Palakol

To
The Principal
Sri A. S. N. M. Govt. College (A),

Jan 27/12/2021

Palakol, W.G. Dt.

Sub:-Request for Seeking Permission of field visit for B.Sc Students to Electrical Power substation, Palakol.

I wish you to bring to your kind notice that a batch of 50 Students of IIIrd B.Sc of Sri A. S. N. M. Govt. College (A), Palakol, W.G. Dt. along with 4 Faculty members of department of Chemistry are going to visit **Electrical Power substation**, Palakol on **28-12-2021** as part of their Curriculum. There are no foreign students in the group.

Hence I request you to extend your Co-operation and permit us to visit the Place/ Organization which is useful to the Students.

Thanking you

Yours Sincerely

DR.V.YAMINI

HOD of Chemistry

Sri A.S.N.M.GOVT.COLLEGE (A), PALAKOL

(NAAC RE-ACCREDITED WITH B GRADE (CGPA 2.61)

WEST GODAVARI Dist., A.P., Pin. 534260



DEPARTMENT OF CHEMISTRY

FIELD VISIT 28.12.2021

Sri A.S.N.M.GOVT.COLLEGE (A), PALAKOL, W.G.DT

NAAC RE-ACCREDITED WITH B GRADE (CGPA 2.61) PALAKOL, WEST GODAVARI Dist., A.P., Pin. 534260



DEPARTMENT OF CHEMISTRY

FIELD VISIT 28.12.2021

Sri A. S. N. M. GDC (A), PALAKOL Department of Chemistry conducted field visit to Electrical Power substation, Palakol for 3rd B. Sc students on 28.12.2021. 50 students from III B. Sc M.P.C, M.C.Cs & C.B.Z groups along with Four Lecturers of Dept. of Chemistry Dr. V. Yamini, Dr. S. B. Ronald, Dr. N. V. V. Simhadri & Dr. M. V. V. Ramanjaneyulu have participated in this Field Trip, to get the Knowledge of Chemistry in Every Day Life and to get practical experience about the Use of Chemistry in the power Station. Assistant Engineer Sri V. Nageswara Rao has explained about the use different Transformer Oils used in the substation to the students.

Signature of the Faculty: 1. V. Yamiri

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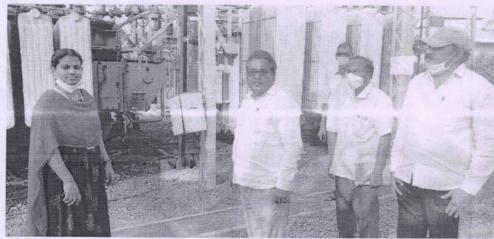
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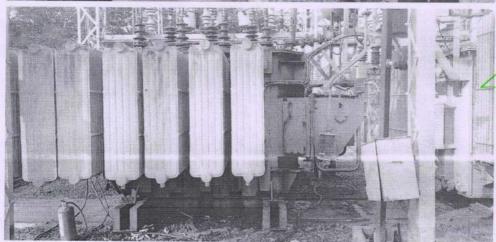
Sri A. S. N. M. GOVT. COLLEGE (A), PALAKOL, W.G. DT **DEPARTMENT OF CHEMISTRY**

FIELD VISIT - Electrical Power substation, Palakol 28.12.2021









28/2/2021

During this Field Visit Staff of Chemistry explained students about the importance of Transformer oil in our life and the students are able to understand the following facts about Transformer Oil.

Now a day we can't imagine our life without electricity. As we can't use the Direct Current (DC) from the open source, we use the Transformer to convert Alternating Current to Direct Current. To make the Transformer work and to insulate the Transformer, we use **Transformer Oil**. Transformer oil is also called as Insulating Oil.

- A. Transformer oil mainly servers two purposes:
- i) Liquid Insulation in electrical power transformer
- ii) Dissipates Heat of the Transformer i.e Acts as Coolant
- B. Properties of Transformer oil:

To perform the above functions, it must have

High Dielectric Strength,

Thermal Conductivity and

Chemical Stability.

