CERTIFICATE COURSE

ON

ANALYTICAL METHODS IN CHEMISTRY



GOVT.DEGREE COLLEGE NARASANNAPETA SRIKAKULAM DISTRICT

DEPARTMENT OF CHEMISTRY

2020-2021

From

To

P.Srividya,

The Principal,

Contract Faculty in Chemistry,

Govt. Degree College,

Govt. Degree College,

Narasannapeta.

Narasannapeta.

 $\textbf{Sub:} \ \textbf{Regarding to start certificate course on } \textbf{Analytical Methods in Chemistry} \ .$ Respected sir/madam,

I P.SRIVIDYA working as contract faculty in Chemistry in this college . This is regarding with conduct subject related certificate course introducing for students benefits of our department on Analytical Methods in Chemistry .The course duration should be 45 days. We are going to start in the academic year 2020-2021 ie... 03.11.2021 to 30.12.2021. So this is my humble request you to permit us for the conducting of above course.

Thanking you sir,

Yours Sincerely,

P.SRIVIDYA

Govt. Degree College

GOVT. DEGREE COLLEGE, NARASANNAPETA DEPARTMENTOF CHEMISTRY

SUBJECT RELATED CERTIFICATE COURSE- 2020-21

The faculty members of the Chemistry department met in the principal chamber to discuss and review the conduct of the certificate course titled **Analytical Methods in Chemistry** under the chairmanship of the principal and the faculty of the department of Chemistry on 01.11.2021.

AGENDA:

Starting of certificate course for 3rd B.Sc.(MPC & CBZ) students.

RESOLUTIONS:

- (1) It is resolved to start the certificate course titled " **Analytical Methods in Chemistry** " from 03.11.2021 (45days) for the academic year 2020-2021.
- (2) It is also resolved to frame the syllabus, regulations for the successful completion of the certificate course titled " **Analytical Methods in Chemistry** ".
- (3) Enrolled 8 students this course.
- (4) Resolved to conduct classes at 4 PM.
- (5)Resolved to conduct exam after completion of the course and issue certificates to qualified candidates.
- (6) Qualifying marks in 40 %.

MEMBERS PRESENT:

P. Szividy (P.SRIVIDYA)

HEAD OF THE DEPARTMENT

LECTURER

Govt. Degree College

NARASANNAPETA

CIRCULAR

DATE 02.11.2021.

This is to inform that the department of chemistry is going to be conducted a subject related certificate course from 03.11.2021 to 23.12.2021 for final year students of B.Sc (MPC and CBZ) on " Analytical Methods in Chemistry". The students who are interested can enroll their names to concerned department on or before 03.11.2021. The duration of the course is 45 days . The candidates who secure 40% of the marks in the examination will get the certificate.

P.Szividys (P.SRIVIDYA)

HEAD OF THE DEPARTMENT

LECTURER Govt. Degree College NARASANNAPETA

GOVT. DEGREE COLLEGE , NARASANNAPETA SRIKAKULAM DISTRICT

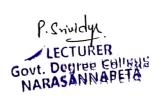
DEPARTMENT OF CHEMISTRY

SUBJECT RELATED CERTIFICATECOURSE- 2020-21

ENROLLED STUDENTS LIST

"ANALYTICAL METHODS IN CHEMISTRY"

S.No.	YEAR	HALLTICKET No.	NAME OF THE STUDENT
1	3 rd YEAR	1900435002	B.MADHAVI
2	3 rd YEAR	1900441002	B.RAMANAMURTHY
3	3 rd YEAR	1900441006	K.PURUSHOTHAM
4	3 rd YEAR	1900441007	K.BALARAM
5	3 rd YEAR	1900441008	K.S.GANESH
6	3 rd YEAR	1900441010	K.SHANMUKHA RAJU
7	3 rd YEAR	1900441012	R.MOTHILAL
8	3 rd YEAR	1900441013	S.SRIDHAR



