

Shri Sarda Education Society's
Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry
(Academic Session: 2016-17)

Date: 23.12.2016
Place: Anjangaon Surji

To
The Principal,
Smt Radhabai Sarda Arts, Commerce & Science College,
Anjangaon Surji

Subject: Regarding permission to conduct add-on course entitled "Basic Tools in Analytical Chemistry" during the academic session 2016-17 for BSc II chemistry students

Respected Sir,

With reference to the above subject, I request you to grant us permission to conduct the said course in the Department of Chemistry. The tenure of the course will be of 30 hours (2 hour X 15 working days). The syllabus of the course is enclosed herewith for your kind consideration. The course will be fruitful for the students keeping in mind their development for agriculture and global marketing.



Yours faithfully,

A handwritten signature in black ink, appearing to be "J. Mait", written over a faint circular stamp.

(Head, Department of Chemistry)

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

Received and approved
23/12/2016
PRINCIPAL
Smt. Radhabai Sarda
Arts, Commerce & Science College
Anjangaon Surji

Enclosures:

1. Syllabus of the Value Added Course/ Bridge Course/Certificate Course

Shri Sarda Education Society's
Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry

(Academic Session: 2016-17)

MINUTES OF MEETING				
Date	22/12/2016 : 03:00 PM			
Venue	Departmental laboratory (Ground floor)			
Subject of meeting	Implementation of add-on course			
Chairperson	Dr. P. V. Raut, HOD			
Participants	Dr. P. V. Raut and all departmental faculties			
Sr. No.	Points Raised/ Suggested	Timelines	Responsibility	Remarks
1.	Add on course to be implemented in even sem. AY 2016-17 1) Name of the course – “Basic tools in Analytical chemistry” 2) Duration of the course – 30 hrs 3) Date of implementation – 02/01/2017 to 18/02/2017 4) Co-ordinator of the course – Dr. P. V. Raut	As decided	Dr. P. V. Raut	



Head,
Department of Chemistry

HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

Shri Sarda Education Society's
Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry
(Academic Session: 2016-17)

Notice

Date: 22/12/2016

All the faculty members of the chemistry department are informed that a departmental meeting related to add-on Course is arranged on 22/12/2016 at 03:00 pm. You all are requested to present for the meeting with some innovative ideas.

Venue: Departmental laboratory (Ground floor)

Agenda: Discussion on implementation of add-on course.



A handwritten signature in blue ink, appearing to read "Ment".

Head,
Department of Chemistry
Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

Four handwritten signatures in blue ink, stacked vertically. The first signature appears to be "Babha", the second "Bhatkar", the third "Babha", and the fourth "Bhatkar".

Shri Sarda Education Society's
Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry
(Academic Session: 2016-17)

Notice

Date: 24/12/2016

All the chemistry students of BSc II are hereby informed that add-on course entitled, "Basic Tools In Analytical Chemistry" is organized in the department. The course will be implemented from 02/01/2017 to 18/01/2017. The interested students are encouraged to register themselves on or before 30/12/2017. The required registration forms are available with Dr. P. V. Raut.



A handwritten signature in black ink, appearing to read "P. V. Raut".

Head,
Department of Chemistry
HEAD
Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

P. V. Raut
P. Bhatkar
P. Bhatkar
P. Bhatkar

Department of Chemistry
(Academic Session: 2016-17)

Add-on course – “Basic Tools In Analytical Chemistry”

SYLLABUS

1. Introduction and Review

- a. The Analytical Process
- b. Chemical Measurements
- c. Experimental Error

2. Chemical Equilibrium, Part 1 (Fundamentals, Acids, and Bases)

- a. Chemical Equilibrium
- b. Activity and the Systematic Treatment of Equilibrium
- c. Monoprotic Acid-Base Equilibria
- d. Polyprotic Acid-Base Equilibria
- e. Acid-Base Titrations

3. Electrochemistry

- a. Fundamentals of Electrochemistry
- b. Electrodes and Potentiometry
- c. Redox Titrations
- d. Electroanalytical Techniques

4. Chemical Equilibrium, Part 2 (Complexation, Precipitation, Advanced Topics)

- a. EDTA Titrations
- b. Gravimetric Analysis, Precipitation Titrations, and Combustion Analysis
- c. Advanced Topics in Equilibrium



[Signature]
For: P.V. Raut.

HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

Shri Sarda Education Society's
Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry
(Academic Session: 2016-17)

Add-on course – “Basic Tools In Analytical Chemistry”

TIME TABLE

Date	Day	Theory	Practical
02.01.2017	Monday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
03.01.2017	Tuesday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
04.01.2017	Wednesday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
05.01.2017	Thursday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
06.01.2017	Friday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
07.01.2017	Saturday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
09.01.2017	Monday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
10.01.2017	Tuesday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
11.01.2017	Wednesday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
12.01.2017	Thursday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
13.01.2017	Friday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
14.01.2017	Saturday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
16.01.2017	Monday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
17.01.2017	Tuesday	07:30 am to 08:30 am	04:30 pm to 05:30 pm
18.01.2017	Wednesday	07:30 am to 08:30 am	04:30 pm to 05:30 pm



A handwritten signature in black ink, appearing to read "D. Mehta".

Head,
Department of Chemistry
HEAD

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Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

Shri Sarda Education Society's
Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry

(Academic Session: 2016-17)

Add-on course – “Basic Tools In Analytical Chemistry”

List of Enrolled students

Sr. No.	Name of the Participant	Enrolment no.	Contact no.	Aadhaar card No.	Signature
01	Ku. Tejaswini R. Borode	194	9850223329	—	T.R. Borode
02	Ku. Ashwini S. Bhaskar	195	985087410	—	A.S. Bhaskar
03	Ku. Kalyani R. Malasane	196	8007505492	—	K.R. Malasane
04	Ku. Pratiksha R. Datir	197	97676614662	—	P.R. Datir
05	Ku. Vaishali S. Katore	198	9860041474	—	V. Katore
06	Ku. Pragati D. Sherkar	199	9527019692	—	P.D. Sherkar
07	Ku. Shravani R. Ponde	200	9975022381	—	Ku. S.R. Ponde
08	Ku. Pratiksha R. Datir	201	97676614662	—	P.R. Datir
09	Ku. Roshni S. Bind	202	8007298303	—	R.S. Bind
10	Ku. Renuka M. Alkari	203	9405561947	—	R.M. Alkari
11	Ku. Priya S. Kangulkar	204	8378849040	—	P.S. Kangulkar
12	Ku. Priyanka R. Wankhade	205	9623859742	—	P.R. Wankhade
13	Ku. Ankita D. Hole	206	8390117106	—	A.D. Hole
14	Ku. Ashwini G. Tripurari	207	9527913553	—	A.G. Tripurari
15	Ku. Shraddha R. Gawhale	208	9403841497	—	S.R. Gawhale
16	Ku. Shivani S. Bhise	209	8857865875	—	Shivani
17	Ku. Ankita R. Bhaskar	210	7798969929	—	A.R. Bhaskar
18	Ku. Kanchan V. Thakur	211	9763953425	—	K.V. Thakur
19	Ku. Pratiksha S. Patel	212	9767242204	—	P.S. Patel
20	Ku. Komal P. Wanve	213	9420076644	—	Komal P. Wanve
21	Ku. Apeksha D. Patil	214	9921544095	—	A. Patil
22	Mr. Vishal R. Bhade	215	9011297278	—	V.R. Bhade
23	Ku. Chandrika W. Hore	216	7776887632	—	C.W. Hore
24	Ku. Purva D. Umbarkar	217	9326336966	—	P.D. Umbarkar
25	Ku. Humera Saleena J.	218	952955149	—	H.S. Saleena
26	Ku. Ashwini P. More	219	8007149502	—	A. More
27	Ku. Bharti R. Ruchake	220	9975066162	—	B.R. Ruchake
28	Ku. Pragati M. Sukhdeve	221	8380839062	—	P.M. Sukhdeve
29	Ku. Sneha D. Khedkar	222	7875663545	—	S. Khedkar
30	Ku. Kiran U. Adhau	223	8806355590	—	K.U. Adhau
31	Ku. Pornima D. Bhonde	224	705775203	—	P.D. Bhonde



