGEMENT)



7QWP+97W,
Churmura, Uttar
Pradesh 281122
20 Jan 2023 01:21 pm
clear sky
20.0

7QWP+97W,
Churmura, Uttar
Pradesh 281122
20 Jan 2023 01:21 pm
clear sky
20.0



7QWP+97W,
Churmura, Uttar
Pradesh 281122
20 Jan 2023 01:21 pm
clear sky
20.0

7QWP+97W,
Churmura, Uttar
Pradesh 281122
20 Jan 2023 01:21 pm
clear sky
20.0

Belkamma
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P. S. S.
Director
Hindustan College of
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Details of Rain Water Harvesting (RWH) Pits

S/No.	RWH PITS	Location	Specification
1	Rain Water Harvesting Pit No 1	Near over-head bore well	<ul style="list-style-type: none"> Width of pit: 1.5 m. Depth: 3.0 m. Material: 40-60 mm coarse gravel followed by 20 mm aggregates and 2 mm sand. PVC pipe Dia 8 inches PVC perforated pipe length 20 feet
2	Rain water harvesting Pit No 2	Near boys hostel play ground	<ul style="list-style-type: none"> Width of pit: 1.5m. Depth: 3.0 m. Material: 40-60 mm coarse gravel followed by 20 mm aggregates and 2 mm sand. PVC pipe Dia 8 inches PVC perforated pipe length 20 feet
3	Rain water harvesting Pit No 3	Near STP & faculty building	<ul style="list-style-type: none"> Width of pit: 1.5 m. Depth: 3.0 m. Material: 40-60 mm coarse gravel followed by 20 mm aggregates and 2 mm sand. PVC pipe Dia 8 inches PVC perforated pipe length 20 feet




Mr. A. K.Sharma

Technical Executive, Sharda Group of Institutions



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Hindustan College of
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RAIN WATER HARVESTING (PITS)



RWH-3

7QWP+97W,
Churmura, Uttar
Pradesh 281177
20 Jan 2023 01:21 pm 20.0



RWH-2

7QWP+CQ5,
Churmura, Uttar
Pradesh 281177
20 Jan 2023 01:17 pm 20.0



RWH-1

Chennai - Delhi Hwy,
Churmura, Uttar
Pradesh 281122, India
16 Jan 2023 03:41 pm 18.0

