



**FACULTY OF SCIENCE**  
**DEPARTMENT OF CHEMISTRY**

**COURSE: B.Sc.**

**SUBJECT NAME: Chemistry-III**

**SEMESTER: III**

**SUBJECT CODE: 4SC03CHC1**

**Teaching & Evaluation Scheme:-**

Teaching hours/week				Credit	Evaluation Scheme/semester							
Th	Tu	Pr	Total		Theory				Practical			Total Marks
					Sessional Exam		University Exam		Internal		University	
					Marks	Hrs	Marks	Hrs	Pr	TW		
3	0	0	3	3	30	1.5	70	3	--	--	--	100

**Objectives:-**

- To understand organic chemistry reaction pathways and reaction mechanism.
- To learn theories and principles related to organic chemistry.
- To learn and understand various nucleophilic and electrophilic reactions in organic chemistry.
- To create interest in students in learning organic chemistry.

**Prerequisites:-**

- Before studying Inorganic chemistry, all students have basic knowledge of inorganic and organic compounds, molecular structure, Molecular orbital theories and knowledge related to UG level chemistry.

**Course outline:-**

Sr. No.	Course Contents
1	<b>Basic organic chemistry:</b> Inductive effect, resonance and resonance energy. Homolytic and heterolytic bond breaking, electrophiles and nucleophiles; carbocations, carbanions and radicals (stability and reactivity) <b>Chemicals Rearrangements:</b> Principle and applications of following re-arrangements: Benzil-Benzilic acid, Curtius, Allylic, Pinacol-Pinacolone, Suzuki reaction, Halogen migration.



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<b>2</b>	<b>Principle, mechanism and synthetic applications of the following reactions:</b> Aldol condensation, Diels-Alder, Michael addition & condensation reaction, Perkin, Reformatsky Hofmann degradation, Claisen condensation. <b>Synthesis and synthetic applications of following reagents:</b> Diazomethane, Lead tetra-acetate, Lithium aluminium hydride, Organoboranes, Manganese dioxide.
<b>3</b>	<b>Heterocyclic Compounds:</b> Introduction, Synthesis and properties of: 1. Benzpyrrole 2. Benzfuran 3. Benzthiophene 4. Quinoline 5. Isoquinoline.
<b>4</b>	<b>Purines and Ureides:</b> Introduction and classification of Purines and Ureides, General chemical behavior of urides, Determination of constitution of uric acid with synthesis, synthesis of adenine, caffeine, guanine, theobromine, theophyllin from uric acid.

### **Learning Outcomes:-**

After the successful completion of the course, students will be able to understand

- Organic reaction pathways.
- Nucleophilic and electrophilic reaction mechanisms and rearrangements reactions.

### **Books Recommended:-**

1. 'Advanced Organic Chemistry, Part B', **F. A. Carey & R. J. Sundberg**, Plenum Press.
2. 'Organic Chemistry', **G. Marc. Loudon**, Oxford University Press.
3. 'Organic Reaction Mechanism', **V.K. Ahluwalia, R.K. Parasa.r**.
4. 'Reaction Mechanism and Reagents in Organic Chemistry', **Gurdeep R. Chatwal**.
5. 'Organic Chemistry', **Morrission and Boyd**, prentice hall of India pvt ltd.
6. 'Organic Chemistry', **I.L.Finar**, Pearson Education.
7. 'A Text Book of Organic Chemistry', **R.K.Bansal**, New Age International (P) Ltd.
8. 'Advanced Organic Chemistry', **Jerry March**.
9. 'Reaction Mechanism and Problems in Organic Chemistry', **P. Chattopadhyay**, Asian Book Pvt Ltd, New Delhi.
10. 'Reactive Intermediates in Organic Chemistry', **J.P. Trivedi**, University granth Nirman Board.
11. 'Organic Chemistry', **T.W. Graham solimn, Craig B. Fryble**, John Wiley & Sons, inc.
12. 'Organic Chemistry', **V.K.Ahluwalia, MadhuriGoyal**, Narosa Publishing House.
13. 'Organic Synthesis', **M.B. Smith**, Mcgraw-Hill, Inc.
14. 'Some Modern Methods of Organic synthesis', **W.Carruthers**, Cambridge University Press.



