GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Odd)

Learning Objective & Outcome

M.Sc. (Chemistry) 1st Semester

Subject: Inorganic chemistry-I **Subject Code: CHE - 101**

Learning Objective

1. The students should be able to describe various types of isomerism which can occur in coordination complexes.
2. The students should be able to give the systematic names of simple coordination compounds.
3. The students should be able to explain what is meant by the Spectrochemical Series and list the approximate order of common ligands in the spectrochemical series.
4. The students should be able to explain the terms stepwise stability constant and overall stability constant.
5. The students should be able to give appropriate definitions of the terms inert and labile and state which d-electron configurations are associated with inertness.
6. The students should be able to explain the use of terms Hard and Soft in relation to metal ions and ligands and discuss the stability of complexes in terms of hard and soft interactions.

Learning Outcomes

1. Students should be able to explain atomic structure based on quantum mechanics and explain periodic properties of the atoms.
2. Students should be able to explain selected crystal structures explain what kind of parameters that affect the crystal structure of a compound and perform calculations of the lattice enthalpy of ionic compounds.
3. Students should be able to explain the periodic properties of the different groups of compounds focusing on production methods and application of selected elements and compounds.
4. Students should be able to explain the band structure of solids and determine the electrical properties.
5. Students should be able to explaining the theory of the determination of the electron structure of d-metal complexes and explain the properties of these complexes.
6. Students should be able to explain the structure and bonding in molecules and predict the structure of molecules.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 1st Semester

Subject-Physical Chemistry **Subject Code: CHE - 102**

Learning Objective

1. To understand the concept of quantum mechanics.
2. To understand the concept of thermochemistry.
3. To understand the concept of different laws of thermodynamics.
4. To understand the Debye Huckel Theory of ion-ion interactions.
5. To understand the effect of temperature on reaction rates.
6. To understand the different theories of chemical kinetics.

Learning outcomes

1. Able to solve the problems related to 1D box.
2. Able to explain role of operators in quantum.
3. Able to solve problems of Carnot cycle.
4. Able to solve questions basis on rates of different reactions.
5. Able to explain temperature and pressure effect on mountains.
6. Able to differentiate between different theories of kinetics.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 1st Semester

Subject: Organic Chemistry **Subject Code: CHE - 103**

Learning Objective

1. To understand the difference between conformation and configurations.
2. To understand the principles used in asymmetric synthesis.
3. To understand the stereochemistry of sugar conformations.
4. To understand the mechanisms involved in aliphatic nucleophillic substitution reactions.
5. To understand the topicity of ligands.
6. To understand the concept of aromaticity.

Learning Outcomes

1. Able to recognize either molecule is aromatic,non-aromatic or antiaromatic.
2. Able to describe mechanism of different aliphatic nucleophillic substitution reactions.
3. Able to draw potential energy diagrams.
4. Able to assign R and S to given molecules.
5. Able to do itnerconversion of Fischer to Newmann,Newmann to Sawhorse and vice versa.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 1st Semester

Subject: Statistical Technique & its Applications **Subject Code: CHE - 105**

Learning Objectives

1. Student will able to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.
2. Student will able to apply discrete and continuous probability distributions to various business problems.
3. Student will able to Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
4. Student will Learn non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.
5. Student will able to Compute and interpret the results of Bivariate and Multivariate Regression and Correlation Analysis, for forecasting and also perform ANOVA and F-test. Further, understand both the meaning and applicability of a dummy variable and the assumptions which underline a regression model.
6. Student will be able to perform a multiple regression using computer software

Learning outcomes

1. Students are prepared for working with correlation and regression
2. Students are aware about the concept of hypothesis testing in research.
3. They knows about t-test , chi-square test etc. with various numerical.
4. They also describe the characteristics of population on the basis of sample.
5. Students aware about the concept of sampling method which are practical used.
6. Student will able to Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Odd)

