

B.Sc. Sem-2 CO, CO's

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Course Name : **B. Sc. Chemistry**

Semester : II

PROGRAM CODE : SCIUG102

COURSE CODE : SC23MJDSCCHE201

Type of course : **Major Discipline Specific course MJDSC**

Name of course : **Fundamentals of chemistry II**

Total Marks : 100



Effective from June 2023 Under NEP 2020 *start from-2023-24*

Total Credits : 04	Teaching Hours per Week: 04	Theory	External 50 Marks
			Internal 50 Marks
Teaching Hours per Semester: 60			

Course Objectives:

1. To understand concepts of inorganic chemistry in terms of coordination compounds, p block elements.
2. To apply Stereo chemistry and spatial arrangement of some compounds.
3. To understand Thermodynamics as basis of general laws of sustainable equilibrium.
4. To know about the Volumetric titrations and calculations for estimation various ions.

Course Outcomes:

1. Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories including those in Analytical, Inorganic, Organic and Physical Chemistries. Majors to be certified by the American Chemical Society will have extensive laboratory work and knowledge of Biological Chemistry.
2. Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.
3. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine.
4. Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.
5. Students will be able to function as a member of an interdisciplinary problem solving team.

Principal
Principal
The H.N.S.B. Ltd. Science College
Himatnagar-383001, S.K.

Head
Head
Chemistry Department
The H.N.S.B. Ltd. Science College
Himatnagar-383001, Dist. S.K.

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Program Name : B. Sc. Chemistry **Semester : II**
PROGRAM CODE : SCIUG102
COURSE CODE : SC23PMJDSCCHE201



Type of course : **Practicals Major Discipline** Specific Course PMJDSC
Name of Course : **Practical's for Fundamentals of chemistry II**
Total Marks : 100

Effective from June 2023 Under NEP 2020

GROUP A

Total Credits : 02 Teaching Hours per Week: 04 Lab Teaching Hours per semester:60 Minimum number of practicals to be performed: 12	Practicals	External 25 Marks
		Internal 25 Marks

GROUP B

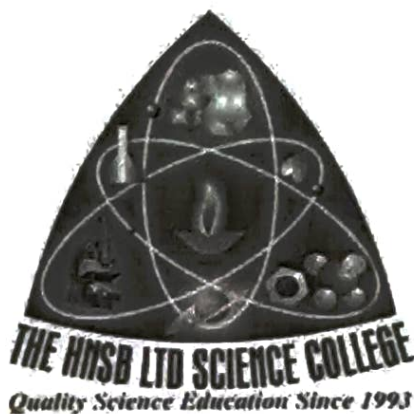
Total Credits : 02 Teaching Hours per Week: 04 Lab Teaching Hours per semester:60 Minimum number of practicals to be performed: 08	Practicals	External 25Marks
		Internal 25 Marks

Course Objectives:

1. To identify the cationic and anionic ions in mixture.
2. Preparation of solutions for volumetric solutions.

Course Outcomes:

1. Students will gain a comprehensive knowledge and skills in identification of cations and anions.
2. Students will have basic knowledge of volumetric titrations.



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HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Course Name : B. Sc. Chemistry **Semester : II**
PROGRAM CODE : SCIUG102
COURSE CODE : SC23MIDSCCHE202

Type of course : **Minor (Elective)** Discipline Specific course MIDSC

Name of course : Fundamentals of chemistry II

Total Marks : 50

Effective from June 2023 Under NEP 2020

Total Credits : 02	Teaching Hours per Week: 02	Theory	External 25 Marks
			Internal 25 Marks
Teaching Hours per Semester: 30			

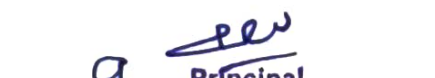
Course Objectives:

1. To understand concepts of inorganic chemistry in terms of coordination compounds, p block elements
2. To apply Stereo chemistry and spatial arrangement of some compounds.

Course Outcomes:

1. Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories including those in Inorganic and Physical Chemistries.
2. Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.
3. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine.
4. Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.


