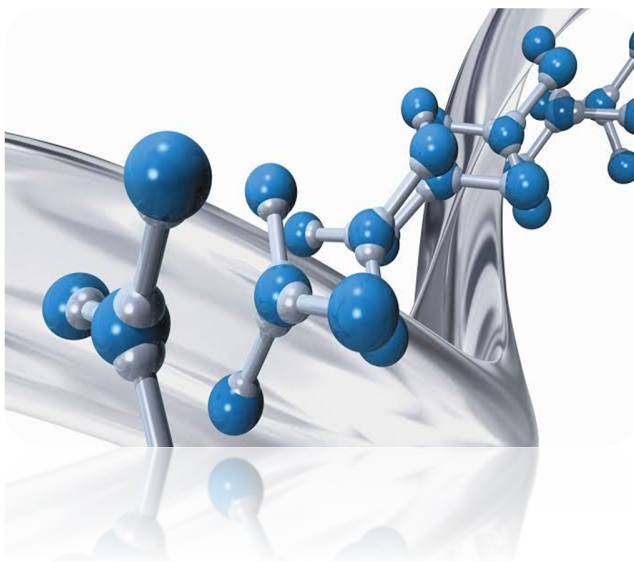


[LOYOLA COLLEGE KUNKURI]



[Annual Report-2016-17]

[Department Of Chemistry]



KUNKURI DIST- JASHPUR CHHATTISHGARH (496225)

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"Department of Chemistry"

We are surrounded everyday by Chemistry. So what role does Chemistry really play in everyday life . Science has much discipline. Chemistry is one of them. It is one of the basic or fundamental sciences. And the knowledge of Chemistry is often called the central science because it is vital in the science of Physics and Biology. Chemical and their study famously known as Chemistry is an integrate part of life. It would be very interesting to understand a few things taking into account that we never have the time or patience to look upon it with this view. there is nothing without Chemistry everything we do in this subject and chemical reaction take when we breath, eat, and drink. We use chemical everyday and perform chemical reactions without thinking much about them. Chemistry is important because everything we do in chemistry. Even our body is made up of chemical.

Hence, Chemistry is inevitable from anything one does. It help to understand the composition, structure and changes of matters. It is a wide ranging science which is basically concerned with matter at the atomic and molecular scale. The important facts are synthesis, structure, microscopic, mechanisms properties, analysis and transformation of all types materials. Does a good Chemistry degree opens the door to inexpensive choice of careers and won't be diminished over time so it will remain a promising career part always.

The Chemistry Laboratory is designed to support and illustrate chemical concepts studied in the lecture portion of the course as well as to introduce important laboratory technique and encourage analytic thinking. the laboratory equipment refers to the various tools and equipment used by scientists working in the laboratory.

Vision

To become an institute of academic excellence

Mission

- Impart quality education along with industrial exposure.
- To undertake research activities relevant to industrial and professional needs.
- Promote entrepreneurship and value added education that is socially relevant with economic benefits.

Chemistry Lab

Chemistry is the scientific discipline involved with compounds composed of atoms, elements and molecules combinations of atoms their composition, structure, properties, behavior and changes they undergo during a reaction with other compounds Chemistry addresses topics such as how atoms and molecule interact via chemical bonds to form new chemical compounds. There are 4 type of chemical bond: covalent bonds in which compound share one or more electron.



Chemistry panels are groups of tests that are routinely ordered to determine a person's general health status. They help evaluate, for example; the body's electrolytes balance and or the status of several major body organs. The tests are performed on a blood sample usually drawn from a vein in the arm.

Chemistry is also the study of matters compositions structures and properties. Matter is essentially anything in the world that takes up space and has mass. Chemistry is sometimes called "the central science", because it bridges physics with other natural science, such as Geology and Biology.

The science that systematically studies the composition, properties and activity of organic and inorganic substance and various elementary forms of matter.