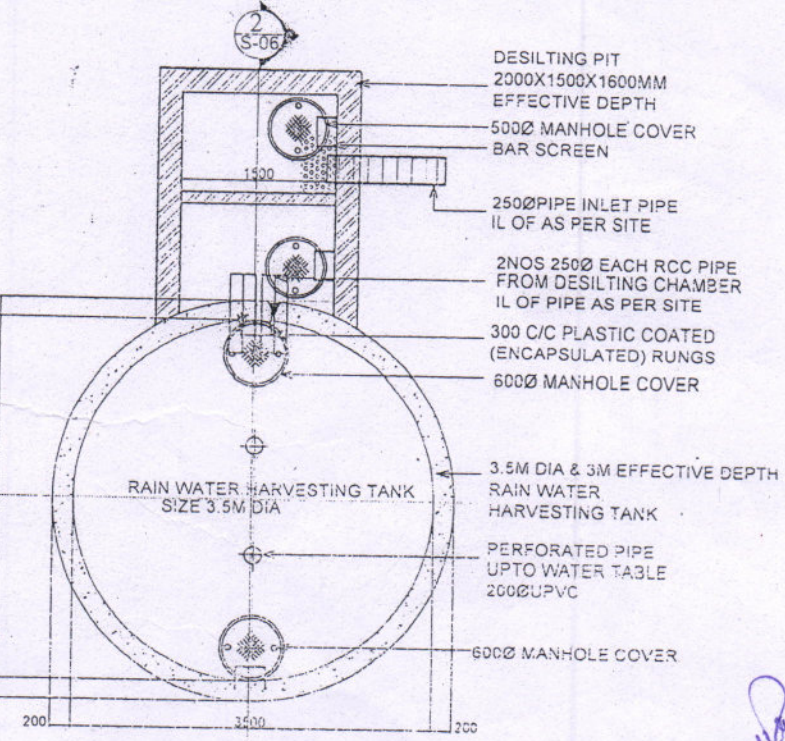
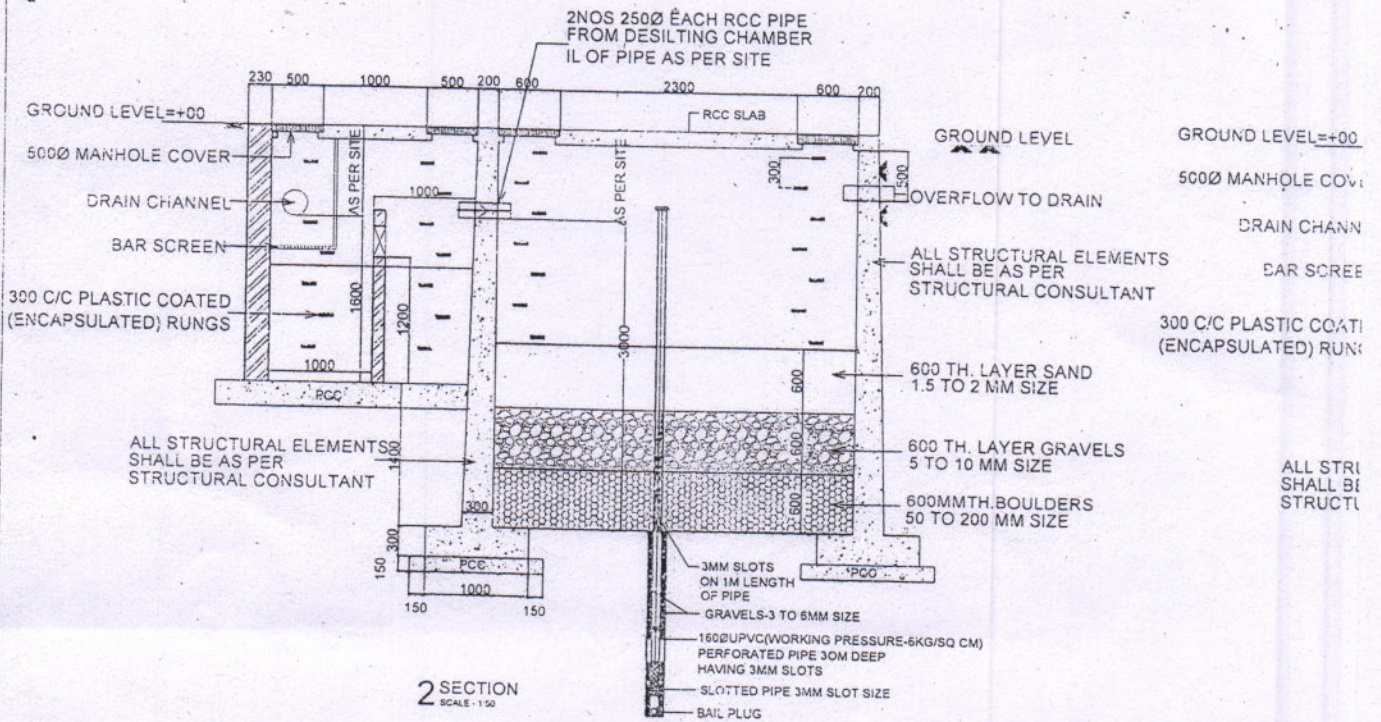
J. S. Jaiswal
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Director
Hindustan College of
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LEGEND	
	STORM WATER MANHOLE
	300Ø PIPE SLOPE 1:225
	RAINWATER HARVESTING TANK
	PIZOMETER

