CERTIFICATE COURSE

ON

ANALYTICAL METHODS IN CHEMISTRY

GOVT.DEGREE COLLEGE NARASANNAPETA

SRIKAKULAM DISTRICT

DEPARTMENT OF CHEMISTRY

2020-2021

From

P.Srividya,

Contract Faculty in Chemistry,

Govt. Degree College,

Narasannapeta.

To

The Principal,

Govt. Degree College,

Narasannapeta.

Sub: Regarding to start certificate course on **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

P.SRIVIDYA

LECTURER
Govt. Degree College
NARASANNAPETA

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. Srividya

(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. Srividya

(P.SRIVIDYA)

HEAD OF THE DEPARTMENT

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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	3rd YEAR	1900435002	B.MADHAVI
2	3rd YEAR	1900441002	B.RAMANAMURTHY
3	3rd YEAR	1900441006	K.PURUSHOTHAM
4	3rd YEAR	1900441007	K.BALARAM
5	3rd YEAR	1900441008	K.S.GANESH
6	3rd YEAR	1900441010	K.SHANMUKHA RAJU
7	3rd YEAR	1900441012	R.MOTHILAL
8	3rd YEAR	1900441013	S.SRIDHAR

P. Srividya
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SRIKAKULAM DISTRICT

DEPARTMENTOF CHEMISTRY

SUBJECT RELATED CERTIFICATE COURSE - 2020 -21

STUDENTS ATTENDANCE LIST

"ANALYTICAL METHODS IN CHEMISTRY"

S.No	YEAR	HALLTICKET No.	NAME OF THE STUDENT	03-11-2021	05-11-2021	06-11-2021	08-11-2021	09-11-2021	10-11-2021	11-11-2021	12-11-2021	15-11-2021	16-11-2021	17-11-2021	18-11-2021	19-11-2021	20-11-2021	22-11-2021	23-11-2021	24-11-2021	25-11-2021	26-11-2021	27-11-2021	29-11-2021	30-11-2021	01-12-2021	02-12-2021	03-12-2021	04-12-2021	06-12-2021	07-12-2021	08-12-2021	09-12-2021	10-12-2021	13-12-2021	14-12-2021	15-12-2021	16-12-2021	17-12-2021	18-12-2021	20-12-2021	21-12-2021	22-12-2021	23-12-2021	27-12-2021	28-12-2021	29-12-2021	30-12-2021
1	III	1900435002	B.MADHAVI	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	III	1900441002	B.RAMANAMURTHY	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P
3	III	1900441006	K.PURUSHOTHAM	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	III	1900441007	K.BALARAM	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	III	1900441008	K.S.GANESH	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	III	1900441010	K.SHANMUKHA RAJU	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	III	1900441012	R.MOTHILAL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	III	1900441013	S.SRIDHAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

P.Srividya
LECTURER
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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.

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SYLLABUS OF THE COURSE

ANALYTICAL METHODS IN CHEMISTRY

MODULE 1 (5 DAYS) :

Introduction to analytical methods : Methods of determining concentration of solution-molarity,molality,normality,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.

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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. Srividya.

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. What are the units for morality ..... ( )
   1) moles / lit 2) liter/mol 3) moles/gram 4) gram/moles
2. If 2 moles of salt is dissolved to form 1 lit of solution, calculate the morality of the solution ..... ( )
   1) 1 M solution 2) 1.5 M solution 3) 2 M solution 4) 2.5M solution
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 fraction ..... ( )
   1) Kg/ m^2 2) N/m^3 3) m^2 4) No unit
5. What is the mole fraction of 4 moles of sodium in 8 moles of HCl ..... ( )
   1) 0.24 2) 0.48 3) 0.56 4) 0.72
6. A mixture of gases so 2 o 2 and 4 grams of N 2 and total mass of mixture is 10 g , what is the sum of mole fraction of so 2 and o 2 ..... ( )
   1) 0.25 2) 0.5 3) 0.75 4) 1
7. If the mole fraction of Na is 0.25 in 9 moles of liq co2 what is the mole fraction of Na... ( )
   1) 0.10 2) 0.15 3) 0.20 4) 0.25
8. The normality of 0.98 % (W/V) H2 So 4 solution is ..... ( )
   1) 0.1 N 2) 0.2 N 3) 0.4 N 4) 1N
9. A meter reads 125 V and the true value of the voltage is 125.5 volts Find the static error of instrument ..... ( )
   1) 125/0.5 V 2) 125 V 3) 0.5 V 4) 0.5/125 V
10. The error caused by poor calibration of the instrument is called ..... ( )
    1) precision error 2) gross error 3) systematic error 4) random error
11. which of the following parameters used in statistical analysis ..... ( )
    1) mean 2) median 3) variance 4) all of the above

12. Precision is defined as ( )

1) repeatability 2) reliability 3) uncertainity 4) accuracy

13. Trueness from the reference measures ..... ( )

1) Precision 2) mean 3) accuracy 4) recall

14. The expected value of voltage across a resistor is 80 V. However, the measurement gives a value of 79V Then % of error & relative accuracy are ..... ( )

1) 1.25 %,0.9875 2) 12.5%,0.09875 3) 0.125%,0.009875

4) 1.025%,0.0009875

15. average of three numbers be 16.if two of the numbers are 8 and 10,what is the remaining number

1) -30 2) 18 3) 12 4) 30 ( )

16. The mean of six numbers is 47.if one number is excluded ,their mean becomes 41.the excluded number is ..... ( )

1) 77 2) 78 3) 60 4) 45

17. If the difference between mean and mode is 48 and median is 12,find mean ..... ( )

1) 38 2) 36 3) 42 4) 28

18. Mean deviation of the data 3,10,10,4,7,10,5,7 from mean is ..... ( )

1) 2 2) 2.25 3) 3 4) 3.25

19. Find the median of the given set of numbers 2,6,6,8,4,2,7,9 ( )

1) 6 2) 8 3) 4 4) 5

20. Select the wavelength range corresponding to UV-Visible region ( )

1) 400-800nm 2) 200-800nm 3) 25m-2.5m 4) none of the above

21. The number of double bonds present in carotene is ( )

1) 5 2) 10 3) 11 4) 1

22. Which of the following spectroscopy techniques is associated with molecular absorption..... ( )

1) UV-Visible spectroscopy 2) IR spectroscopy 3) X-ray diffraction 4) 1 and 2

23. Which of the following HPLC pump has limited solvent capacity ..... ( )

1) Reciprocating 2) Displacement 3) reciprocating dual pumps

4) all of the above

24. The units of conductance is ..... ( )

1) ohm 2) Tesla 3) Seimens 4) None

25. capillary columns are open tubular columns constructed from which of the following metals..... ( )

1) Glass 2) Metal 3) Stainless steal 4) Fused silica

Government Degree College, Narasannapeta

(Accredited 'B' Grade by NAAC)

Department of Chemistry

Course Code: 04-CHE-2019

Course Certification

Certified that Mr/Ms._____ of _____ successfully completed Certificate Course on "Analytical Methods in Chemistry" and scored _____ Grade during the academic year _____.

Course Co-ordinator IQAC Co-ordinator Principal

P. Srividya
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