Academic Year	2021-22

B.P.H.E. Society's
Ahmednagar College, Ahmednagar
Internal Quality Assurance Cell
CO, PO, and PSO Attainment Sheet

Department Name	Chemistry

Program Name	B.Sc.

Program Outcomes(PO)

PO1	A graduate student is expected to be capable of demonstrating comprehensive knowledge and understanding both theoretical and practical knowledge in all disciplines of Chemistry.
PO2	The course curriculum incorporates basics and advanced training in order to make a graduate student capable of expressing the subject through technical writing as well as through oral presentation.
PO3	The course curriculum also includes components that can be helpful to graduate students to develop critical thinking and to design, carry out, record and analyze the results of chemical reactions.
PO4	It is expected that the course curriculum will develop an inquisitive characteristics among the students through appropriate questions, planning and reporting experimental investigation.
PO5	The course curriculum has been designed to provide opportunity to act as team player by contributing in laboratory, field based situation and industry.
PO6	The course curriculum has been designed in such a manner as to enabling a graduate student to become a skilled project manager by acquiring knowledge about chemistry project management, writing
PO7	The course curriculum has been so designed to impart a good working knowledge in understanding and carrying out data analysis, use of library search tools, use of chemical simulation software and related computational work.
PO8	A graduate student requires understanding and developing ethical awareness or reasoning which is adequately provided through the course curriculum.
PO9	The course also helps them to understand the causes of environmental pollution and thereby applying environmental friendly policies instead of environmentally hazard ones in every aspect.
PO10	The course curriculum is designed to inculcate a habit of learning continuously through use of advanced ICT technique and other available e-techniques, e-books and e-journals for personal academic growth.
PO11	The course curriculum is designed in such a way that Chemistry graduate students can handle many Chemistry based software, decent instruments and advanced technologies to synthesize, characterize and analyze the chemical compounds very skillfully.
PO12	t Chemistry graduates are expected to be more aware about finding green chemical reaction routes for sustainable development. They are expected to maintain good laboratory practices and safety.

Program Specific Outcome(PSO)

PSO1	The chemistry graduates are expected to gain knowledge of the fundamental concepts of chemistry and applied chemistry through theory and practical. These fundamental concepts would be reflected in the latest understanding of the field to keep continues its progression.
PSO2	Chemistry graduates are expected to achieve critical thinking ability to design, carry out, record and analyze the results of chemical reactions. They can have that much potential and confidence that they can overcome many difficulties with the help of their sharp scientific knowledge and logical approaches.
PSO3	Graduates are expected to be well trained with problem-solving philosophical approaches that are pertinent across the disciplines.

Class	F.Y.B.Sc
Subject Code	CH-201
Subject Name	Inorganic Chemistry
Semester No	II
Teacher Name	Mrs.Tikone S.G.
Course Outcomes	
CO1	Students should learn quantum mechanical approach to atomic structure,
CO2	Student should learn Periodicity of elements
CO3	Student shoule learn various theories for chemical bonding
CO4	
CO5	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	3	1	1	2	3	1	2	3	1	1	1	1	3
CO2	2	2	2	2	1	1	2	3	3	3	1	2	3	2	2
CO3	2	3	3	3	1	2	3	1	2	2	3	2	2	2	1
CO4	3	3	3		2	2	2	1	1	1	2	2	2	2	2
CO5															
Average	2.25	2.25	2.75	2.00	1.25	1.75	2.50	1.50	2.00	2.25	1.75	1.75	2.00	1.75	2.00

Class	FY BSc
Subject Code	CH-202
Subject Name	Analytical Chemistry
Semester No	III
Teacher Name	Dr. A.K. Kulkarni
Course Outcomes	
CO1	Students should understood the fundamentals of analytical chemistry, Basics of sampling, applications
CO2	To study preparations of solutions, determine units of solutions, stichiometeric calculations in analytical Chemistry
CO3	To study type, elements, functional group of organic compounds, mixture separation, and to study methods for the purifications of organic compounds
CO4	To study principles techniques and applications of adsorption, TLC, Column, SFC, Gas, HPLC, Chromatographic techniques

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	3	2	3	1	3	3	2	1	1	1	1	1	3
CO2	2	1	2	1	2	1	2	1	1	3	2	2	3	2	3
CO3	3	2	1	1	1	2	3	3	1	3	2	3	1	3	2
CO4	1	3	2	3	2	3	1	2	3	2	1	2	2	2	1
CO5	1	2	0	1	2	3	1	0	1	2	3	0	2	1	1
Average	1.60	2.00	1.60	1.60	2.00	2.00	2.00	1.80	1.60	2.20	1.80	1.60	1.80	1.80	2.00

CO5	Understand concept of pH, EMF calculations, Instrumentation of pH meter, applications of pH meter.