C. Types of Transformer oil:

Three basic types of transformer oil used are

i) Mineral oil i.e Paraffinic and Naphthenic based oil,

Muzelahozi

- ii) Silicone based oil and
- iii) Bio-based oil.

i) Mineral oil:

These are the petroleum products, like Naphthenic based transformer oil and Paraffinic based transformer oil and are generally effective as transformer oil, but these oils have some disadvantages.

If a transformer leaks mineral oil, it can potentially start a fire.

Mineral oil is also an environmental contaminant, and its insulating properties are rapidly degraded by even small amounts of water.

ii) Silicone based oil:

These are synthetic oils which are generally used in the fire-prone area because of its fire-retardant properties.

It also has few problems of low heat dissipation and high moisture absorbing capacity.

It is also costlier than mineral oil.

iii) Bio-based oil:

It is produced from vegetable oil feedstock.

Companies are investing more in bio-based transformers oil, as it is resistant to fire, electricity, heat and is bio-degradable.

Researchers are also investigating nanofluids for transformer use; these would be used as additives to improve the stability and thermal and electrical properties of the oil.

List of the students Participated:

Sl.No	Name of the Student	Class & Group	Signature
0	M. Noveen Lumas	The BSC (MCCS)	A
Ø	A. Navya soni	THOOL BSC (MPC)	
(3)	B. Naga Durga Madhari	EI B.SC (MPC)	B. Madlan
A	Ch. Radha.	MIBSC CMPC)	Ch. Radha
3	G. RUPENIDRA	IT DSC (M.P.C	
6	G. Bhavani	DI BSC (M.P.C)	
(F)	Gr. spedema	III BSC (mpc)	Grubelliona
8.	N. Lavanya	III BSC (Mpc)	N. Lavanya
9	P. Laki / babu	TIL BSC (Mpc)	P. Lati bable
10,	R. Lakshoni Suristra	III BBC (mPC)	R. bekehmistrata
11	T. Jahnavi	III BSC (MPC)(EM	7. dohnavi
12.	T- Yesumani	III BSC MPC (EM)	T. yesumani
13.	V. Szivallika	III BSC MPC(EM)	V. Sorivallika
A.	y. Veukatalakshu	THE BSC MPC [EM]	4. Venkatalakshi
15.	ch. Deeptas	TIL BSE MIPE [EM]	Ch. Reception
16-	ch. Sul nap lakihni	III BSC MPC (TOM)	Che Sail rage lakshul
17.	(Sommy.	TT. BS.C. M.P.C. (T.M)	
18.	K. Yamini	III BSCMPC (T.M)	
19.	K. sai lakshmi	III BSC MPC (TIM)	K. Sai lakshmi
20.	P. P. Siva Michna	III BSC MPC (T.M)	P. Sira Mishna
21)	M. Rajagopas M. Vilaya jyothi	III B.Sc Mpc(Th)	N. Raja Sopal
22)	M. Visaya jyothi	III B SC MPC(TM)	M. Vijayajyothi
23	m. Durga Bravani M. Nogomani	IT R.S. mpc (T.M)	m. D. Bhavani
24	M. Nagamani	III B. SC MPC CTAN) M. Nagamani
25	N. Nordeswari	III B.SC MPC (TM)	
26	G. Jashan Ganesh	III BSC BZC(EN)	
27	k. Daga Bhavani	III BSC BSC(EN)	K. Durga Bhagara
28.	M. Anil Rabn.	11 1550 1520 Gm	M. Amillaha
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31	T. Manasa	III 320 (BZ) Fr	T. Monasa
32	y. Dixga	III BSC (B2C)(EM)	y. waga
33.	M. Madhust	II BOC (BZ OCTM)	M. Masdhuri
34.	M. usharani	III BSC (BEC) TM)	M. Usha kani.
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