Head


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HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Program Name : B. Sc. Chemistry **Semester : II**
PROGRAM CODE : SCIUG102
COURSE CODE : SC23PMIDSCCHE202

Type of course : **Practicals Minor (Elective)** Discipline Specific Course PMIDSC
Name of Course : **Practical's for Fundamentals of chemistry II**
Total Marks : 50

Effective from June 2023 Under NEP 2020

Total Credits : 02 Teaching Hours per Week: 04 Lab Teaching Hours per semester:60 Minimum number of practicals to be performed: 10	Practicals	External 25 Marks
		Internal 25 Marks


Course Objectives:

1. To identify the cationic and anionic ions in mixture.
2. Preparation of solutions for volumetric solutions.

Course Outcomes:

1. Students will gain a comprehensive knowledge and skills in identification of cations and anions.
2. Students will have basic knowledge of volumetric titrations.




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HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Course Name : B. Sc. Chemistry

Semester : II

PROGRAM CODE : SCIUG102

COURSE CODE : SC23MDCCHE203

Type of course : **Multidisciplinary course MDC**

Name of course : General chemistry II

Effective from June 2023 Under NEP 2020

Total Credits : 02	Teaching Hours per Week: 02	Theory	External 25 Marks
			Internal 25 Marks
Teaching Hours per Semester: 30			


Course Objectives:

1. To understand Thermodynamics as basis of general laws of sustainable equilibrium.
2. To know about the Volumetric titrations and calculations for estimation of various ions.

Course Outcomes:

1. Students will be able to explore new areas of research in both medicinal chemistry and allied fields of science and technology.
2. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine.
3. Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.
4. Students will be able to function as a member of an interdisciplinary problem solving team.


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Quality Science Education Since 1993


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HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Program Name : B. Sc. Chemistry **Semester : II**
PROGRAM CODE : SCIUG102
COURSE CODE : SC23PMDCCHE203

Type of course : **Practicals Multi Disciplinary** Course PMDC

Name of course : **Practical's General chemistry II**

Total Marks : 50

Effective from June 2023 Under NEP 2020

Total Credits : 02 Teaching Hours per Week: 04 Lab Teaching Hours per semester:60 Minimum number of practicals to be performed: 10	Practicals	External 25 Marks
		Internal 25 Marks

Course Objectives:

1. To identify the cationic and anionic ions in mixture.
2. Preparation of solutions for volumetric solutions.

Course Outcomes:

1. Students will gain a comprehensive knowledge and skills in identification of cations and anions in inorganic mixtures.
2. Students will have basic knowledge of volumetric titrations.




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HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Program Name : B. Sc. Chemistry

Semester : II

PROGRAM CODE : SCIUG102

COURSE CODE : SC23SECCHE206C

Type of course : **Skill Enhancement Course SEC**

Name of course : Water Quality Assessment

Total Marks : 50

Effective from June 2023 Under NEP 2020

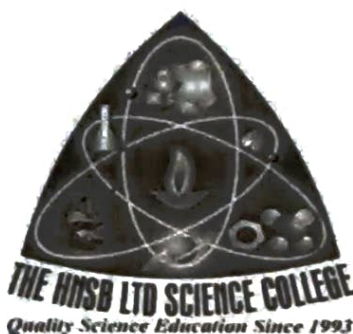
Total Credits : 02	Teaching Hours per Week: 02 Teaching Hours per semester: 30	Theory	External 25 Marks
			Internal 25 Marks

Course Objectives:

1. to obtain quantitative information on the physical, chemical, and biological characteristics of water via statistical sampling
2. The type of information sought depends on the objectives of the monitoring program.

Course Outcomes:

1. Explain the general properties of water and understand water resources and water conservation.
2. Develop awareness about water quality criteria and standards, and their relation to public health and environment
3. Understand important parameters for measuring water quality.
4. Know about the methods for the determination of water quality parameters
5. Learn how to run accurate water quality tests and to determine how the parameters relate to each other.



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