GOVT. DEGREE COLLEGE , NARASANNAPETA SRIKAKULAM DISTRICT **DEPARTMENTOF CHEMISTRY**

SUBJECT RELATED CERTIFICATE COURSE - 2020 -21

STUDENTS ATTENDANCE LIST

"ANALYTICAL METHODS IN CHEMISTRY"

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P. Snividyx Govt. Degree College NARASANNAPETA



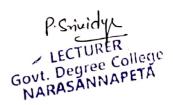
GOVT. DEGREE COLLEGE , NARASANNAPETA SRIKAKULAM DIST DEPARTMENT OF CHEMISTRY SUBJECT RELATED CERTIFICATE COURSE

"ANALYTICAL METHODS IN CHEMISTRY"

(ACADEMIC YEAR 2020-21)

Objective of the course:

- To inculcate basic concepts of various analytical methods in chemistry.
- To create interest among students to pursue higher education.
- To acquaint with analytical methods in turn to develop laboratory skills among students.
- To provide employability skills in related wings of Pharmaceutical industries.
- Course duration: 45 days
- Level : UG
- Course type : Scheduled
- Certification : Certification will be given on the continuous comprehensive evaluation of students performance in the assessments conducted.



SYLLABUS OF THE COURSE ANALYTICAL METHODS IN CHEMISTRY

MODULE 1 (5 DAYS)

Introduction to analytical methods: Methods of determining concentration of solution-molarity,molality,molefraction,%by weight,%by volume,yield.

MODULE 2 (20 DAYS) :

Treatment of analytical data: Sampling methods, significant figuresTypes of errors, Accuracy ,precision, mean ,mode ,median ,standard deviation ,confidence limit.

MODULE 3 (20 DAYS)

Instrumental techniques: Principle and applications of GC, HPLC,LCMS,Conductometry,UV-visible spectrophotometry,Flamephotometry.



GOVT. DEGREE COLLEGE, NARASANNAPETA SRIKAKULAM DIST DEPARTMENTOF CHEMISTRY SUBJECT RELATED CERTIFICATE COURSE

ANALYTICAL METHODS IN CHEMISTRY

(ACADEMIC YEAR 2020-21)

REPORT:

As a part of academic activity, the department of Chemistry has conducted certificate course in 'Analytical methods in Chemistry' from 03.11.2021 to 30.12.2021 for the academic year 2020-2021. The important objective of the course is to inculcate basic concepts of various analytical methods in Chemistry among the UG degree students. As per the instructions given by the principal during the minutes of the meeting 8 members of students are enrolled in to the certificate course for III rd Year B.Sc.(MPC & CBZ) to enrich the Analytical methods in Chemistry , the Chemistry faculty member have engaged classes for 45 days and dealt the basic concepts of the concerned syllabus . At the end of the course, an external examination with multiple choice questions has conducted for the assessment of learners understanding levels of knowledge The minimum qualifying of marks for the award of certification is 40% . All the students completed the course successfully and got certificates during the academic year 2020-2021.

P. Swidyk. LECTURER Govt. Degree College NARASANNAPETA

GOVT. DEGREE COLLEGE , NARASANNAPETA SRIKAKULAM DIST DEPARTMENT OF CHEMISTRY SUBJECT RELATED CERTIFICATE COURSE, (2020-21)

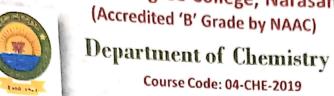
SUBJECT:Analytical methods in Chemistry QUESTION PAPER