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15. 'Comprehensive Organic Synthesis', **B.M. Frost & I Fleming**, *Pergamon*.
16. 'Organic Chemistry – Structure and Reactivity', **Seyhan Ege**, *A.I.T.B.S. Publishers and Distributors*.
17. 'Organic Synthesis – Strategy and Control', **Paul Wyatt & Stuart Warren**, *John Wiley & Sons*.
18. 'Principles of Organic Synthesis', **R.O.C Norman, J.M. Coxon**, *CRC Press*.
19. 'Organic Chemistry', **J. Clayden, N. Greeves, S. Warren, P. Wothers**, *Oxford University Press*.
20. 'Organic Chemistry', **J. McMurry**, *Asian Books Pvt. Ltd.*

### **E-Resources:-**

1. <http://www.organic-chemistry.org/>
2. [http://www.organicdivision.org/?nd=p\\_organic\\_web\\_links](http://www.organicdivision.org/?nd=p_organic_web_links)
3. <http://www.masterorganicchemistry.com/resource-guide/>
4. <http://orgchem.iisc.ernet.in/chemlink.html>
5. [http://www.mpcfaculty.net/ron\\_rinehart/organic.htm](http://www.mpcfaculty.net/ron_rinehart/organic.htm)
6. <http://web.usca.edu/chemistry/NewStudentInfo/helpful-websites-for-studying-organic-chemistry.dot>
7. <http://pubs.rsc.org/en/journals/journalissues/oc#!recentarticles&all>
8. <http://www.chem.ox.ac.uk/vrchemistry/iom/#>
9. <http://ocw.mit.edu/courses/#chemistry>
10. <http://www.stolaf.edu/depts/chemistry/courses/toolkits/247/>
11. <http://iverson.cm.utexas.edu/courses/310M/MainPagesSp06/GoldenRules.html>
12. [http://www.abdn.ac.uk/curly-arrows/index.html%20\(click%20the%20Tutorials%20button\)](http://www.abdn.ac.uk/curly-arrows/index.html%20(click%20the%20Tutorials%20button))
13. [www.wikipedia.org/organic](http://www.wikipedia.org/organic)

## **FACULTY OF SCIENCE**



## **C. U. SHAH UNIVERSITY**

### **DEPARTMENT OF CHEMISTRY**

**COURSE: M.Sc.**

**SEMESTER: III**

**SUBJECT NAME: Chemistry- IV**

**SUBJECT CODE: 4SC03CHC2**

#### **Teaching & Evaluation Scheme:-**

Teaching hours/week				Credit	Evaluation Scheme/semester							
Th	Tu	Pr	Total		Theory				Practical			Total Marks
					Sessional Exam		University Exam		Internal		University	
					Marks	Hrs	Marks	Hrs	Pr	TW		
3	0	0	3	3	30	1.5	70	3	--	--	--	100

#### **Objectives:-**

- To understand how structure and bonding influence the physical properties and reactivity of inorganic molecules.
- To learn several theories of bonding, the advantages and disadvantages of each theory and which theory is most useful for each type of inorganic molecule.
- To learn how structures are determined for inorganic molecules and to learn about the thermodynamics of crystal lattice formation.
- To gain an appreciation for how inorganic chemistry influences your everyday life.

#### **Prerequisites:-**

- Before studying Inorganic chemistry, all students have basic knowledge of inorganic and organic compounds, molecular structure, Molecular orbital theories and knowledge related to UG level chemistry.

#### **Course outline:-**

Sr. No.	Course Contents
1	<b>Chemical periodicity</b> Periodic table, group trends and periodic trends in physical properties. Classification of elements on the basis of electronic configuration. Modern IUPAC Periodic table. General characteristic of s, p, d and f block elements. Position of hydrogen and noble gases in the periodic table.