Physical Chemistry combines Chemistry with physics, Physical Chemists Study how matter and energy interact. Inorganic Chemistry studies materials such as metals and gases that do not have carbon as part of their makeup.

INSTRUMENTS

S.NO.	INSTRUMENT NAME	NUMBER
1	DIGITAL SPECTROPHOTOMETER	1
2	MELTING POINT APPARATUS	1
3	ELECTRICAL WEIGHT BOX	1
4	DIGITAL CONDUCTIVITYMETER	1
5	H ₂ S GAS APPARATUS	2
6	DISTILATION APPARATUS	1
7	AUTO-CUT-OFF DEVICE	1
8	ELECTRIC BURNER	2
9	PHYSICAL BALANCE	2
10	WATER BATH	2



GLASS & OTHER APPARATUS-

S. No.	Glass Apparatus	Other
01	Beaker(500,250,100ml)	Tripod stand
02	Conical Flask (500,250,100ml)	Water bath
03	Burette	Starch indicator
04	Test tube	Filter paper
05	Measuring cylinder	Stop watch
06	Watch glass	Brush
07	Round Bottom flask	Test tube stand
08	Reagent bottle	Burette stand
09	viscometer	Spatula
10	Rod	Tripod stand
11	Cuvette	Desecrator
12	Chromatography Jar	Forceps
13	Stalagnometer	Test tube holder
14	China dish	Burner

15	Thermometer	Capillary tube
16	Dropper	Firefox

Contacts of communication

Designation	Name	Mo.No.
Asst. Professor	Mr.Rakesh Sahu	7000644015
Asst. Professor	Miss Neha Kerketta	9644085087
Asst. Professor	Miss Dipeeka Yadav	-
Lab assistant	Mr. Ershad Alam	9691147576

Departmental Information

Details of programs offered by the department:

Program Level	Course	Duration in months	Intra Qualification	Medium of Instruction	No. of students admitted
U.G.	B.Sc.	36	12th	Hindi /English	290

Teaching Faculty

Name	Paper-I	Paper-II	Paper-III
Mr. Rakesh Sahu	✓	✓	-
Miss Neha kerketta	-	✓	✓
MissDipeekayadav	✓	-	✓

Lab- Assistant

Name	Mr.Ershad Alam
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Student

No. of student in year wise- 2016-17

B.Sc.-I	B.Sc.-II	B.Sc.-III	Total
157	72	58	287

No. of outgoing students in year wise- 2016-17

B.Sc.-III	58
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- **Framework**
- **Classes:** Admission of new students started from 01st July. And classes were beginning from next date of admission. And they get aware of schedule and different activities of the laboratory and syllabus also.
 - **Lectures:** Lectures are used to convey information, history background, and theories. Lectures are used to expose the students to contemporary issues and the need for life- long learning in the appropriate societal context.
 - **Class presentation:** Presentation are given to illustrate ideas and concept and also seminar given by students from effectively communicate.
 - **Remedial classes:** The remedial class help the students and developing better understanding of the subject and clarifying their doubts that could not be taken during lecture and problem solving abilities.

- **Lab experimental work:** Laboratory work demonstrates how theory of Inorganic, Organic, and physical chemistry can be verified by experiments through interpretation of results.
- **Seminar-** In final, second and first year student have seminar in their curriculum. The students have select a recent and innovative topic and present in front of seminar coordinates department faculty and their class students. The seminar presentation assessed based on:
 - Topic selection
 - Presentation
 - Report preparation
- **Model & Assignments (B.Sc.-I,II,III) Year Students.**
- **Picnic –**



Farewell party-



Subject details

Class	Paper-I	Paper-II	Paper-III
B.Sc.-I	Inorganic Chemistry	Organic Chemistry	Physical chemistry
B.Sc.-II	Inorganic Chemistry	Organic Chemistry	Physical chemistry
B.Sc.-III	Inorganic Chemistry	Organic Chemistry	Physical chemistry