Learning Objectives & Outcomes

M.Sc. (Chemistry) 1st Semester

Subject: Communication Skills **Subject Code: CHE - 106**

Learning Objectives

1. Students will demonstrate competency in research skills related to the use of the field's professional literature and in systematic research design and implementation.
2. Students will demonstrate an understanding of multiple theoretical perspectives and diverse intellectual traditions in Communication.
3. Students will demonstrate competency in human relational interaction.
4. Students will demonstrate competency in the analysis and practice of ethical communication.
5. Students will demonstrate an understanding of the importance of free expression and the responsibilities it entails.
6. Students will demonstrate competency in effective communication with diverse others and an understanding of the impact of culture on communication

Learning outcomes

After completion of the course Students will be able to

1. Demonstrate critical and innovative thinking
2. Display competence in oral, written, and visual communication.
3. Apply communication theories.
4. Show an understanding of opportunities in the field of communication.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objective & Outcomes

M.Sc. (Chemistry) 2nd Semester

Subject: Inorganic Chemistry-II **Subject Code: CHE - 201**

Learning Objective

1. The objective of the course is to appraise the students about the organometallic Chemistry.
2. To learn about the 18 e rule and its violation.
3. To identify the basic concept, terms, and important events in the development of organometallic chemistry.
4. To learn methods, including spectroscopy techniques, used to determine the structure of organometallic complexes and to probe reaction mechanism.
5. To develop an appreciation for the scope, diversity, and application of organometallic chemistry.
6. To learn about the common organometallic reactions and to be able to draw reasonable reaction mechanisms.

Learning Outcomes

After the completion of the course, Students will be able to

1. Have a good overview of the fundamental principles of organotransition-metal chemistry and know how chemical properties are affected by metals and ligands.
2. Be able to use knowledge about structure and bonding issues to understand the stability and reactivity of simple organometallic complexes.
3. Have insight into the use of modern methods to characterize organometallic compounds.
4. Understand fundamental reaction types and mechanisms and how to combine these to understand efficient catalytic processes
5. Know important applications of organometallic homogeneous catalysis in the production of large-scale (bulk) and smaller-scale (fine chemicals) production.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19(Even)

Learning Objective & Outcomes

M.Sc. (Chemistry) 2nd Semester

Subject: Physical Chemistry **Subject Code: CHE - 202**

Learning Objective

1. To learn about the concept of phase and derivation of phase rule.
2. To understand the Phase diagram for one component system and for two completely miscible component systems.
3. To study eutectic systems and calculation of eutectic point.
4. To understand ClausiusClapeyron equation and its applications.
5. To study kinetics of reaction in solution and influence of pressure, ionic strength, solvent on reaction rates.
6. To learn about kinetics of catalytic reactions i.e. acid-base catalysis, heterogeneous catalysis and enzyme catalysis.
7. To evaluate Michaelis's constant for enzyme-substrate binding by Lineweaver-Burk plot.
8. To understand the concept of distribution and thermodynamic probability.
9. To evaluate most probable distribution state for all type of statics i.e. for Maxwell-Boltzmann, Fermi dirac and Bose –Einstein statistics.
10. To understand the concept of partition function, its physical significance and calculation of molar and atomic partition function.
11. To study Angular momentum and space quantization.
12. To evaluate commutation relation between total orbital angular momentum operator and its components.
13. To study the concept of ladder operators and their application to an eigen function of Z- component of angular momentum.
14. To solve Schrodinger wave equation for Rigid rotor and Linear harmonic oscillator and calculate their respective energies.

Learning Outcomes

Upon successful completion of this course, the student will be able to

1. Understand the concept of Phase and Gibb's Phase rule.
2. Study Phase diagram for one component and two component systems and calculate eutectic point, congruent and incongruent melting points.
3. Describe Kinetics of reaction in solution and in catalytic reactions.
4. Calculate Michaelis's constant for enzyme-substrate binding by Lineweaver-Burk plot.
5. Understand the concept of distribution and thermodynamic probability.
6. Evaluate most probable distribution state for all type of statics i.e. for Maxwell-Boltzmann, Fermi dirac and Bose –Einstein statistics.
7. Understand the concept of partition function, its physical significance and calculation of molar and atomic partition function.
8. Solve Schrodinger wave equation for Rigid rotor and Linear harmonic oscillator and calculate their respective energies.
9. Evaluate commutation relation between total orbital angular momentum operator and its components.
10. Study the concept of ladder operators and their application to an eigen function of Z-component of angular momentum.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objective & Outcomes