SCHEDULE	
DEPTH OF MANHOLE	SIZE
600-900MM	900
901-1679MM	900
1680MM -2290MM	122
2300MM ONWARDS	152



P. S. Meena
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1 HARVESTING TANK PLAN (FOR TERRACE)
 SCALE - 1:50

[Signature]
Director

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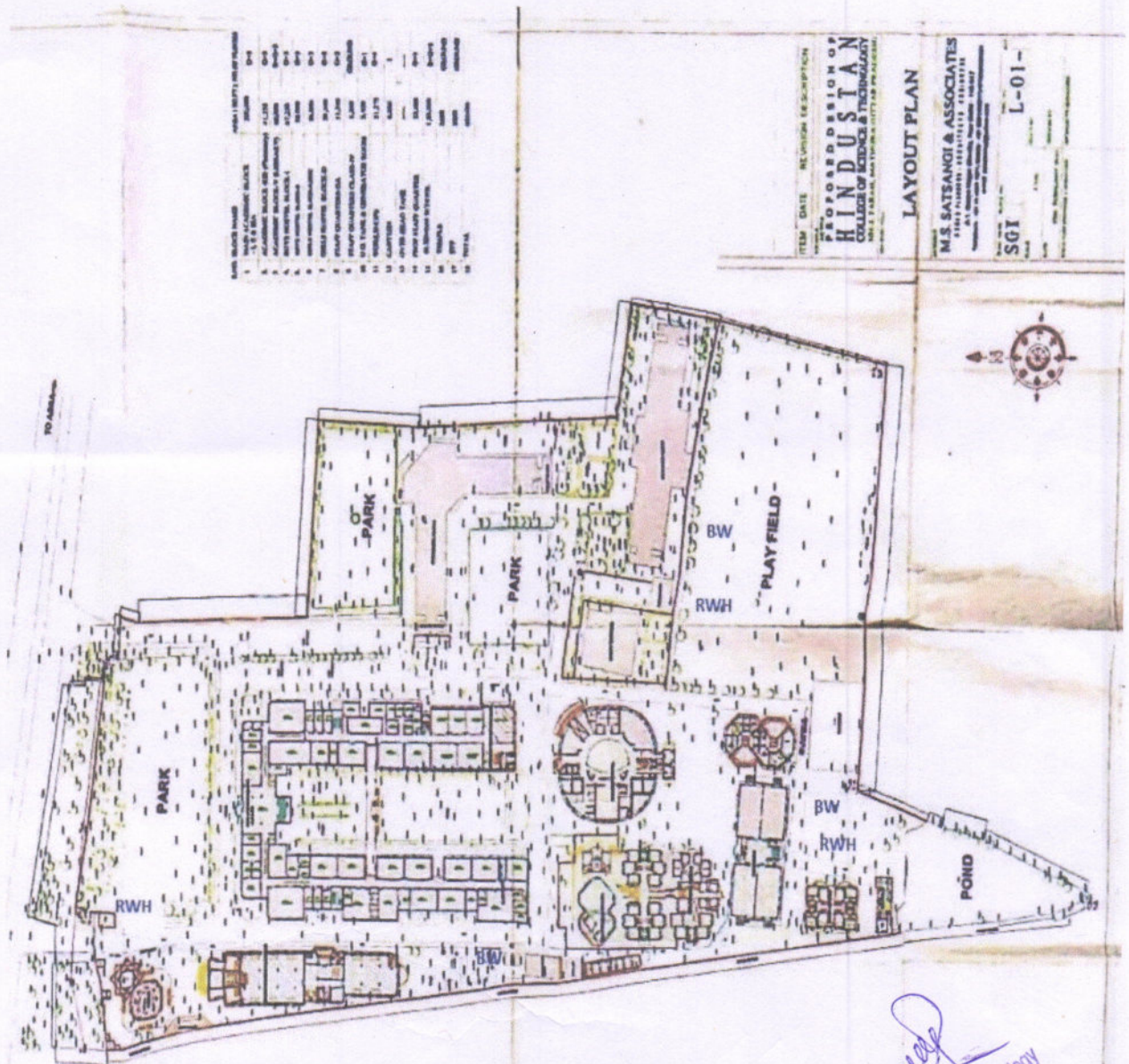
[Signature]
Maintenance Engineer
Hindustan College of Science & Technology
Farah, Mathura



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Map



[Signature]
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[Signature]
Maintenance Engineer
Hindustan College of Science & Technology
Farah, Mathura

[Signature]
Director
Hindustan College of Science & Technology
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Calculation of Water Quantity in Liters for Triangular Pond Area

Introduction:

This report outlines the process of calculating the water quantity in liters for a pond with a triangular shape. The pond has sides measuring 40 meters, 45 meters, and 50 meters, and a maximum depth of 5 meters. The objective is to determine the total volume of water the pond can contain in liters.