(Signature)

Head,
Department of Chemistry
HEAD

Department of Chemistry

Shri Sarda Education Society's
Smt. Radhbai Sarda Arts, Commerce and Science college Anjangaon Surji

DEPARTMENT OF CHEMISTRY

(Academic session 2016-2017)

Course Title: BASIC TOOLS IN ANALYTICAL CHEMISTRY

ATTENDANCE

Sr.No.	Students Name	02.01.2017	03/01/17	04/01/17	05/01/17	06/01/17	07/01/17	09/01/17	10/01/17
1.	Kalyani R. Malasane	K.R.Malasane	K.R.Malasane	K.R.Malasane	K.R.Malasane	K.R.Malasane		K.R.Malasane	K.R.Malasane
2.	Ashwini G. Tripurari	Aturani	Aturani	Aturani	Aturani	Aturani	Aturani	Aturani	Aturani
3.	Ashwini S. Bhaskar	AS.Bhaskar	AS.Bhaskar		AS.Bhaskar	AS.Bhaskar	AS.Bhaskar	AS.Bhaskar	AS.Bhaskar
4.	Ankita R. Bhaskar	AR.Bhaskar	AR.Bhaskar	AR.Bhaskar		AR.Bhaskar	AR.Bhaskar	AR.Bhaskar	AR.Bhaskar
5.	Kanchan V. Thakare	Kanchan V. Thakare		Kanchan V. Thakare	Kanchan V. Thakare	Kanchan V. Thakare	Kanchan V. Thakare	Kanchan V. Thakare	Kanchan V. Thakare
6.	Ku. Tejswini R. Borade	TR.Borade	TR.Borade	TR.Borade	TR.Borade	TR.Borade	TR.Borade	TR.Borade	TR.Borade
7.	Ku. Poojanta S. Wankhade	P.Wankhade	P.Wankhade	P.Wankhade	P.Wankhade	P.Wankhade	P.Wankhade	P.Wankhade	P.Wankhade
8.	Ku. Vaishali S. Katore	V.Katore	V.Katore	V.Katore	V.Katore	V.Katore	V.Katore	V.Katore	V.Katore
9.	Ku. Pratiksha S. Patel	P.Patel	P.Patel	P.Patel	P.Patel	P.Patel	P.Patel	P.Patel	
10.	Priya S. Kangulkar	P.S.Kangulkar	P.S.Kangulkar	P.S.Kangulkar	P.S.Kangulkar	P.S.Kangulkar	P.S.Kangulkar	P.S.Kangulkar	P.S.Kangulkar
11.	Chandrika W. Hore	Chhore	Chhore	Chhore	Chhore	Chhore	Chhore	Chhore	Chhore
12.	Ku. Komal P. Wane	Komal P.Wane	Komal P.Wane	Komal P.Wane	Komal P.Wane	Komal P.Wane	Komal P.Wane	Komal P.Wane	Komal P.Wane
13.	Roshani S. Bind	R.S.Bind	R.S.Bind	R.S.Bind	R.S.Bind	R.S.Bind	R.S.Bind	R.S.Bind	R.S.Bind
15.	Pragati D. Sherekar	P.D.Sherekar	P.D.Sherekar	P.D.Sherekar	P.D.Sherekar	P.D.Sherekar	P.D.Sherekar	P.D.Sherekar	P.D.Sherekar
16.	Purva P. Umbarkar	P.P.Umbarkar	P.P.Umbarkar	P.P.Umbarkar	P.P.Umbarkar	P.P.Umbarkar	P.P.Umbarkar	P.P.Umbarkar	P.P.Umbarkar
17.	Pratiksha R. Dahir	P.R.Dahir	P.R.Dahir	P.R.Dahir	P.R.Dahir	P.R.Dahir	P.R.Dahir	P.R.Dahir	P.R.Dahir
18.	Renuka M. Alkare	Renuka	Renuka	Renuka	Renuka	Renuka	Renuka	Renuka	Renuka
19.	Shivani S. Bhise	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani
20.	Ankita D. Hole	AD.Hole	AD.Hole	AD.Hole	AD.Hole	AD.Hole	AD.Hole	AD.Hole	AD.Hole
21.	Pratiksha R. Datig	P.R.Datig	P.R.Datig	P.R.Datig	P.R.Datig	P.R.Datig	P.R.Datig	P.R.Datig	P.R.Datig
22.	Shravani R. Ponde	S.R.Ponde	S.R.Ponde	S.R.Ponde	S.R.Ponde	S.R.Ponde	S.R.Ponde	S.R.Ponde	S.R.Ponde

