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# MAHARANI KALYANI COLLEGE

LAHERIASARAI (DARBHANGA) - 846 003  
(A Constituent unit of L. N. Mithila University, Darbhanga)  
NAAC ACCREDITED (GRADE - 'B')

Ref. No. ....

Date. 25-03-2022

*Prof. L. P. Jaiswal*  
Principal

दिनांक 25-03-2022 को दैनिक पत्रिका प्रभात खबर में  
आमंत्रित निविदा अनुसार निम्न लिखित वस्तुओं, उपकरणों  
की क्रय होनी है।

CHAIRS GODRAT  
TABLE GODRAT  
ALMIRAH GODRAT  
BATTERY EXIDE  
INVERTER  
COMPUTER - H.P  
UPS - H.P  
LAPTOP - H.P  
1

*Principal*  
M. K. COLLEGE  
Laheriasarai

To

The Principal

M.K. College, Laheriasarai.

Subject - Regarding the requisition of  
items for Physics laboratory.

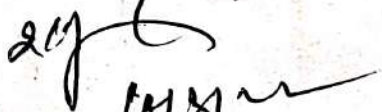
Respected Sir,

I am submitting here with the  
requisition of items for the Physics Lab.

Please arrange these items as soon  
as possible.

Thanking you,

Sincerely yours,

  
(Dr. Shamsi Khan)

H O O

Depth. of Physics.



# LIST OF REQUIREMENT OF THE ITEMS FOR PHYSICS LABORATORY

Items	Quantity held	Quantity proposed to be procured	Approx. cost per item	Total cost (₹)
RHEOSTAT		03	500	1500
AMMETER	NIL	05	400	2000
VOLTMETER	02	05	300	1500
GALVANOMETER	02	05	300	1500
DIODE	01	20	005	100
CAPACITOR(6800pf)	NIL	20	010	200
TRANSISTOR (DIFFERENT TYPES)	NIL	20	025	500
ZENER DIODE (DIFFERENT TYPES)	NIL	20	010	200
PLUG TYPE RESISTANCE BOX(1-1000Ω)	NIL	02	1400	2800
INTEGRATED CIRCUIT (I.C)	03	05	040	200
RESISTORS OF 5, 10 & 20Ω (EACH)	NIL	15	007	100
HALF METER SCALE	NIL	04	075	300
SONOMETER	NIL	01	1200	1200
DRY CELL	01	02	1000	2000
LECLANCHE CELL	NIL	02	0900	1800
DIGITAL PHYSICAL BALANCE	NIL	01	6000	6000
DIGITAL VOLTMETER	NIL	01	5500	5500
DIGITAL AMMETER	NIL	01	800	800
MOVING COIL GALVANOMETER	NIL	01	1000	1000
FET CHARACTERISTIC	NIL	01	2200	2200
TELESCOPE	01	01	10000	10000
MICROSCOPE	NIL	01	2500	2500
JUNCTION DIODE AND ITS CHARACTERISTIC	01	01	3750	3750
ZENER DIODE CHARACTERISTIC	NIL	01	1800	1800
BJT CHARACTERISTIC	NIL	01	7000	7000
LOGIC GATE (VERIFICATION OF TRUTH TABLE)	01	01	3250	3250
DRAWING BOARD AND DRAWING PIN	NIL	04	375	1500
INDUCTION COIL	01	02	900	1800
PRISM	NIL	05	150	750
VERNIER CALIPER	03	10	400	4000
SCREW GAUGE	05	10	250	2500
SPHEROMETER	05	10	250	2500
THREAD COATED CONNECTING WIRE (COPPER)	NIL	02	300	600
BATTERY ELIMINATOR	NIL	02	1200	2400
LYCOPODIUM POWDER	NIL	01	1400	1400
GLASS SLAB	02	10	200	2000
METER SCALE	01	05	150	750
OPTICAL BENCH	NIL	02	2600	5200
CONCAVE MIRROR & LENS (EACH)	02	05	100	500
CONVEX MIRROR & LENS (EACH)	02	05	100	500
UNKNOWN RESISTANCE COIL	NIL	05	200	1000
BICONVEX LENS	01	02	600	1200
TRANSISTOR CHARACTERISTIC	NIL	01	6000	6000
TOOL KIT (FULLY EQUIPPED)	NIL	01	3000	3000
ONE WAY, TWO WAY AND THREE WAY KEY (EACH)	02	01	1500	1500
UPRIGHT NEEDLE AND INDEX NEEDLE	NIL	05	100	500
<b>GRAND TOTAL</b>				<b>₹99,300</b>