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<b>2</b>	<b>Chemistry of s- and p-block Elements</b> (i) Structure, bonding and reactivity of $B_2H_6$ ; $(SN)_x$ with $x = 2, 4$ ; phosphazines; interhalogens. (ii) Structure of borates, silicates, polyphosphates, borazole, boron nitride, silicones, thionic acids. (iii) Reactivity of polyhalides, pseudo halides, fluorocarbons, freons and $NO_x$ with environmental effects. (iv) Chemistry of hydrazine, hydroxylamine, $N_3^-$ , thio- and per-sulphates. Noble gases from air; oxides, fluorides and oxofluorides of xenon; chemical and photochemical reactions of ozone.
<b>3</b>	<b>Lanthanides (4f-block elements) :</b> General introduction of lanthanide series or Lanthanons, position of lanthanides in the periodic table, occurrence, extraction of lanthanides from monazite mineral, separation methods of lanthanides, general properties of lanthanides, atomic and ionic radii-lanthanide contraction, causes of lanthanide contraction.
<b>4</b>	<b>Actinides (5f-block elements):</b> Definition, position of actinides in the periodic table, separation methods of actinides, general properties of actinides and their comparison with lanthanides: Electronic configuration and nature of bonding, oxidation states and oxidation potentials, Atomic and ionic radii actinide contraction, colors and absorption spectra of actinides, magnetic properties.

### **Learning Outcomes:-**

After the successful completion of the course, students will be able to

- Learn basic concepts of quantum chemistry and its applications.
- Understanding of magnetic properties, stereo chemical applications and other theoretical concepts.
- They can get idea of Mossbauer spectroscopy and its experimental techniques.
- Aware about general properties and uses of organic and inorganic reagents in inorganic chemistry.

### **Books Recommended:-**

1. 'Introduction to Quantum Chemistry', **A K Chandra**, McGraw-Hill.
2. 'Advanced Inorganic Chemistry', **Cotton Wilkinson**, W S E Wiley.
3. 'Vogel's Text book of Quantitative Inorganic Analysis', **ELBS Press**.
4. 'Elements of Magnetochemistry', **Shyamal&Datta**, East- West Press.
5. 'Quantum Chemistry', **Ira N. Levine**, Prentice-Hall International.
6. 'Textbook of Inorganic Chemistry', **A. Singh & R. Singh**, Campus.
7. 'Physical Methods in Chemistry', **R. S. Drago**, Saunders Colelge.
8. 'Introduction to Magnetochemistry', **Alan Earnshaw**, Academic Press.



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### **E-Resources:-**

1. <http://pubs.acs.org/journal/inocai>
2. [http://www.chemlin.de/chemistry/inorganic\\_chemistry.htm](http://www.chemlin.de/chemistry/inorganic_chemistry.htm)
3. <http://www.anorg.chem.uu.nl/home/index.html>
4. <http://www.springer.com/chemistry/inorganic+chemistry/journal/11502>
5. <http://libguides.stanford.edu/content.php?pid=149720&sid=1271547>
6. <http://www.science.uwaterloo.ca/~cchieh/cact/applychem/inorganic.html>
7. <http://pubs.rsc.org/en/journals/journalissues/ic#!recentarticles&all>
8. <http://www.chem.umass.edu/~samal/originorgsites.html>
9. <http://www.sciencedirect.com/science/book/9780123851109>
10. [http://www.chemistryviews.org/details/event/1442119/2nd\\_EuCheMS\\_Inorganic\\_Chemistry\\_Conference.html](http://www.chemistryviews.org/details/event/1442119/2nd_EuCheMS_Inorganic_Chemistry_Conference.html)