G. Meut



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Smt. Radhbai Sarda Arts, Commerce and Science college Anjangaon Surji

DEPARTMENT OF CHEMISTRY

(Academic session 2016-2017)

Course Title: BASIC TOOLS IN ANALYTICAL CHEMISTRY

ATTENDANCE

Sr.No.	Students Name	11/01/17	12/01/17	13/01/17	14/01/17	16/01/17	17/01/17	18/01/17	Certificate Issue
1.	Kalyani R. Malawane	K.R. Malawane	K.R. Malawane		K.R. Malawane	K.R. Malawane	K.R. Malawane	K.R. Malawane	K.R. Malawane
2.	Ashwini G. Tripurari	Ashwari	Ashwari	Ashwari		Ashwari	Ashwari	Ashwari	Ashwari
3.	Ashwini S. Bhaskar	A.S. Bhaskar	A.S. Bhaskar	A.S. Bhaskar	A.S. Bhaskar		A.S. Bhaskar	A.S. Bhaskar	A.S. Bhaskar
4.	Ankita R. Bhaskar	A.R. Bhaskar	A.R. Bhaskar	A.R. Bhaskar	A.R. Bhaskar	A.R. Bhaskar		A.R. Bhaskar	A.R. Bhaskar
5.	Kanchan V. Thakre	Kanchan V. Thakre	Kanchan V. Thakre		Kanchan V. Thakre	Kanchan V. Thakre	Kanchan V. Thakre	Kanchan V. Thakre	Kanchan V. Thakre
6.	Kutejswini R. Borade	T.R. Borade	T.R. Borade	T.R. Borade	T.R. Borade	T.R. Borade	T.R. Borade	T.R. Borade	T.R. Borade
7.	Ku. Piyanka S. Wankhade	P. Wankhade	P. Wankhade	P. Wankhade	P. Wankhade	P. Wankhade	P. Wankhade	P. Wankhade	P. Wankhade
8.	Ku. Vaishali S. Katore	V. Katore	V. Katore	V. Katore	V. Katore		V. Katore	V. Katore	V. Katore
9.	Ku. Pratiksha S. Patel	P. Patel	P. Patel	P. Patel	P. Patel	P. Patel	P. Patel	P. Patel	P. Patel
10.	Priya S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar	P.S. Kanglekar
11.	Chandraika W. Hope	Chopra	Chopra	Chopra	Chopra	Chopra	Chopra	Chopra	Chopra
12.	Ku. Komal P. Wanve	Komal P. Wanve	Komal P. Wanve	Komal P. Wanve	Komal P. Wanve	Komal P. Wanve	Komal P. Wanve	Komal P. Wanve	Komal P. Wanve
13.	Rashmi S. Bind	R.S. Bind	R.S. Bind	R.S. Bind	R.S. Bind	R.S. Bind	R.S. Bind	R.S. Bind	R.S. Bind
15.	Pragati D. Sherkar	P.D. Sherkar	P.D. Sherkar	P.D. Sherkar	P.D. Sherkar	P.D. Sherkar	P.D. Sherkar	P.D. Sherkar	P.D. Sherkar
16.	Purva D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar	P.D. Umbarkar
17.	Pratiksha R. Dahir	P.R. Dahir	P.R. Dahir	P.R. Dahir	P.R. Dahir	P.R. Dahir	P.R. Dahir	P.R. Dahir	P.R. Dahir
18.	Renuka M. Alkare	Renuka	Renuka	Renuka	Renuka	Renuka	Renuka	Renuka	Renuka
19.	Shivani S. Bhise	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani
20.	Ankita D. Hole	A.D. Hole	A.D. Hole	A.D. Hole	A.D. Hole	A.D. Hole	A.D. Hole	A.D. Hole	A.D. Hole
21.	Pratiksha R. Dahi	P.R. Dahi	P.R. Dahi	P.R. Dahi	P.R. Dahi	P.R. Dahi	P.R. Dahi	P.R. Dahi	P.R. Dahi
22.	Shravan R. Ponde	S.R. Ponde	S.R. Ponde	S.R. Ponde	S.R. Ponde	S.R. Ponde	S.R. Ponde	S.R. Ponde	S.R. Ponde