M.Sc.(Chemistry) 2nd Semester

Subject: Organic Chemistry **Subject Code: CHE - 203**

Learning Objective

1. To understand the activating and directing effects of substituent on ring.
2. To understand the mechanisms of different aromatic nucleophillic substitution reactions.
3. To understand the mechanism of elimination reactions.
4. To understand the addition of Grignard Reagent on carbonyl compounds.
5. To understand the mechanism of different types of rearrangements.

Learning Outcomes

1. Able to recognize effect of different groups on ring.
2. Able to describe mechanism of different reaarangment reactions.
3. Able to practically found different groups present in different organic compounds,
4. Able to explain reactivity of different carbonyl compounds.
5. Able to recognize mechanism of given chemical reactionsGDC Memorial

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objective & Outcomes

M.Sc. (Chemistry) 2nd Semester

Subject: Supramolecular & Photochemistry **Subject Code: CHE - 204**

Learning Objective

1. To Study the principles of supramolecular chemistry and host-guest chemistry using "lock and key" analogy.
2. To determine the nature of supramolecular interactions, cation binding hosts, anion binding, ion pairs receptors, molecular guests in solution, self-assembly
3. To establish molecular recognition as the fundamental of supramolecular chemistry.
4. To study the synthesis and structure of various supramolecular system such as crown ethers, coronads,cryptands, spherands, rotaxanes etc.
5. To explain the cocept of photochemistry and study Beer-Lambert law.
6. To describe and explain photochemical and photophysical processes using Jablonski diagramand their quantum yield expressions.
7. To study the selection rules for electronic transitions and develop quantum mechanical formulation of Franck-Condon principle.

Learning Outcomes

After the completion of the course, Students will be able to

1. Have a good overview of the core concepts in supramolecular chemistry and explain non covalent interactions,molecularrecoginition and self-assembly.
2. Be able to describe some of the applications of supramolecular chemistry including industrial applications and supramolecular catalysis.
3. Understand fundamentals of photochemistry and laws governing it such as Beer-Lambert law.
4. Describe and distinguish between radiative and non- radiative transitions with the help of Jablonski diagram.
5. Understand photophysical kinetics of unimolecular and bimolecular processes and Stern-Volmer

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objective & Outcomes

M.Sc. (Chemistry) 2nd Semester

Subject: Group Theory & Molecular Spectroscopy **Subject Code: CHE - 205**

Learning Objective

1. To learn about the selection rule for infrared-active transitions.
2. To determine the vibrations for a triatomic molecule and identify whether they are infrared-active.
3. To justify the difference in intensity between Stokes and anti-Stokes lines.
4. To learn about symmetry elements and symmetry operations.
5. To learn about the point groups and character table
6. To learn about the Application of group theory i.e. Hybridization.

Learning Outcomes

1. Describe the selection rule for infrared-active transitions.
2. Determine the vibrations for a triatomic molecule and identify whether they are infrared-active.
3. Determine whether the molecular vibrations of a triatomic molecule are Raman active.
4. Explain the difference between Stokes and anti-Stokes lines in a Raman spectrum. 3. Justify the difference in intensity between Stokes and anti-Stokes lines.
5. Draw the Stokes and anti-Stokes lines in a Raman spectrum of a compound when given the energies of the different transitions.
6. Students will be able to analyse the hybridization of given compounds.
7. Students will be able to Draw character table and point groups.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (odd)

Learning Objective & Outcomes

M.Sc.(Chemistry) 3rd Semester

Subject: Organic spectroscopy **Subject Code: CHE - 301**

Learning Objective

1. To determine the structure of organic compounds.
2. To determine the chemical shift of an organic compound.
3. To determine mass spectroscopy of an organic compound.
4. To determineUV and IR spectroscopy of an organic compound.
5. To determine the splitting of signals.