Methodology:

To calculate the water quantity in liters, we will use the formula for the volume of a triangular prism:

$$V = \frac{1}{2} \times \text{base} \times \text{height} \times \text{depth}$$

Where:

Base = Average of the three sides of the triangular area


Height = Perpendicular distance from the base to the top vertex of the triangle.

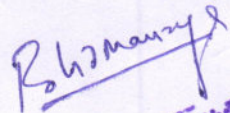
Depth = Maximum depth of the pond

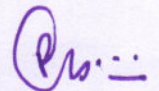
Calculations:

Given the sides of the triangular area:

- Side A = 40 m
- Side B = 45 m
- Side C = 50 m


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Department of Civil Engg.
Hindustan College of Science & Technology
Farah, Mathura


Director
Hindustan College of
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The average base length (B) can be calculated as:

$$B = \frac{A+B+C}{3}$$

$$B = \frac{40+45+50}{3}$$

$$B = \frac{135}{3}$$

$$B = 45 \text{ m}$$

Using Heron's formula, we can calculate the area (A) of the triangle:

$$s = \frac{A+B+C}{2}$$

$$s = \frac{40+45+50}{2}$$

$$s = \frac{135}{2}$$

$$s = 67.5 \text{ m}$$

Using Heron's formula:

$$A =$$

$$\sqrt{s \times (s - A) \times (s - B) \times (s - C)}$$

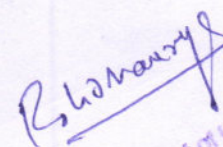
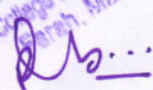
$$A =$$

$$\sqrt{67.5 \times (67.5 - 40) \times (67.5 - 45) \times (67.5 - 50)}$$

$$A \approx 899.51 \text{ m}^2$$




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FARAH, MATHURA


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The height (H) of the triangular area can be calculated using the formula:

$$H = \frac{2 \times A}{B}$$

$$H = \frac{2 \times 899.51}{45}$$

$$H \approx 39.99 \text{ m}$$

Now, using the volume formula for a prism, and converting the volume to liters:

$$V = \frac{1}{2} \times B \times H \times \text{depth}$$

$$V = \frac{1}{2} \times 45 \times 39.99 \times 5$$

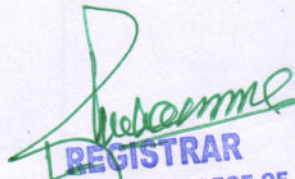
$$V \approx 4497.83 \text{ m}^3$$

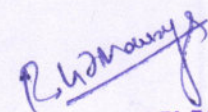

To convert cubic meters to liters, we use the conversion factor: 1 cubic meter = 1000 liters.

$$V_{\text{liters}} = V_{\text{cubic meters}} \times 1000$$

$$V_{\text{liters}} \approx 4497.83 \times 1000$$

$$V_{\text{liters}} \approx 4,497,830 \text{ liters}$$


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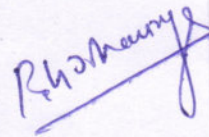
Actual volume of the pond should be the half of this value. Due to the shape of the pond at the bottom of the pond is converging at a single point gradually. This way almost half of the volume should be reduced. The final volume of the water in a pond is as follows.

$$V = 4497830/2 = 2248915 \text{ litre}$$

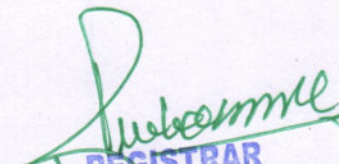
Approx. 22.5 lakh litre of water.

Results and Conclusion:

The calculated water quantity in liters for the triangular pond area is approximately 4,497,830 liters. This value represents the maximum volume of water the pond can hold, considering its triangular shape with sides of 40 meters, 45 meters, and 50 meters, and a maximum depth of 5 meters. This information is crucial for effective water resource management and planning in the pond area.



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