Class	FYBSC
Subject Code	CH- 203
Subject Name	Chemistry Practical –II
Semester No	II
Teacher Name	Dr. Kawade V.A.
Course Outcomes	
CO1	Student should know the Inorganic Estimations using volumetric analysis
CO2	Student should know the Synthesis of Inorganic compounds
CO3	Student should know the Analysis of commercial products
CO4	Student should know the procedure of Purification of organic compounds
CO5	Student should able to do Preparations and mechanism of reactions involved

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	3	1	3	1	3	1	1	1	1	1	1	2	2	3
CO2	2	1	1	2	3	1	2	3	2	2	2	2	1	3	1
CO3	2	2	2	1	1	2	3	2	1	3	2	2	2	2	3
CO4	3	2	3	2	2	1	1	2	2	2	2	3	1	2	2
CO5	2	1	2	3	1	2	3	3	2	1	3	2	3	1	3
Average	2.00	1.80	1.80	2.20	1.60	1.80	2.00	2.20	1.60	1.80	2.00	2.00	1.80	2.00	2.40

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Class	S. Y. B. Sc.
Subject Code	CH- 301
Subject Name	Physical and Analytical chemistry
Semester No	III
Teacher Name	Ghumare G. N.
Course Outcomes	
CO1	To understand the rate laws, rate equations of different types of homogeneous reactions. Reaction thermodynamics.
CO2	To study the factors affecting the rate of reaction.
CO3	To understand the concept of surface chemistry and applications of adsorption phenomenon.
CO4	To learn the types and minimization of errors in quantitative analysis.
CO5	To study the non-instrumental volumetric analysis.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	1	3	1	1	0	2	3	3	1	1
CO2	3	1	1	2	3	3	2	3	2	1	2	3	2	3	2
CO3	1	2	2	3	2	2	3	2	3	3	1	1	2	1	3
CO4	0	1	3	1	3	2	1	2	1	2	3	2	3	2	0
CO5	2	3	1	2	1	3	2	3	2	2	2	2	0	1	2
Average	1.60	1.60	1.80	2.00	2.20	2.20	2.20	2.20	1.80	1.60	2.00	2.20	2.00	1.60	1.60

Class	S.Y.B.Sc
Subject Code	CH-302
Subject Name	Inorganic and Organic Chemistry
Semester No	III
Teacher Name	S.A.Gunjal and S.G.Tikone
Course Outcomes	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	3	1	2	3	1	2	3	1	2	3	12	3	3
CO2	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1
CO3	2	1	2	2	2	2	2	1	1	3	3	3	3	3	3
CO4	2	3	3	3	3	3	2	3	2	3	2	3	2	3	2

	CO1	To explain and apply LCAO principle for the formation of MO's from AO's.	CO5	3	3	3	2	2	2	3	3	2	2	3	2	3	2	3
	CO2	To explain Werner's theory of coordination compounds.	Average	2.20	2.20	2.40	2.20	2.20	2.20	2.20	2.20	1.80	2.40	2.40	2.40	4.60	2.60	2.40
	CO3	To correlate reagent and reactions.																
	CO4	Give synthesis of expected alkyl / aryl halides.																
	CO5	Write / discuss the mechanism of various reactions involved.																

Class	S.Y. BSC	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CH -303		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Chemistry prctical	CO1	1	2	2	3	2	2	3	2	3	3	1	1	2	1	3
Semester No	III	CO2	1	1	3	1	3	2	1	2	1	2	3	2	3	2	0
Teacher Name	Dr. A.K. Kulkarni	CO3	2	1	1	2	1	3	2	3	2	2	2	1	0	1	2
Course Outcomes		CO4	1	3	2	1	3	2	2	3	1	2	1	2	3	2	2
	CO1 Students should able to understand and perform and interpret graph of first /second order kinetics	CO5	2	2	3	2	2	1	0	2	1	1	2	3	2	3	1
	CO2 Students should able to learn experimentally heat of reaction phenol water system in the labouratory	Average	1.2	2.2	2.2	1.8	2.2	2.4	1.6	2.4	1.8	2	1.8	2	2	1.6	2
	CO3 Student perform separation of binary mixture from given organic compounds and determine elements and physical constant																
	CO4 To study and apply th principle of inorganic qualitative analysis for binary mixture																
	CO5 Student should analyse Na2CO3 from soda, aspirin from APC tablets, complexometric titrations																

Class	S. Y. B. Sc.	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CH- 401		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Subject Name		Physical and Analytical chemistry	CO1	1	2	2	3	2	2	3	2	3	3	1	1	2	1	3
Semester No		IV	CO2	0	1	3	1	3	2	1	2	1	2	3	2	3	2	0
Teacher Name		Ghumare G. N.	CO3	2	3	1	2	1	3	2	3	2	2	2	2	0	1	2
Course Outcomes			CO4	1	3	2	1	3	2	2	3	2	2	1	2	3	1	2
	CO1	To understand the phase equilibrium.	CO5	2	2	3	2	2	3	0	2	1	1	2	3	2	3	3
	CO2	To study the solutions of liquids in liquids, Raoults law and Henrys law. Vapour pressure- composition diagrams, Solubility of partially miscible liquids.	Average	1.20	2.20	2.20	1.80	2.20	2.40	1.60	2.40	1.80	2.00	1.80	2.00	2.00	1.60	2.00
	CO3	To understand the concept of electrolytic conductance and its applications.																
	CO4	To learn the conductometry technique and its applications.																
	CO5	To understand the principle of column chromatography and its applications.																