**C. U. SHAH UNIVERSITY**

## **FACULTY OF SCIENCE**

### **DEPARTMENT OF CHEMISTRY**

**COURSE: B.Sc.**

**SEMESTER: III**

**SUBJECT NAME: Chemistry-V**

**SUBJECT CODE: 4SC03CHE1**

#### **Teaching & Evaluation Scheme:-**

Teaching hours/week				Credit	Evaluation Scheme/semester							
Th	Tu	Pr	Total		Theory				Practical			Total Marks
					Sessional Exam		University Exam		Internal		University	
					Marks	Hrs	Marks	Hrs	Pr	TW		
3	0	0	3	3	30	1.5	70	3	--	--	--	100

#### **Objectives:-**

- To understand concept and theories of physical chemistry.
- To get idea about chemical reaction, equilibrium and electrode potential.
- To understand applications of physical chemistry in daily life.
- To generate interest and curiosity about physical chemistry.

#### **Prerequisites:-**

- Before learning Physical chemistry, student should aware about basic principles and theories of physical chemistry, thermodynamics, electrode potential, chemical reactions and other UG level chemistry.

#### **Course outline:-**

Sr. No.	Course Contents
1	<b>POLYMERS- I:</b> Introduction, Definition of monomer, polymer, polymerization, degree of polymerization, Types of polymers, High polymer, Oligo polymer, Macromolecules, Atactic polymer, Isotactic polymer, Syndiotactic polymer.



2.	<b>POLYMERS- II</b> Classification of polymers, On the basis of occurrence, On the basis of structure, On the basis of constituents, On the basis of polymerization process, On the basis of thermal behavior, Polymer processing, Compounding, Moulding, Compression moulding, Transfer moulding, Injection moulding, Extrusion moulding, Blow moulding, Casting, Drawing, Rolling, Applications of polymers.
3.	<b>Corrosion:</b> Definition and types of corrosion, dry corrosion and wet corrosion, concept of pitting corrosion by formation of cathode and anode, factors effecting corrosion, different method for preventing or remove corrosion.
4.	<b>Organomettallic Chemistry:</b> Introduction, history and definition of organometallic chemistry, classification and types of organometallic chemistry, method for preparation and general reaction of organometallic compounds, application of organometallic compounds

### **Learning Outcomes:-**

After the successful completion of the course, students will be able to

- Understand Thermodynamics and its applications.
- Concept of fugacity and its determination.
- Understand about solutions, its properties and vapor pressure curves.
- They can be able to apply basics into their experiment as well as their routine life.

### **Books Recommended:-**

1. 'Polymer Science', **V.R. Gowariker**, *Wiley Eastern*.
2. 'Introductory Polymer Chemistry', **G.S. Misra**, *New Age International (Pvt) Limited*.
3. 'Textbook of Polymer Science', **F. N. Billmeyer**, *Wiley Interscience*.
4. 'Fundamentals and Polymer Science and Engineering', **A. Kumar and S. K. Gupta**, *McGraw-Hill*.
5. 'Principles of Structure and Reactivity Inorganic Chemistry', **Huheey, J. E.; Keiter, E. A.; Keiter, R. L.**, 4th ed., *Harper Collins*.
6. 'Advanced Inorganic Chemistry', **Cotton, F. A.; Wilkinson, G.; Murillo, C. A.; Bochmann, M.**, *John Wiley*.
7. 'Inorganic Chemistry', **Shriver, D. F.; Atkins, P. W.; Langford, C. H.**, *Oxford University Press*.
8. 'Chemistry—Principles and properties', **M.J. Sienko and R.A. Plane**, *International Student Edition*.





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9. 'Allied Chemistry', **R. Gopalan, S. Sundaram**, *Sultan Chand and Sons*.
10. 'Chemistry in Context', **G.C. Hill, J.S. Holman**, *ELBS*.
11. 'Chemistry – Facts, patterns and principles', **W.R. Kneen, M.J.W. Rogers, P. Simpson**, *ELBS*.
12. 'University Chemistry', **Bruce H. Mahan**, *Wesley Publishing Company*.