(Ment)



Shri Sarda Education Society's
Smt. Radhbai Sarda Arts, Commerce and Science college Anjangaon Surji
DEPARTMENT OF CHEMISTRY
(Academic session 2016-2017)
Course Title: BASIC TOOLS IN ANALYTICAL CHEMISTRY

ATTENDANCE

Sr.No.	Students Name	11/01/17	12/01/17	13/01/17	14/01/17	15/01/17	17/01/17	18/01/17	certificate issue
23	Apeksha D. Padi	A.Padi	A.Padi	A.Padi	A.Padi	A.Padi	A.Padi	A.Padi	A.Padi
24	Rishal R. Bhade	R.Bhade	R.Bhade	R.Bhade	R.Bhade	R.Bhade	R.Bhade	R.Bhade	R.Bhade
25	Bharati R. Ruchke	B.R.Ruchke	B.R.Ruchke	B.R.Ruchke	B.R.Ruchke	B.R.Ruchke	B.R.Ruchke	B.R.Ruchke	B.R.Ruchke
26	Humera Salena J.	Humera Salena J.	Humera Salena J.	Humera Salena J.	Humera Salena J.	Humera Salena J.	Humera Salena J.	Humera Salena J.	Humera Salena J.
27	Aswini P. more	A.P. more	A.P. more	A.P. more	A.P. more	A.P. more	A.P. more	A.P. more	A.P. more
28	Pragati M. suthdare	P.M. Suthdare	P.M. Suthdare	P.M. Suthdare	P.M. Suthdare	P.M. Suthdare	P.M. Suthdare	P.M. Suthdare	P.M. Suthdare
29	Sneha D. Khedekar	S.Khedekar	S.Khedekar	S.Khedekar	S.Khedekar	S.Khedekar	S.Khedekar	S.Khedekar	S.Khedekar
30	Kiran V. Adhau	K.V. Adhau	K.V. Adhau	K.V. Adhau	K.V. Adhau	K.V. Adhau	K.V. Adhau	K.V. Adhau	K.V. Adhau
31	Poojima D. Bhonde	P.D. Bhonde	P.D. Bhonde	P.D. Bhonde	P.D. Bhonde	P.D. Bhonde	P.D. Bhonde	P.D. Bhonde	P.D. Bhonde
14.	Shraddha R. Gavhale	S.R. Gavhale	S.R. Gavhale	S.R. Gavhale	S.R. Gavhale	S.R. Gavhale	S.R. Gavhale	S.R. Gavhale	S.R. Gavhale



Coordinator
HEAD

Department of Chemistry
Smt. Radhbai Sarda Arts, Commerce
& Science College Anjangaon Surji




Principal
Smt. Radhbai Sarda
Arts, Commerce & Science College
Anjangaon Surji

Shri Sarda Education Society's
Smt. Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji
Department of Chemistry
(Academic Session: 2016-17)
Course Title: Basic Tools In analytical Chemistry"

Theory Question Paper

Time: 01:30 Hrs.