File Description

Test series

Day/time	B.Sc.-I
15/08/2016	UNIT TEST-01
25/09/2016	UNIT TEST-02
16/12/2016	UNIT TEST-03
23/01/2017	UNIT TEST-04
16/02/2017	UNIT TEST-05

Day/time	B.Sc.-II
22/08/2016	UNIT TEST-01
20/09/2016	UNIT TEST-02
10/12/2016	UNIT TEST-03
02/02/2017	UNIT TEST-04
18/02/2017	UNIT TEST-05

Day/time	B.Sc.-III
18/08/2016	UNIT TEST-01
22/09/2016	UNIT TEST-02
11/12/2016	UNIT TEST-03
15/02/2017	UNIT TEST-04
19/02/2017	UNIT TEST-05

Question paper (B.Sc.-I,II,III) Year

- **Model exam-18/01/2016 To 30/01/16**

Practical Exam

12/02/2017	B.Sc.-I
13/02/2017	B.Sc.-II
13/02/2017	B.Sc.-III

Teaching / learning process

The following are the various student centric methods to enhance.

Course delivery methods

- Lectures
- Class presentations
- Tutorials
- Lab experimental work
- Written assignments
- Seminar
- Guest lecture

LOYOLACOLLEGE KUNKURI
DEPARTMENT OF CHEMISTRY
SESSION-2016-17

S. No.	Chemical Name - 4/08/2016	Quantity	RATE	AMOUNT
1	Ammonium Hydroxide	500 ml	160	160
2	Acetic Acid Glycial	500 ml	300	300
3	n- Butanal	500 ml	600	600
4	Ethyl Methyl Keton	500 ml X 6	600	3600
5	Benzoic Acid	500 ml	400	400
6	Benedicts Reagent	500 ml X 2	100	200
7	Carbon Tetra Chloride	500 ml X 2	650	1300
8	Nitrobenzene	500 ml	400	400
9	Ethanol A.R	500 X 2 ml	475	950
10	Ferric Chloride	500 G.m.	220	220
11	Lead Chloride	500 G.m.	650	650
12	Nickel Carbonate	250 G.m. X 2	2050	4100
13	Magnesium Nitrate	500 G.m.	180	180
14	Ammonium Sulphate	500 G.m.	250	250
15	Sodium Hydrogen Ortho Phosphate	500 G.m.	360	360
16	Ammonium Carbonate	500 G.m.	300	300

17	Sodium Bisulphate	500 G.m.	300	300
18	Sodium Sulphate	500 G.m.	180	180
19	PH Paper	6 Pac.	140	840
20	Sulphuric Acid	500 ml X 4	250	1000
21	Silver Sulphate	45 G.m.	8460	8460
22	Acetone A.R.	500 ml	250	250
23	Alpha Naphthal A.R.	100 G.m	950	950
24	Benzene A.R.	500 ml	350	350
			Total = 26300	

S.N.	Chemical Name 10/ 2/ 2017	Quantity	RATE	AMOUNT
1	Acetone	500 ml x 4	250	1000
2	Ethyl Methyl ketone	500 ml x 4	600	2400
3	Nessler Reagent	125 ml x 2	300	600
4	Cerric Ammonium Nitrate	100 ml x 2	1400	2800
5	Acetaldehyde	500 ml	800	800
6	Formaldehyde	500 ml	160	160
7	ferric Chloride	500 gm.	220	220
8	Sulphuric Acid	500 ml x 2	250	500
9	Hydrochloric Acid	500 ml x 2	220	440
10	Potassium Ferrocynate	500 gm.	700	700
11	Filter paper	8 pak	45	360
12	What Man Filter paper	2 pak	4000	8000
13	PH Tablet	2 pak	180	360