Learning Outcomes

After the completion of the course, Students will be able to

1. Understand the various ways organic chemical structures are depicted.
2. Understand the concept of chemical shift.
3. Understand the effect of structure on chemical shift and coupling constants.
4. Construct splitting diagrams (“trees”) and be able to measure coupling constants an NMR spectrum, or predict coupling constants and trees from a structure.
5. Understand the Fieser-Woodward rules for conjugated dienes and carbonyl compounds.
6. Deduce unknown structures and fully assign an IR spectrum to the structure.
7. Apply mass spectroscopy (exact mass, and fragmentation patterns) to organic structural analysis.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 3rd Semester

Subject: Inorganic spectroscopy **Subject Code: CHE - 302**

Learning Objective

1. To determine the (most important) quantum states of a given material (atoms, small molecules) and can assign these states to energy Terms.
2. To determine which quantum state(s) belong(s) to the ground stat and which state belongs to the excited state.
3. To determine the structure of inorganic and organic compounds by using different types of spectroscopy techniques.
4. To determine the masses of atoms or molecules in which an electrical charge is placed on the molecule and the resulting ions are separated by their mass to charge ratio.
5. To determine the hyperfine parameters, recoil energy, quadrupole splitting and chemical shift / isomer shift by using mossbauer spectroscopy.

Learning Outcomes

After the completion of the course, Students will be able to

1. Understanding the various ways organic chemical structures are depicted.
2. Drawing organic chemical structures from names (and vice-versa)
3. Naming Structures including stereoisomers and geometric isomers
4. Understand the concepts of equivalent and non-equivalent hydrogens.
5. Understand the effect of structure on chemical shift and coupling constants.
6. Construct splitting diagrams (“trees”) and be able to measure coupling constants an NMR spectrum, or predict coupling constants and trees from a structure.
7. Recongnize and know how to test for exchangeable hydrogens in a molecule.
8. Deduce unknown structures and fully assign an IR spectrum to the structure.
9. Apply mass spectroscopy (exact mass, and fragmentation patterns) to organic structural analysis.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 3rd Semester

Subject: Analytical Chemistry **Subject Code: CHE - 303**

Learning Objective

1. To determine methods of error analysis and sampling methods i.e. classification, propagation, distribution, test of significance etc.
2. To study the different types of chromatographic techniques viz. HPLC, Ion-exchange, reverse phase etc.
3. To determine the structure of inorganic and organic compounds by using atomic absorption spectroscopy techniques.
4. To determine the masses of atoms or molecules in which an electrical charge is placed on the molecule and the resulting ions are separated by their mass to charge ratio.
5. To study the methods thermo gravimetric analysis and DTG.
6. To understand the basic concepts elecroanalytical chemistry, voltametry, polarography etc.

Learning Outcomes

After the completion of the course, Students will be able to

1. Understanding the methods of error analysis and sampling methods.
2. Identification of compounds by using chromatographic tecniques
3. Understand the concepts of atomic absorption spectroscopy
4. Understand the effect of structure on chemical shift and coupling constants.
5. Understand the use of electroanalytical techniques and applications.
6. Recongnize relationship between DTA and TGA
7. Deduce unknown structures and fully assign an IR spectrum to the structure.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 3rd Semester

Subject: Nuclear and Radiation Chemistry **Subject Code: CHE - 304**

Learning Objective

1. Objectives of Nuclear Chemistry.
2. Define radioactivity and distinguish between natural and artificial.
3. Explain transmutation.
4. Radioactive emissions: alpha, beta, gamma.
5. Describe what each emission is composed of and how they differ from each other with respect to mass , charge ,penetrating power, and ionizing power.
6. Tell what happens to an element that under goes alpha decay , beta decay, or gamma decay.
7. Discuss the process used to separate the three types of radioactive emissions.
8. Define and explain mass defect.
9. Define binding energy.
10. Explain the basic difference between a fission reaction and a fusion reaction.
11. Explain how a chain reaction works.
12. Discuss the difference between a fission reaction in a nuclear bomb and the one in a nuclear fission reactor.
13. Give the details of a fusion reaction.
14. List the three places fusion occurs: fusion reactors ,the sun , hydrogen bomb.