Total Marks: 70

Q.1] Solve the following problems (Any 8) 40 M

- 1) 0.25 g of acid is titrated with .108 M NaOH. if it takes 27.22 mL of NaOH to reach the endpoint, what is the equivalent weight of the acid?
- 2) Explain how you would prepare the given solution from powdered reagents and whatever glassware you needed: 3.0 L of 1.3 M NaOH.
- 3) How many grams of formaldehyde, H_2CO , are in 500 mL of a 40% solution of formaldehyde in water? (Assume for this problem that the density of the formalin solution is 0.98 g/mL)
- 4) What concentration of OH^- is left in a solution made by mixing 16.0 g of NaOH and 80.0 mL of 0.170 M HNO_3 ?
- 5) How many liters of pure water should be mixed with a 17 L solution of 70% acid to produce a mixture that is 90% water?
- 6) Burning 2 g of vitamin C yields 3 g and 0.82 g of CO_2 and water respectively. What is the empirical formula of vitamin C and molecular mass if the molar mass is 264 g/mol?
- 7) An 824 mL NaCl solution is diluted to a volume of 1.29 L and a concentration of 2.00 M. What was the initial concentration of Cl?
- 8) A 94 mL vanillin solution with a concentration of 0.017 mol L^{-1} was made by extraction from 24.41 g of vanilla pods. Calculate the percentage of vanillin in the vanilla pods.
- 9) How many grams of sugar would be required to prepare 725 mL of a 12.0% solution?
- 10) How would you prepare 250 mL of a 0.150 M solution of CoCl_2 from solid CoCl_2 and distilled water?
- 11) How much glucose would you need to add to 375 mL of water to make a 5% glucose solution?

Q.2] Explain the following in brief (Any 5) 30 M

- a) How does overshooting the endpoint in titration affect molarity?



- b) Why was gravity filtration used instead of evaporation to isolate the calcium carbonate?
- c) If a graduated cylinder wasn't calibrated correctly, how would that affect the results of a measurement?
- d) When weighing liquid ethanol, why do you have to place water in the beaker prior to adding the ethanol to that same beaker?
- e) Why should reflux of the microscale reaction mixture be gentle, with the condensation ring remaining close to the surface of the liquid in the test tube?
- f) In each of the following situations, what type of filtration device would you use? A. Remove powdered decolorizing charcoal from 20 mL of solution B. Isolate 2.0 of crystals from about 50ml of solution.
- g) A chemist should wait 10-15 seconds after dispensing a volume of titrant before a reading is made. EXPLAIN WHY THIS IS A GOOD LABORTORY TECHNIQUE.
- h) What is a lab report?
- i) What are examples of gravimetric analysis in everyday life?
- j) Explain the difference between molarity and molality.



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HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
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Smt. Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji
Department of Chemistry
(Academic Session: 2016-17)
Course Title: Basic Tools In analytical Chemistry"

Practical Question Paper

Time: 01:30 Hrs.

Total Marks: 30

Q.1] Perform the following problems (Any 2)

- 1) Determine the surface tension of a given liquid using Stalagmometer.
- 2) Determine the percentage composition of the given mixture of ethyl alcohol and water by viscosity measurement.
- 3) Estimate the Copper (II) in commercial copper sulphate sample by iodometric titration.
- 4) Find out the acid neutralizing capacity (ANC) of an antacid using NaOH as an intermediate solution.
- 5) Chromatographic separation of binary mixture containing Cu(II), Co(II) and Ni(II) ions by paper chromatography and determine the R_f values.



A handwritten signature in blue ink, appearing to read "G. M. ...", enclosed within a large, hand-drawn oval.