14	Methyl Blue	100 gm. X 2	3000	6000
			TOTAL 24340.00	
			GRAND TOTAL- 50640.00	

LOYOLA COLLEGE KUNKURI
DEPARTMENT OF CHEMISTRY
Session-(2016-2017)

ASST.PROF. (HOD) - RAKESH SAHU
ASST.PROF. - NEHA KERKETTA
ASST.PROF. - DEEPIKA YADAV
LAB . TECH. - ERSAD ALAM

B.SC 1st YEAR

Experiment- List

- 1 . To Determine the Percentage Composition of a Binary Mixture By **Viscosity Method** .
- 2 . To Determine of **Surface Tension** By Drop Number Method .
- 3 . Determination of Melting Point of Various Organic Compound. (**Naphthalene , Benzoic Acid**)
- 4 . Determination of Boiling Point of Some Organic Compound. (**Benzene , Ethanol**)
- 5 . To Determine the Element and Functional Group in the Unknown Given Organic Compound .
(**Alpha Naphthol**)
- 6 . To Determine the Element and Functional Group in the Unknown Given Organic Compound
(**Glucose**)
- 7 . To Determine the Element and Functional Group in the Unknown Given Organic Compound
(**Ethyl Alcohol**)
- 8 . To Determine the Element and Functional Group in the Unknown Given Organic Compound .(**Acetone**)

9 . To Determine the Element and Functional Group in the Unknown Given Organic Compound
.(Nitrobenzene)

10 . To Determine the Element and Functional Group in the Unknown Given Organic Compound
.(Resorcinol)

11. To Determine the Element and Functional Group in the Unknown Given Organic Compound
.(Benzoic Acid)

12 . To Determine the Element and Functional Group in the Unknown Given Organic Compound
.(Benzene)

13 . To Determine the Element and Functional Group in the Unknown Given Organic Compound
.(Acetaldehyde)

S.No.	Requirement	Amount
1	Beaker	Nil
2	Tripod stand	Nil
3	Blue-Litmus Paper	Nil
4	Funnel	Nil
5	Filter paper (No 42)	4000.00
6	Water bath	Nil
7	Burner	Nil
8	Test- tube	Nil
9	Ignition tube	78.00
10	Red Litmus paper	Nil
11	Watch glass	Nil
12	Brush	Nil
13	Conical Flask	Nil
14	Round bottom flask	Nil
15	China-dish	Nil
16	Test-Tube stand	Nil
17	Keep	Nil
18	Holder	Nil
19	Thermometer	Nil
20	Pipette	Nil
21	Dropper	Nil
22	Cork	Nil
23	Spatula	Nil
24	Viscometer	Nil
25	Stalagmometer	Nil
26	Holder	Nil

27	Glass-Rod	Nil
28	pH Paper	140.00
29	Filter Paper	45.00

S.No.	Chemical	Amount
1	Lead Acetate	Nil
2	Potassium Chromate	Nil
3	Manganese Dioxide	Nil
4	Ethanol	345.00
5	Oxalic acid	427.00
6	Potassium dichromate	Nil
7	Copper sulphate	Nil
8	Con. Sulphuric acid	250.00
9	Con. Hydrochloric acid	220.00
10	Con. Nitric acid	Nil
11	Acetone	250.00
12	Methyl Orange	Nil
13	Phenol	Nil
14	Bromine Water	Nil
15	Benzoic Acid	Nil
16	Benzene	250.00
17	Acetaldehyde	Nil
18	Sodium Hydroxide	Nil
19	Cerric Ammonium Nitrate	1400.00
20	Ferric chloride	220.00
21	Alpha Naphthol	950.00
22	Acetic Acid	300.00
23	Ammonium Chloride	500.00
24	Ammonium Oxalate	Nil
25	Ferrous Sulphate	Nil
26	Potassium Iodide	Nil
27	Nessler's Reagent	Nil
28	Silver Nitrate	Nil
29	Sodium Chloride	Nil
30	Potassium Hydroxide	Nil
31	Ferrous Sulphide Sticks	Nil
32	Con. Ammonia	160.00
33	Nitrobenzene	400.00