### **E-Resources:-**

1. <http://ukcatalogue.oup.com/product/9780199543373.do#UjOsGtI3Bsk>
2. <http://web.mit.edu/spec/lab/www/links.html>
3. <http://library.duke.edu/research/subject/guides/chemistry/>
4. <http://www.chem.ox.ac.uk/cheminfo/internet.html>
5. <http://www.science.fau.edu/chemistry/links.htm>
6. <http://pubs.rsc.org/en/journals/journalissues/cp#!recentarticles&all>
7. <http://www.rsc.org/ConferencesandEvents/ISACS/PhysicalChemistryandNanoscience/index.asp>
8. <http://pubs.acs.org/loi/jpachx>
9. <http://www.csulb.edu/~lhenriqu/chem.htm>
10. <http://libguides.stanford.edu/content.php?pid=114712&sid=991132>
11. [http://simple.wikipedia.org/wiki/Physical\\_chemistry](http://simple.wikipedia.org/wiki/Physical_chemistry)
12. [http://chemistry.olivet.edu/chemistry\\_library.htm](http://chemistry.olivet.edu/chemistry_library.htm)
13. <http://as.wiley.com/WileyCDA/WileyTitle/productCd-EHEP000800.html>
14. <http://www.chemsoc.dk/KFlinks.htm>



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## **FACULTY OF SCIENCE**

### **DEPARTMENT OF CHEMISTRY**

**COURSE: B.Sc.**

**SEMESTER: III**

**SUBJECT NAME: Chemistry-VI**

**SUBJECT CODE: 4SC03CHE2**

#### **Teaching & Evaluation Scheme:-**

Teaching hours/week				Credit	Evaluation Scheme/semester							
Th	Tu	Pr	Total		Theory				Practical			Total Marks
					Sessional Exam		University Exam		Internal		University	
					Marks	Hrs	Marks	Hrs	Pr	TW		
3	0	0	3	3	30	1.5	70	3	--	--	--	100

#### **Objectives:-**

- To understand concept and theories of analytical chemistry.
- To get idea about instrumentation techniques.
- To understand applications of spectroscopic techniques.
- To generate interest and curiosity about analytical chemistry.

#### **Prerequisites:-**

- Before learning analytical chemistry, student should aware about basic principles and theories of analytical chemistry, Basics of Optical Spectroscopy, UV, IR spectroscopy and other UG level chemistry.

#### **Course outline:-**

Sr. No.	Course Contents
1	<b>Spectroscopy</b> Introduction: Definition, classification, types of spectroscopy, raman effect, rotational and vibrational spectroscopy <b>Basics of Optical Spectroscopy:</b> Instrumentation of Infrared Spectroscopy, Raman Spectroscopy, UV/VIS Absorption and fluorescence.



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<b>2.</b>	<b>Infrared Spectroscopy:</b> Principle, types of stretching and bending vibrations, vibrational frequencies, instrumentation, block diagram, source, monochromator, cell sampling techniques, detector and recorders, identification of organic molecules from characteristic absorption bands. Raman spectroscopy.
<b>3.</b>	<b>UV visible spectroscopy:</b> Electronic transition ( $\sigma\text{-}\sigma^*$ , $n\text{-}\sigma^*$ , $\pi\text{-}\pi^*$ and $n\text{-}\pi^*$ ), relative positions of $\lambda_{\text{max}}$ considering conjugative effect, steric effect, solvent effect, red shift (bathochromic shift), blue shift (hypsochromic shift), hyperchromic effect, hypochromic effect (typical examples).
<b>4.</b>	<b>Fluorescence spectroscopy:</b> Principles of Fluorescence Spectroscopy, Jablonski Diagram, Fluorescence Lifetimes and Quantum Yields, Fluorescence Anisotropy, Resonance Energy Transfer, Fluorophores, ionophores, fluoroionophores, quenching, types of quenching, theory of Collisional and static quenching, Applications of Quenching.

### **Learning outcomes:-**

After the successful completion of the course, students will be able to:

- Understand basic analytical techniques and instrumental methods.
- Understand spectroscopic techniques for quantitative analysis.
- Identify food components and its estimation techniques.