Learning Outcomes

After the completion of the course, Students will be able to

1. Identify and define various types of nuclear transmutation including fission, fusion and decay reactions.
2. Use proper isotopic notation to write down and balance a nuclear reaction.
3. State and compare the differences and similarities between a nuclear change and a chemical change.
4. Recall and properly use Einstein's theory of relativity equation, $E = mc^2$, to calculate the amount of energy released upon a nuclear change.
5. Define binding energy and mass defect and be able to calculate each for a given nucleus.
6. Understand and explain the concept of ionizing radiation and distinguish between the three different types of radiation.
7. Understand and explain the concept of isotopic stability including the band of stability.
8. Be familiar with the units used to quantify nuclear decay
9. Understand the concept of rate of change and half life in the context of nuclear decay.
10. Understand the basics of nuclear chemistry applications: nuclear power, medical treatment, isotopic labelling, and carbon dating.

GDC Memorial College, Bahal(Bhiwani)

Department of Chemistry

2018-19(Odd)

Learning Objective & Outcomes

M.Sc. (Chemistry) 3rd Semester

Subject: Bioinorganic Chemistry **Subject Code: CHE - 305**

Learning Objectives

1. To understand the different classes of drugs.
2. To understand the role of metal ions in biological system.
3. Come to know about contribution of metal ion in enzymes.
4. To understand the structure of Hb.
5. To understand the role of carriers in muscle contraction.
6. To understand the essential and trace metals.

Learning Outcomes

After the completion of the syllabus, students will be:

1. Able to understand the mechanism of oxygen transport in body.
2. Able to understand positive and negative impacts of drugs.
3. Able to understand various pumps in the body and their significance.
4. Able to know about the phenomenon of muscle contraction.
5. Able to draw the structure of myoglobin

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objectives & Outcomes

M.Sc. (Chemistry) 4th Semester

Subject: Computational Chemistry **Subject Code: CHE- 401**

Learning Objective

1. To determine the algorithm and flowcharts.
2. To convert a flow chart into a program.
3. To determine numerical differentiation and integration.
4. To determine the use of Chem Draw.
5. To determine conformational analysis by molecular mechanics.

Learning Outcomes

After the completion of the course, Students will be able to

1. Students will be able to understand the concept of Chem Draw.
2. Students will be able to Draw the various equations using Chem Draw.
3. Understand elementary structrual features.
4. Understand the FMO's in organic chemistry.
5. Understand the concept of curve fitting.
6. Convert a flow chart into a program.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19(Even)

Learning Objectives & Outcomes

M.Sc. (Chemistry) 4th Semester

Subject: Chemistry of Main Group Elements **Subject Code: CHE - 402**

Learning Objective

1. To understand the Stereochemistry and Bonding in Main Group Compounds
2. To provide information of Some simple substitution reactions of covalently bonded molecules of boron, silicon and nitrogen
3. The specific objective addressed to Hydrogen, alkali and alkaline earth metals: Classification of hydrides - e-deficient, e-precise & e-rich hydrides.
4. To understand the Application of crown ethers in extraction of alkali and alkaline earth metals.
5. The main aim to study Syntheses and characterization of clays, pillared clays and zeolites, application of clays, pillared clays and zeolites with emphasis of catalyses

Learning Outcomes

1. The students will be able to predict stereochemistry and bonding in Main Group Compounds.
2. The students will be able to describe the common methods of substitution reactions.
3. To describe the factors that affect Fullerenes and their compounds, Intercalation compounds of graphite, Synthesis, structure, properties, and applications of carbon nano-tubes, Carbides, fluorocarbons, silanes, silicon halides, silicates,aluminosilicates and silicones..
4. The students will be able to predict Nitrogen activation. Oxidation states of nitrogen and their interconversion. Preparation, structure and bonding of PN compound, Oxyacids of Phosphorous, Phosphazenes.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objective & Outcomes