S.no	instrument	Amount
1	Melting Point Apparatus	Nil
2	H ₂ s Gas Apparatus	Nil

LOYOLA COLLEGE KUNKURI

DEPARTMENT OF CHEMISTRY

Session- (2016-2017)

ASST.PROF (HOD) - RAKESH SAHU
 ASST.PROF. - NEHA KERKETTA
 ASST.PROF. - DEEPIKA YADAV
 LAB . TECH. - ERSAD ALAM

B.SC 2nd YEAR

-
- 1) Determination of Acetic acid in **The Commercial Vinegar Using NaOH.**
 - 2) To prepare **Green Leaf Pigment.**
 - 3) Separation of a Mixture **of Phenylalanine And Glycerin By Ascending Paper Chromatography.**
 - 4) To Determination the Amount of Base in **Ant – Acid Tablet Using Hcl.**
 - 5) To Determine The Functional Group In Given Organic Compound (**Benzoic Acid**)
 - 6) To Determine The Functional Group In Given Organic Compound (**Glucose**)
 - 7) To Determine The Functional Group In Given Organic Compound (**Acetaldehyde**)
 - 8) To Determine The Functional Group In Given Organic Compound (**Alpha Naphthol**)
 - 9) To Determine The Functional Group In Given Organic Compound (**Acetone**)
 - 10) To Determine The Functional Group In Given Organic Compound (**Resorcinol**)
 - 11) To Determine The Functional Group In Given Organic Compound (**Ethyl Alcohol**)
 - 12) To Determine The Functional Group In Given Organic Compound (**Benzene**)
 - 13) To Determine The Functional Group In Given Organic Compound (**Salicylic Acid**)
 - 14) Determination of Amount of Copper Using By **theo - Sulphate.**

S.No.	Requirement	Amount
1	Beaker	Nil
2	Tripod stand	Nil
3	Desecrater	Nil
4	Funnel	Nil
5	Filter paper	48.00
6	Water bath	Nil
7	Burner	Nil
8	Test- tube	Nil
9	Ignition tube	78.00
10	Litmus paper	Nil
11	Watch glass	Nil
12	Brush	Nil
13	Flask	Nil
14	Round bottom flask	Nil
15	China-dish	Nil
16	Test-Tube stand	Nil
17	Dropper	Nil
18	Holder	Nil
19	Capillary tube	Nil
20	Thermometer	Nil
21	Burette	Nil
22	Pipette	Nil
23	Spatula	Nil

S.No.	Chemical	Amount
1	Potassium Chromate	Nil
2	Cupper Shulphate	Nil
3	Con. Ammonia	160.00
4	Ethanol	345.00
5	Oxalic acid	Nil
6	Potassium dichromate	Nil
7	Copper sulphate	Nil
8	Con. Sulphuric acid	250.00
9	Con. Hydrochloric acid	220.00
10	Con. Nitric acid	Nil
11	Acetone	250.00
12	Iodine cristal	Nil
13	Phenol	Nil
14	Bromine water	400.00

15	Benzoic Acid	Nil
16	Glucose	Nil
17	Salicylic Acid	Nil
18	Sodium hydroxide	Nil
19	Cerric ammonium nitrate	1400.00
20	Ferric chloride	220.00
21	Alpha naphthol	950.00
22	Resorcinol	Nil
23	Cupper Turning	Nil
24	2,4 Dinitrophenyl Hydrazine	650.00
25	Benzene	250.00
26	Acetaldehyde	Nil

LOYOLA COLLEGE KUNKURI
DEPARTMENT OF CHEMISTRY

Session-2016-2017

ASST.PROF (HOD)	- RAKESH SAHU
ASST.PROF.	- NEHA KERKETTA
ASST.PROF.	- DEEPIKA YADAV
LAB . TECH.	- ERSAD ALAM

B.SC 3rd YEAR

Object 1 – To Synthesize **Nickel Di-Methylglyoxime** [**ni(dmgl)**2] .