### **Books Recommended:-**

1. 'Elementary Organic Spectroscopy: Principles and Chemical Applications', *S.Chand and company Ltd.*, New Delhi.
2. 'Analytical Chemistry: An Introduction', **D.A. Skoog, D.M. West and F.J. Holler**, 5<sup>th</sup> Edition, *Saunders college publishing*.
3. 'Analytical Chemistry: Theory and Practice', **U.N. Dash**, *Sultan Chand and sons Educational Publishers*, New Delhi.
4. 'Quantitative analysis', **R.A. Day Jr. A.L. Underwood**, 5th edition, *Prentice Hall of India Private Ltd.*, New Delhi.
5. 'Basic concept of Analytical Chemistry', **S. M. Khopkar**, *New Age International Publishers*, New Delhi.
6. 'Analytical chemistry', **R. Gopalan**, *S. Chand and Co.*, New Delhi.
7. 'Introduction to Chromatography: Theory and Practice', **V.K. Srivastava and K.K. Srivastava**, *S. Chand and company*, New Delhi.
8. 'Modern Experimental Organic Chemistry', **R.M. Roberts, J.C. Gilbert, L.B. Rodewald, and A.S. Wingrove**, *Holt Saunders international editions*.
9. 'Chemical Analysis: An Instrumental Approach for B.Sc. Hons. and M.Sc. Classes', **A.K. Srivastava and P.C. Jain**, *S. Chand and company Ltd.*, Ram Nagar, New Delhi.



### **E-Resources:-**

1. <http://ukcatalogue.oup.com/product/9780199543373.do#.UhOsGtI3Bsk>
2. <http://web.mit.edu/speciab/www/links.html>
3. <http://library.duke.edu/research/subject/guides/chemistry/>
4. <http://www.chem.ox.ac.uk/cheminfo/internet.html>
5. <http://www.science.fau.edu/chemistry/links.htm>
6. <http://pubs.rsc.org/en/journals/journalissues/cp#!recentarticles&all>
7. <http://www.rsc.org/ConferencesandEvents/ISACS/PhysicalChemistryandNanoscience/index.asp>
8. <http://pubs.acs.org/loi/jpchax>
9. <http://www.csulb.edu/~lhenriqu/chem.htm>
10. <http://libguides.stanford.edu/content.php?pid=114712&sid=991132>
11. [http://simple.wikipedia.org/wiki/Physical\\_chemistry](http://simple.wikipedia.org/wiki/Physical_chemistry)
12. [http://chemistry.olivet.edu/chemistry\\_library.htm](http://chemistry.olivet.edu/chemistry_library.htm)
13. <http://as.wiley.com/WileyCDA/WileyTitle/productCd-EHEP000800.html>
14. <http://www.chemsoc.dk/KFlinks.htm>
15. <http://www.library.auckland.ac.nz/subject-guides/chem/chemmeta.htm>



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## **FACULTY OF SCIENCE**

### **DEPARTMENT OF CHEMISTRY**

**COURSE: B.Sc.**

**SEMESTER:III**

**SUBJECT NAME: Chemistry Practical-III**

**SUBJECT CODE: 4SC03CHP1**

#### **Teaching & Evaluation Scheme:-**

Teaching hours/week				Credit	Evaluation Scheme/semester							
Th	Tu	Pr	Total		Theory				Practical			Total Marks
					Sessional Exam		University Exam		Internal		University	
					Marks	Hrs	Marks	Hrs	Pr	TW		
0	0	6	6	3	--	--	--	--	10	10	30	50

#### **Objectives:-**

- To understand organic compounds and identification of their functional group.
- To learn practical principles related to organic, Volumetric, Gravimetric identification preparation estimation and titration.
- To learn and understand titrations and estimations
- To create interest in students in learning basic chemistry.

#### **Prerequisites:-**

- Before studying practical of chemistry, all students have basic knowledge of inorganic and organic compounds, properties, molecular structure and knowledge related to UG level chemistry.