HEAD

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Smt Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry

(Academic Session: 2016-17)

Add-on course – “Basic Tools In Analytical Chemistry”

EXAM RESULTS

Sr. No.	Name of the Participant	Theory (Out of 70)	Practical (Out of 30)	Result*
01	Ku. Tejaswini R. Borode	54	28	PASS
02	Ku. Ashwini S. Bhaskar	58	30	PASS
03	Ku. Kalyani R. Malasane	59	29	PASS
04	Ku. Pratiksha R. Datir	63	29	PASS
05	Ku. Vaishali S. Katore	49	30	PASS
06	Ku. Pragati D. Sherkar	52	27	PASS
07	Ku. Shravani R. Ponde	59	28	PASS
08	Ku. Pratiksha R. Datir	68	30	PASS
09	Ku. Roshni S. Bind	47	27	PASS
10	Ku. Renuka M. Alkari	54	29	PASS
11	Ku. Priya S. Kangulkar	54	29	PASS
12	Ku. Priyanka R. Wankhade	50	30	PASS
13	Ku. Ankita D. Hole	61	27	PASS
14	Ku. Ashwini G. Tripurari	49	26	PASS
15	Ku. Shraddha R Gawhale	49	27	PASS
16	Ku. Shivani S. Bhise	59	28	PASS
17	Ku. Ankita R. Bhaskar	42	29	PASS
18	Ku. Kanchan V. Thakur	65	30	PASS
19	Ku. Pratiksha S Patel	60	28	PASS
20	Ku. Komal P Wanve	57	30	PASS
21	Ku. Apeksha D. Patil	67	29	PASS
22	Mr. Vishal R. Bhade	49	29	PASS
23	Ku. Chandrika W. Hore	59	30	PASS
24	Ku. Purva D. Umbarkar	53	29	PASS
25	Ku. HumeraSaleena J.	63	28	PASS
26	Ku. Ashwini P. More	48	30	PASS
27	Ku. Bharti R. Ruchake	62	27	PASS
28	Ku. Pragati M. Sukhdeve	54	29	PASS
29	Ku. Sneha D. Khedkar	55	30	PASS
30	Ku. Kiran U. Adhau	65	24	PASS
31	Ku. Pornima D. Bhonde	48	30	PASS





Head,
Department of Chemistry
Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce

**Smt. Radhabai Sarda Arts, Commerce & Science
College Anjangaon Surji, Dist Amravati - 444705**

Application Form for Course Work

(Academic Session: 2016-2017)

Application Form No.:

000194

Applicant's Full Name : Ku. Tejswini R. Borode
(In Block Letters)



Class: BSc II Section: Science

Date of Birth: 21/12/1997 Gender: Female

Category:

OPEN	☒	SC	☐	ST	☐	NT	☐	VJ	☐	SBC	☐
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Aadhaar Card No.:

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Name of the Department : chemistry

Date of Admission in College: 19/ 8/ 2016 College ID No.:

Name of the Course Applied For : Basic tools in analytical chemistry

Title of the Course Work : Basic tools in analytical chemistry

Applicant's Permanent Address : shelgaon Tq. Anjangaon (surji)

District: Amravati State: Maharashtra Pin Code:

4	4	4	7	0	5
---	---	---	---	---	---

Email ID: Tejswini B 253@gmail.com

Note: I certify that the above information is true and if it is found incorrect, my application will be rejected at any stage.



T.R. Borode
Applicant's Signature

Shri. Sarda Education Society's

**Smt. Radhabai Sarda Arts, Commerce & Science
College Anjangaon Surji, Dist Amravati - 444705**

Application Form for Course Work

(Academic Session: 2016-2017)

Application Form No.: 000223

Applicant's Full Name: Ku. Kizan U. Adhau.
(In Block Letters)



Class: BSc-II year Section: Science

Date of Birth: 15/11/1997 Gender: Female

Category:

OPEN	OBC ☒	SC	ST	NT	VJ	SBC
------	---	----	----	----	----	-----

Aadhaar Card No.:

--	--	--	--	--	--	--	--	--	--	--	--

Name of the Department: Chemistry

Date of Admission in College: 19/08/2016

College ID No.: 3492

Name of the Course Applied For: Basic tools in analytical chemistry

Title of the Course Work: Basic tools in analytical chemistry.