Object 2 – Estimation of **Barium** as **Barium Sulphate** .

Object 3 – Estimation of **Copper** as **Cuprous Thiocyanate**.

Object 4 – To Synthesize **Iodoform** from **Acetone** or **Ethyl Alcohol** by **Aliphatic Electrophilic Substitution**.

Object 5 – To Synthesize **2,4,6-Tribromophenol** from **Phenol** by **Aromatic Electrophilic Substitution**.

Object 6 – To Separate the Given Organic Mixture and its Identification.(**Oxalic acid** ,**Benzoic acid**)

Object 7 – To Separate the Given Organic Mixture and its identification.(**Urea** , **Naphthalene**)

Object 8 – To Separate the Given Organic Mixture and its identification.(**Acetone** ,**Ethyl Alcohol**)

Object 9 – To Separate the Given Organic Mixture and its identification.(**Glucose, Thio-urea**)

Object 10 – To Separate the Given Organic Mixture and its identification.(**Nitrobenzene, Benzene**)

Object 11 – To Separate the Given Organic Mixture and its identification.(**Salicylic acid, Resorcinol**)

Object 12 – To Separate the Given Organic Mixture and its identification.(**Ethyl acetate ,Aniline**)

Object 13 – To Verify **Beer's Lambert** law by Using a Spectrophotometer for colored solution of a

Substance (**K₂Cr₂O₇ or KMnO₄**).

Object 14 – To Determine the Strength of Given acid (approx 0.1M HCl) by Titrating it Against **NaOH**

Solution By Conductivity Method .

Object 15 – To Synthesize **Trans-Potassium Dioxalato Diaqua Chromate(3)ion** **K₂[Cr(C₂O₄)₂(H₂O)₂]**.

Object 16 – To Synthesize **Tetra Amine Cupric Sulphate**[Cu(NH₃)₄SO₄].H₂O.

S.No.	Requirement	Amount
1	Beaker	Nil
2	Tripod stand	Nil
3	Desecrater	Nil
4	Funnel	Nil
5	Filter paper	48.00
6	Water bath	Nil
7	Burner	Nil
8	Test- tube	Nil
9	Ignition tube	78.00
10	Red Litmus paper	Nil
11	Watch glass	Nil
12	Brush	Nil

13	Flask	Nil
14	Round bottom flask	Nil
15	China-dish	Nil
16	Dropper	Nil
17	Keep	Nil
18	Holder	Nil
19	Test-Tube stand	Nil
20	Spatula	Nil
21	Blue Litmus Paper	Nil
22	Glass-Rod	Nil
23	Filter paper (No.42)	4000.00

S.No.	Chemical	Amount
1	Nickel sulphate	Nil
2	Dimethyl glyoxime	Nil
3	Con. Ammonia	160.00
4	Ethanol	475.00
5	Oxalic acid	Nil
6	Potassium dichromate	Nil
7	Copper sulphate	Nil
8	Con. Sulphuric acid	250.00
9	Con. Hydrochloric acid	220.00
10	Con. Nitric acid	Nil
11	Acetone	250.00
12	Iodine cristal	Nil
13	Phenol	Nil
14	Bromine water	400.00
15	Naphthalene	Nil
16	Urea	Nil
17	Benzoic Acid	400.00
18	Sodium hydroxide	Nil
19	Cerric ammonium nitrate	1400.00
20	Ferric chloride	220.00
21	Alpha naphthol	950.00
22	Nitrobenzene	400.00
23	Benzene	250.00
24	Resorcinol	Nil
25	Ethyl Acetate	Nil
26	Nickel carbonate	2050

S.No.	Instrument	Amount
1	Spectrophotometer	Nil

2	Conductometer	Nil
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