#### **Course outline:-**

Sr. No.	Course Contents
1	<b>Organic qualitative analysis:</b> Identification of binary mixture of organic compounds containing more than one functional groups (12)
2	<b>Gravimetric Analysis:</b> Gravimetric Estimation of nickel, aluminium, zinc and iron. <b>Volumetric analysis:</b> Acid base, Redox, Iodometry-Iodimetry titrations.



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### **Learning outcomes:-**

After the successful completion of the course, students will be able to:

- Understand basic principal of chemistry practical's
- Understand estimation and titrations

### **Books for References:**

1. "Textbook of practical chemistry" by **Vogel**.
2. "Practical chemistry" by **Pandey**.
3. "Practical in organic chemistry", **Dr. Ramesh K. Goyal**, *B.S. Shah Prakashan*

### **E-Resources:-**

1. <http://ukcatalogue.oup.com/product/9780199543373.do#.UhOsGtI3Bsk>
2. <http://web.mit.edu/speciab/www/links.html>
3. <http://library.duke.edu/research/subject/guides/chemistry/>
4. <http://www.chem.ox.ac.uk/cheminfo/internet.html>



## FACULTY OF SCIENCE

**COURSE: B.Sc.**

**SEMESTER: III**

**SUBJECT NAME: Communication Skills in English (CSE)**

**SUBJECT CODE: 4SC03CSE1**

**Teaching & Evaluation Scheme:-**

Teaching Scheme				Credit	Evaluation Scheme						
Th	Tu	Pr	Total		Th	Hrs	Sessional Exam	Hrs	Term Work	Practical / Comprehensive Viva	Total
02	02	--	04	03	70	3	30	1.5	20	30	150

### Objectives:

- To train them in basic fundamentals skills of Communication – LSRW through study of Literature

### Prerequisites:

- Students should have basic knowledge of English Language and grammar.
- Students should have ability to speak and write correct sentences in their day to day language.
- Students should be familiar with correct usage of language.

### Detail Course Content:

Unit No.	Content In details including Its Sub Topics	Min.Hours
	<b>Part-A Communication</b>	
<b>1</b>	<b>Fundamental Concepts of Communication</b>	<b>10</b>
	<ul style="list-style-type: none"> <li>Meaning and objectives of communication</li> <li>Functions of communication</li> <li>Definitions of communication</li> <li>Process of communication</li> <li>Characteristics of communication</li> <li>Levels of communication</li> <li>Scope of communication</li> <li>Non Verbal Communication</li> </ul>	
<b>2</b>	<b>Role of Language In Communication/Language &amp; Communication Relationship</b>	<b>04</b>
	<ul style="list-style-type: none"> <li>Role of Languages in Communication</li> <li>Characteristics of Language</li> <li>English as a Language of Global Communication</li> </ul>	-
<b>3</b>	<b>Reading Skill</b>	<b>06</b>
	<ul style="list-style-type: none"> <li>Fundamental Concepts of Reading</li> <li>Techniques of Reading: Scanning &amp; Skimming</li> <li>Paraphrasing</li> <li>Reading selected text in the class room, where students will explorer/express their own views/Ideas in Reading, Writing &amp; Speaking.</li> </ul>	-
<b>4</b>	<b>Writing Skills</b>	<b>06</b>
	<b>Informal Letter Writing</b>	-