Applicant's Permanent Address: Khizada, Anjangaon surji.

District: Amravati State: Maharashtra Pin Code:

4	4	4	7	0	5
---	---	---	---	---	---

Email ID: kizanuadhau99@gmail.com

Note: I certify that the above information is true and if it is found incorrect, my application will be rejected at any stage.



Kizan U. Adhau

Shri Sarda Education Society's
Smt. Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji

Department of Chemistry
(Academic Session: 2016-17)

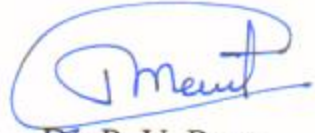
Add-on course – “Basic Tools In Analytical Chemistry”

COURSE OUTCOME

Department of Chemistry had conducted the add-on course entitled, “Basic Tools In Analytical Chemistry” from 02/01/2017 to 18/02/2017. The course was conducted for 15 days (2 hrs. session per day X 15 days ~ 30 Hrs.). Overall 31 students had successfully participated in this course. The students are expected to have following benefits after successful completion of this course.

- Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories in Analytical Chemistry.
- Students will be able to design and carry out scientific experiments as well as accurately record and analyze the results of such experiments.
- Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.
- Students will be able to clearly express the results of scientific work in oral, written and electronic formats.
- Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.
- Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.




Dr. P. V. Raut
HOD Chemistry
HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
Anjangaon Surji

Shri Sarda Education Society's
Smt. Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji
Department of Chemistry
(Academic Session: 2016-17)

Course Title: Basic Tools In analytical Chemistry"

SUMMARY REPORT

Department of Chemistry had successfully conducted the add-on course entitled; "Basic Tools in Analytical Chemistry" from 02/01/2017 to 18/01/2017. The course was conducted for 15 days (2 hrs. session per day X 15 days ~ 30 days). Overall 31 students had successfully participated in this course. After completion of this course, the students are expected to have several benefits viz. firm foundation in fundamentals in analytical chemistry, clear understanding to express scientific works and ability to conduct scientific experiments etc.



A handwritten signature in blue ink, appearing to read "G. Meul", written over a horizontal line.

Co-ordinator & Head
HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

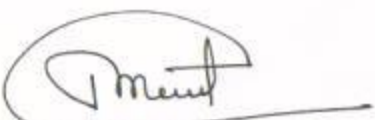
SHRI SARDA EDUCATION SOCIETY'S

SMT RADHABAI SARDA ARTS, COMMERCE AND SCIENCE COLLEGE
ANJANGOAN SURJI, DIST. AMRAVATI



Certificate

This is to certify that *Ku. Tejaswini R. Borode* of *B.Sc. II* has successfully completed Certificate Course entitled "BASIC TOOLS IN ANALYTICAL CHEMISTRY" conducted by the Department of Chemistry from 02/01/2017 to 18/01/2017 at Smt. Radhabai Sarda Arts, Commerce and Science College, Anjangoan Surji, Dist. Amravati.


Head of the Department
HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangoan Surji


Principal

PRINCIPAL
Smt. Radhabai Sarda
Arts, Commerce & Science College
Anjangaon Surji

SHRI SARDA EDUCATION SOCIETY'S
SMT RADHABAI SARDA ARTS, COMMERCE AND SCIENCE COLLEGE
ANJANGOAN SURJI, DIST. AMRAVATI



Certificate

This is to certify that *Ku. Kiran U. Adhau* of *B.Sc. II* has successfully completed Certificate Course entitled "BASIC TOOLS IN ANALYTICAL CHEMISTRY" conducted by the Department of Chemistry from 02/01/2017 to 18/01/2017 at Smt. Radhabai Sarda Arts, Commerce and Science College, Anjangaon Surji, Dist. Amravati.

Head of the Department
HEAD

Department of Chemistry
Smt. Radhabai Sarda Arts, Commerce
& Science College Anjangaon Surji

Principal

PRINCIPAL
Smt. Radhabai Sarda
Arts, Commerce & Science College
Anjangaon Surji