*[Signature]*  
22/09/21

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22/9/2021



## Physics

SL No	Item with Technical Details	Quantity held	Quantity Proposed to	Approx . Cost Per Item	Total Cost
1	<b>FET Characterstics</b> (Complete on board module for studying JFET Characteristics. It should include in-built variable Power Supply, analog meters of compatible range for measuring current and voitage. The kit should be assembled in Metal/Wooden Box with Screen Printed Circuit on top. Necessary set of Patch Chords & Experimental	1	2	5200	10400
2	<b>Ballistic Galvanometer with Lamp and scale arrangement</b> (AC mains operated lamp and a scale (25-0-25 cms) arrangement, translucent plastic scale mounted on a stand with adjustable height, Ballistic Galvanometer to be enclosed in a rigid and robust bakelifte case, with typical resistances around 116 ohm and CDR around 2000 ohm, times period 12_13 seconds. B.G. to have three levelling screws and fitted spirit-level for levelling with	1	1	11200	11200
3	<b>Complete setup for series and pralled resonant LCR circuit characteristics</b> (The complete module should have Digital/LCD Voltmeter and Frequency Counter, in-built Signal Generatiore (multiple frequency ranges) It should demonstrate both Series and Paralled Resonance where facility to perform experiment should be possible with or without Oscilloscope. It should have in-built power supply. The set-up should be complete in all aspects.	0	1	14200	14200
4	<b>Complete set-up for B-H Curve Measurement using sofenoid coil</b> (Complete setup for study of B-H curve for a Ferro magnetic material using solenoid coild with a non-inductive core. The setup should include either Ballstic galvonometer with	0	1	3700	3700
5	<b>Magnetic hysteresis loop tracer</b>	0	1	13440	13440
6	<b>Verification of Logic gates &amp; De Morgan's theorems</b>	1	1	6300	6300
7	<b>verification of boolean identities</b>	1	1	7700	7700

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02/09/2021

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8	<b>Michelson Interferometer (Standard Model)</b> (A Michelson interferometer consists minimally of mirrors M1 & M2 and a beam splitter M. In Fig 2, a source S emits light that hits the beam splitter (in this case, a plate beamsplitter) surface M at point C. M is partially reflective, so part of the light is	1	1	49000	49000
9	<b>Optical Bench (PHYSIC LAB Research Optical Bench Model)</b> The bed is heavy cast iron with a strong control rib, thoroughly seasoned and aged before machining and grinding of its upper surfaces. Total length 170cm. with a machined full length	0	4	9100	36400
10	<b>Elastic constantt. by searie's method</b>	2	1	3360	3360
11	<b>Flexure of beam (With two Sets of soffit weight)</b>	1	2	3710	7420
12	<b>Resolving Power of Telescope</b> (Complete set with marble apperture)	0	1	10360	10360
13	<b>Resolving Power of Microscope</b> (Complete set with marble apperture)	0	1	9100	9100
14	<b>Stok's Apparatus (Complete Set)</b>	0	1	3500	3500

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22/9/21

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22/9/2021

H.V.D

→ To,

The Principal  
M.K. College Laheriasarai

Sub: Regarding Submission of Requisition of Chemicals  
and equipments in Department of Chemistry

Sir,

In the light of notice issued by Principal  
M.K. College, hereby I am submitting the  
list of chemicals and equipments required in  
Department of chemistry with attached file enclosed  
with the application. I request you to kindly  
make it available as soon as possible for  
proper functioning of Department. I shall be  
highly thankful to you. Attachment contains 6 pages.

Date: 10/3/22

[Signature]  
10/3/22

Vishwahelps  
10/3/22

Dr. Assistant Professor & Head  
Department of Chemistry  
Maharani Kalyani College  
Laheriasarai, Darbhanga  
Dept. of Chemistry  
M.K. College L. Sarai



List of chemicals Required to conduct the Practical classes of class  $X^{\text{th}}$ ,  $XI^{\text{th}}$ , D-(I), D-(II) and D-(III) students in Department of chemistry ①

- ① Ammonium Hydroxide - 1 Lit.
- ② Ammonium Chloride - 500 gm.
- ③ Ammonium Iodide - 100 gm.
- ④ Ammonium Sulfide - 100 gm.
- ⑤ Ammonium Molybdate - 100 gm.
- ⑥ Ammonium Iron(II) Sulfate - 500 gm.
- ⑦ Potassium Permanganate - 250 gm.
- ⑧ Potassium Hydroxide - 500 gm.
- ⑨ Potassium Chromate - 100 gm.
- ⑩ Potassium dichromate - 250 gm.
- ⑪ Potassium ferricyanide - 500 gm.
- ⑫ Potassium Cyanide → 100 gm.
- ⑬ Potassium thiocyanate → 250 gm.
- ⑭ Potassium Nitrate → 100 gm.
- ⑮ Potassium Iodide → 100 gm.
- ⑯ Potassium Oxalate - 100 gm.
- ⑰ Sodium Carbonate → 500 gm.
- ⑱ Sodium Hydroxide → Mill
- ⑲ Sodium Thiosulfate → 500 gm.
- ⑳ Sodium Nitrite → 100 gm.
- ㉑ Sodium Bicarbonate → 500 gm.
- ㉒ Sodium metal → 500 gm.
- ㉓ Silver Nitrate → 100 gm.