	<ul style="list-style-type: none"> <li>- Introduction to Informal Letter</li> <li>- Characteristics of Letter</li> <li>- Types of Letter</li> <li>- Official Letters: to the university, college principal, Municipal Corporation etc.</li> </ul> <p><b>Essay Writing</b></p> <ul style="list-style-type: none"> <li>- How to Write Essay(s) effectively?</li> <li>- List of Select Essays for Practice (Technical and Non Technical)</li> </ul>	
<b>5</b>	<p><b>Speaking Skills (Students Forum)</b></p> <ul style="list-style-type: none"> <li>- Foreign Language Club will be Started(Student Forum)</li> <li>- Students will express their views on Current Topics/ Issues in Group / Individually (Technical &amp; Non Technical Topics)</li> </ul> <p><b>Speaking English through Correct Phonetic Transcription</b></p> <ul style="list-style-type: none"> <li>- Basic Concepts in Phonetics</li> <li>- Articulation of sound</li> <li>- Symbols of vowels and consonants</li> <li>- Phonetic transcription of words</li> </ul> <p><b>Conversation Skills</b></p> <ul style="list-style-type: none"> <li>- An Introduction</li> <li>- Situation based conversation</li> <li>- Telephonic conversation</li> </ul>	<b>08</b>
<b>6</b>	<b>Concepts of Grammar</b>	<b>06</b>
	<ul style="list-style-type: none"> <li>• Degree of Comparison</li> <li>• Transformation of Sentences</li> <li>• Interchange of Simple, Complex and Compound sentences</li> </ul>	
<b>7</b>	<p><b>Vocabulary Building</b></p> <ul style="list-style-type: none"> <li>• Suffixes</li> <li>• Prefixes</li> <li>• Confusable</li> </ul>	<b>02</b>
	<b>Part-B Literary Text</b>	
	"One Night @ the Call Centre" by ChetanBhagat- Rupa Publication	<b>18</b>

**Resources:**

- "One Night @ the Call Centre" by ChetanBhagat- Rupa Publication
- Green Andy, Effective Personal Communication Skills For Public Relations, Kogan Page, Limited, 2006
- Basic Business Communication, by Flatly and Lesicar
- Basic Communication Skills for Technology, by Andrea J. Rutherford, by Pearson Education
- From sentence to paragraph, by William J. Kelly and Deborah L. Lawton, by Longman
- Technical Communication : Principles and Practice, by Meenaxi Raman and Sangeeta Sharma, Oxford University Press
- An Intermediate English Grammar, Raymond Murphy, Cambridge University Press
- A High School English Grammar, Wren & Martin, S. Chand Publication
- A Course in Phonetics for Spoken English, Sethi&Dhamija

<b>6</b>	<p><b>Learning Phonetics for Effective Speaking</b></p> <ul style="list-style-type: none"> <li>• Speech Mechanism</li> <li>• Sounds, Vowels &amp; Consonants</li> </ul>	
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	<ul style="list-style-type: none"> <li>Accents, Tone, Syllable, Intonation Patent &amp; Phonetics Transcription</li> </ul>
7	<b>Revision of Grammar</b> Some of the grammatical topics should be revised to strengthen LSRW SKILLS of the students
8	<b>Vocabulary Developing</b> <ul style="list-style-type: none"> <li>Homophones</li> <li>Homonyms</li> <li>One word Substitute</li> </ul>
9	<b>PART – B Literature</b>
	<b>Prose (One Act Play)</b> <ul style="list-style-type: none"> <li>“A Marriage Proposal” by Anton Chekhov</li> </ul> <b>Poetry</b> <ul style="list-style-type: none"> <li>“The Night of Scorpion ” by NissimEzekeil</li> <li>“The Lamb” by William Black</li> <li>“The Pulley ” by George Herbert</li> </ul>

### **Resources:**

- Green Andy, Effective Personal Communication Skills For Public Relations, Kogan Page, Limited, 2006
- Technical Communication, by D.K.Chakradev, Tech-max publication
- Basic Business Communication, by Flatly and Lesicar
- Basic Communication Skills for Technology, by Andrea J. Rutherford, by Pearson Education
- From sentence to paragraph, by William J. Kelly and Deborah L. Lawton, by Longman
- Technical Communication : Principles and Practice, by Meenaxi Raman andSangeeta Sharma, Oxford University Press
- An Intermediate English Grammar, Raymond Murphy, Cambridge University Press
- A High School English Grammar, Wren & Martin, S. Chand Publication
- A Course in Phonetics for Spoken English, Sethi&Dhamija
- Masks: One Act Plays(Ed) D. S. Maini. Macmillan.
- Wing word: A Collection of Poetries.