M.Sc. (Chemistry) 4th Semester

Subject: Organotransition metal chemistry **Subject Code: CHE - 403**

Learning Objective

1. The objective of the course is to appraise the students about the organometallic Chemistry.
2. To learn about the 18 e rule and its violation.
3. To identify the basic concept, terms, and important events in the development of organometallic chemistry.
4. To learn methods, including spectroscopy techniques, used to determine the structure of organometallic complexes and to probe reaction mechanism.
5. To develop an appreciation for the scope, diversity, and application of organometallic chemistry.
6. To learn about the common organometallic reactions and to be able to draw reasonable reaction mechanisms.

Learning Outcomes

After the completion of the course, Students will be able to

1. Have a good overview of the fundamental principles of organotransition-metal chemistry and know how chemical properties are affected by metals and ligands.
2. Be able to use knowledge about structure and bonding issues to understand the stability and reactivity of simple organometallic complexes.
3. Have insight into the use of modern methods to characterize organometallic compounds.
4. Understand fundamental reaction types and mechanisms and how to combine these to understand efficient catalytic processes
5. Know important applications of organometallic homogeneous catalysis in the production of large-scale (bulk) and smaller-scale (fine chemicals) production.

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2018-19 (Even)

Learning Objectives & Outcomes

M.Sc. (Chemistry) 4th Semester

Subject: Solid State Chemistry **Subject Code: CHE - 404**

Learning Objective

1. To understand the roles of lattice vectors, types of symmetry and desymmetry in structures
2. To provide information of different types of defects in metals, electronic structures, colour, conductivity and their properties.
3. To know the process of synthesis of nonmaterial's and their characteristics.
4. The aim Synthesis and advantages of optical fibres over conducting fibres. Diffusion in solids, catalysis and Zone refining of metals.
5. To understand preparation of nanomaterials and their characteristic differences over bulk materials.
6. To understand Principles of Electron Microscopy, Dynamic Light Scattering and characterization of nanomaterials
7. The main aim is to study symmetry elements in crystals, criteria for determining unit cell of lattice, stereographic projections, point groups (illustration of R, R-bar, Rm, R/m, R-bar/m point groups only) etc.

Learning Outcomes

1. The students will be able to predict defects in metallic structures.
2. The students will be able to describe the process of synthesis of nonmaterial's and their characteristics.
3. To describe the preparation of nanomaterials and their characteristic differences over bulk materials.
4. To explain the relationship symmetry elements in crystals, criteria for determining unit cell of lattice, stereographic projections, point groups

GDC Memorial College, Bahal (Bhiwani)

Department of Chemistry

2017-2018 (Even)

Learning Objectives & Outcomes

M.Sc. (Chemistry) 4th Semester

Subject: Medicinal and Environmental Chemistry **Subject Code: CHE - 405**

Learning Objective

1. To understand the roles of metals in the pathological basis for disease and medical treatments through the development of new systems and optimization of existing technologies.
2. To provide qualitative data suggesting that the key differentiating variable in satisfaction might be the strength and quality of therapeutic relationship.
3. The specific objective addressed using a mixture of quantititative and qualitative methods.
4. The aim of dietary nutrients intake by which we obtain the substances to fulfil our bodies need to grow and keep functioning properly.
5. The main aim to study dietary intake will be able to understand that different foods have different nutritional value and their deficiency causing various health problems.

Learning Outcomes

1. The students will be able to predict a drug properties based on its structure.
2. The students will be able to describe the common methods of spectroscopic and chromatographic analysis, and discuss how they can be applied to pharmaceuticals.
3. To describe the factors that affect its absorption, distribution, metabolism and excretion and hence the considerations to be made in drug design.
4. To explain the relationship between drug's chemical structure and its therapeutic properties.
5. The students will be introduced to further chemical principles that are required to understand the action and behaviour of drug compounds .