MARKS: 50M

1. ۱	What are the units for moral	lity		
		a) II	()
2.	•	2) liter/mol 3) moles/gram	4) gram/mol	les
	- moles of sail is dissolve	ed to form 1 lit of solution, calculate the m	orality of the solution	
	***************************************		()
_		2) 1.5 M solution 3) 2 M solution		tion
3.	. How many moles of NaOH	are needed to dissolve in water to make 4	lit of a 2M solution	
			()	
	1) 0.5M	2) 2M 3) 8mol	4) 0.5 mol	
4.	 What is the unit of mole fr 	raction)
	1) Kg/m ²	2) N/m ³ 3) m ²	4) No unit	,
5.	5. What is the mole fraction of	of 4 moles of sodium in 8 moles of HCl)
	41	2) 0.48 3) 0.56 4) 0.72		,
6.	6. A mixture of gases so 2 o 2	2 and 4 grams of N 2 and total mass of mixtu		um of
	mole fraction of so 2 and o	0 2	re is 10 g , what is the s	
	1) 0.25 2) 0.5	3) 0.75 4) 1	1)
7.	7. If the mole fraction of Na i	is 0.25 in 9 moles of liq co2 what is the mole	fraction of No. /	,
	1) 0.10 2) 0.1)
8.		W/V) H2 So 4 solution is	4) 0.25	
	4) 0.4.11	0.2 N 3) 0.4 N	()
9.	•	he true value of the voltage is 125.5 volts Fi	4) 1N	
	instrument		_	
	1) 125/0.5 V 2) 125 V		()
10		3) 0.5 V 4) 0.5/125 \ calibration of the instrument is called	1	
	precision error		()
1		2) gross error 3) systematic err		r
•		rameters used in statistical analysis	()
	1) mean	2) median 3) variance	4) all of the ab	ove

12.	Precision is define	ed as					
	1) repeatability	2) rel	iability	3) uncertainity	4) accur	(racy)
13.	Trueness from the	e reference me	asures				
	1) Precision	2) me				()
14.	The expected valu			 accuracy V. However, the mea 	4) rec	all	
	79V Then % of 6	error & relative	1022 9 16212[0] 12 5	su v. However, the mea	surement giv	es a va ,	llue of
	1) 1.25 %,0.9875		12.5%,0.09875		0.00075	()
	4) 1.025%,0.000	-,	12.3/0,0.03673	3) 0.125%,	0.009875		
15.			if two of the num	bers are 8 and 10,what	is the remain	ning nu	mher
	1) -30	2) 18		3) 12	4) 30	1111g 11G	1
16.	The mean of six no	•		cluded ,their mean beco	•	, exclude	d number
	is					()
	1) 77	2) 78	3) 60	4) 45		•	,
17	. If the difference	between mean	and mode is 48 a	nd median is 12,find me	ean	()
	1) 38	2) 36	3) 42	4) 28			
18	. Mean deviation o	of the data 3,10	,10,4,7,10,5,7 froi	m mean is	•••••	()
	1) 2	2) 2.25	3) 3	4) 3.25			
19	. Find the median	of the given se	t of numbers 2,6,6	5,8,4,2,7,9		()
	1) 6	2) 8	3) 4	4) 5			
20	. Select the wavel	ength range cor	responding to UV	/-Visible region		()
	1) 400-800nm	2) 20	0-800nm	3) 25m-2.5m 4)	none of the	above	
21	. The number of d	ouble bonds pr	esent in carotene	is		()
	1) 5	2) 10	3) 11	4) 1			
22	. Which of the follo	wing spectrosc	opy techniques is	associated with molecu	ılar absorptio	on	
					_	()
	1) UV-Visible spe		2) IR spectroso		fraction	4) 1	and 2
23	. Which of the follo		•			()
	1) Reciprocating	•	splacement	3) reciprocating dua	al pumps		
	,	ove .					
24	. The units of condu					()
21	1) ohm	2) Tesla 3)			ho following		
25	o. capillary column	s are open tubl	nar Columns CONS	tructed from which of t	ne ronowing	metals 1	_
	1) Glass	2) Me	atal	3) Stainless steal	4) Fus	od silis)
	1) Glass	2) 1416		J Stanness steal	-1 Las	Cu Silic	u

Government Degree College, Narasannapeta



Course Certification

Certified	that	Mr/Ms			of
The second	su	ccessfully co	mpleted Certific	ate Cou	irse on
"Analytical	Method	ls in Chemis	stry" and scored	d	_ Grade
during the a	cademic	year			
Course Co-ord	linator	IQA	C Co-ordinator	200	Principal

Govt. Degree College NARASANNAPETA