*NKS*  
Assistant Professor & Head  
Department of Chemistry  
Maharani Kalyani College  
Laherisarai, Darbhanga

- (24) Barium Sulfate → 500 gm.
- (25) Barium chloride → 500 gm.
- (26) Stannus chloride → 250 gm.  
(Tin chloride)
- (27) Rhodamine-B → 100 gm.
- (28) 2,4-dinitrophenyl hydrazine →
- (29) Phenol → 500 gm.
- (30) Hydrochloric Acid → (Conc.) 1 Lit.
- (31) Acetic Acid → Conc. (500 ml)
- (32) Nitric Acid → Conc. 1000 ml.
- (33) Sulfuric Acid → Conc. 1000 ml.
- (34) Sodium Sulfide → 250 gm.
- (35) Phenolphthalein → 100 gm.
- (36) Dimethylglyoxime → 100 gm.
- (37) Nessler's Reagent → 100 gm.
- (38) Ferrous Sulfate → 250 gm.
- (39) Copper sulfate → 250 gm.
- (40) Calcium carbonate → 500 gm.
- (41) Bromine → 250 ml.
- (42) ~~Phenol~~ →
- (43) Catechol → 500 gm
- (44) Resorcinol → 500 gm
- (45) Hydroquinone → 500 gm.
- (46) β-Naphthol → 250 gm.
- (47) Stannus chloride → 250 gm.
- (48) α-Naphthol → 500 gm.
- (49) Benzaldehyde → 500 gm.

  
 Assistant Professor & Head  
 Department of Chemistry  
 Maharani Kalyani College  
 Laherisarai, Darbhanga



- (50) Acetophenone  $\rightarrow$  500 gm.
- (51) Ethylene Glycol  $\rightarrow$  500 ml
- (52) Naphthalene  $\rightarrow$  500 gm.
- (53)  $\beta$ -Naphthylamine  $\rightarrow$  500 gm.
- (54) Ammonium Acetate - 500 gm.
- (55) Ammonium Thiocyanate - 500 gm.
- (56) Aniline - 500 ml

Approximate Cost = 75,000/-

### Maintenance Work in Department

- 1) Plumbing ~~to~~ repairing work needs to be done on urgent basis.
- 2) Painting of Desk and doors needs on urgent basis.
- 3) Wodden table need on urgent basis in in Department  
Size - 4x6 feet.
- 4) Chairs Needed - (5)
- 6) Stools needed - (15)
- 7) Computer and Printer needed.
- 8) Whiteboard -  $4 \times 4 = 1$   
 $6 \times 4 = 1$
- 9) Almirah - Two
- 10) Chemical storage Rack - Two.

Approximate Cost = 100,000/-

*Vish*  
Assistant Professor & Head  
Department of Chemistry  
Maharani Kalyani College  
Laherisarai, Darbhanga

S.No.	Name of Equipment	Nos	specification
<u>1</u>	Electronic Balance  <u>Cost - 23000/-</u>	<u>one</u>	Max - 300 gm. Mini - 0.001 gm. Error → 0.002 gm. Setting time - ≤ 3 sec Work. Temp. - 5-40°C Weighting plate - 90 mm Power supply - AC 110V ± 10%
<u>2</u>	Oil free Vacuum Pump for Laboratory Model - Lab-25-5 15000/-	<u>one</u>	Max. flow = 15 (lts/min) Max. Vacuum = 27" (mmHg) (620) Max Pressure = 35 PSI (PSI g-)
<u>3</u>	Hot air Oven (Digital hot air oven) Rs. 7000/-	<u>one</u>	Temp. Range: 50°C to 25°C Resolution = 0.1°C Control Accuracy = ±2°C chamber size = 12x12x12 No. of shelves = 2 Nos
<u>4</u>	Distilled water assembly		

*Vish*  
Assistant Professor & Head  
Department of Chemistry  
Jyoti College  
2020



# List of Consumable Glassware needed to run the practical classes in Department of Chemistry

①	Burette	50 ml	20 Pc
②	Pipette	20 ml	20 Pc
③	Conical flask	500 ml	15 Pc
		250 ml	10 Pc
④	Beaker (Glass)	500 ml	10 Pc
		250 ml	20 Pc
⑤	Burette stand		10 Pc
⑥	Volumetric flask	500 ml	5 Pc
		250 ml	15 Pc
⑦	Watch Glass		15 Pc
⑧	Measuring cylinder	250 ml	5 Pc
		50 ml	2 Pc
⑨	Filtration flask	250 ml	5 Pc
⑩	Rubber Cone		5 Pc
⑪	Tripod stand		15 Pc
⑫	Wire Gage		15 Pc
⑬	Spatula		

15 Pc  
 Assistant Professor & Head  
 Department of Chemistry  
 Maharani Kalyani College  
 Dufferinsarai, Darbhanga  
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(14)	Test tube	10 ml	50 pc
		20 ml	50 pc
(15)	Test tube holder		20 pc
(16)	Reagent Bottle	500 ml	10 pc
		250 ml	10 pc
(17)	Dropper	20 ml.	5 pc
	Rubber Bulb.		

Approximate Cost = 50,000/-

*Ves*  
Assistant Professor & Head  
Department of Chemistry  
Maharani Kalyani College  
Dumra, Darbhanga  
Date: 15/5/20