Class		S.Y.B.Sc	Program Outcomes													
Subject Code		CH-402	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Inorganic and Organic Chemistry	3	2	3	1	3	2	3	1	1	3	2	3	2	3	2
Semester No		IV	2	3	2	2	2	1	2	2	2	2	2	2	2	2	3
Teacher Name		S.A.Gunjal and S. G. Tikone	2	3	3	2	2	3	2	2	2	1	2	2	2	3	3
Course Outcomes			3	3	2	2	3	2	2	2	3	2	2	2	3	3	3
	CO1	student will able to Identify and draw the structures aldehydes and ketones from their names or from structure name can be assigned	3	3	2	3	3	2	3	1	3	3	3	2	3	3	3
	CO2	student will able to To correlate reagent and reactions of aldehydes and ketones															
	CO3	Correlate no of unpaired electrons and orbitals used for bonding.															
	CO4	student will able to Perform inter conversion of functional groups.															

	CO5	Calculate field stabilization energy and magnetic moment for various complexes.

Class		S.Y. BSC
Subject Code		CH -403
Subject Name		Chemistry prctical
Semester No		IV
Teacher Name		Dr. A.K. Kulkarni
Course Outcomes		
	CO1	Students should able to understand and perform and interpret graph of first /second order kinetics
	CO2	Students should able to learn experimentally heat of reaction phenol water system in the labouratory
	CO3	Student perform separation of binary mixture from given organic compounds and determine elements and physical constant
	CO4	To study and apply th principle of inorganic qualitative analysis for binary mixture
	CO5	Student should analyse Na2CO3 from soda, aspirin from APC tablets, complexometric titrations

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	3	2	1	1	2	2	2	2	2	2	2	2	3	2
CO2	2	3	2	2	2	1	2	2	2	2	2	2	2	2	3
CO3	2	1	1	2	2	3	2	2	2	2	2	2	2	3	2
CO4	1	3	2	1	2	2	2	3	3	2	2	2	3	3	3
CO5	3	3	2	3	3	2	3	2	3	3	3	2	3	3	3
Average	2.2	3	2.2	2	2.2	2	2.2	2.2	2.4	2.2	2.2	2	2.4	2.8	2.6

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Class		T. Y. B. Sc.
Subject Code		CH-501
Subject Name		Physical Chemistry- I
Semester No		V
Teacher Name		Ghumare G.N.
Course Outcomes		
	CO1	To study the fundamentals of quantum chemistry.
	CO2	To learn in detail about investigation of molecular structure, Impotant equations, applications of polarizability and dipole moment.
	CO3	To study the microwave, infrared and Raman spectroscopy.
	CO4	To study the fundamental laws of photochemistry.
	CO5	To understand the concept of quantum yield. Phenomenon of fluorescence and phosphorescence. Types of photochemical reactions.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	3	3	3	1	3	3	3	3	3	3	3	3	3
CO2	1	3	3	2	2	2	2	2	3	2	1	2	2	2	2
CO3	3	3	1	2	1	2	3	3	3	2	3	1	3	3	3
CO4	3	1	3	2	2	2	3	3	2	2	3	2	2	2	2
CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Average	2.60	2.20	2.60	2.40	2.20	2.00	2.80	2.80	2.80	2.40	2.60	2.20	2.60	2.60	2.60

Class		T. Y. B. Sc.
Subject Code		CH-502
Subject Name		Analytical Chemistry
Semester No		V
Teacher Name		Dr. A.K. Kulkarni
Course Outcomes		

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	2	2	2	2	2	3	2	3	2	2	2	2
CO3	3	3	2	2	1	2	3	3	3	2	3	1	3	3	3
CO4	3	3	3	2	2	2	3	3	2	2	3	2	2	2	2

	CO1	Recall the basic concepts and terminologies learned in topics like ionic equilibrium (concepts like common ion effect, α, pka, Ksp).	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Learn and explain the newer concepts (like homogeneous precipitation, post precipitation, half wave potential, spectrophotometric titrations etc.) in Gravimetric analysis, polarography, and spectrophotometry by extending the basic concepts learnt previously.	Average	3.00	3.00	2.80	2.40	2.20	2.40	2.80	2.80	2.80	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Compare the different thermogravimetric techniques by relating the changes measured / observed in physical characteristics w. r. t. temperature changes																
	CO4	To study inorganic qualitative analysis of binary mixture with borate and phosphate removal scheme																
	CO5	spectrophotometry, and define basic laws (like Beer's law).																

Class		T. Y. B. Sc.	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-503		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Physical Chemistry Practical	CO1	3	1	2	3	1	2	2	3	2	1	3	2	1	3	3
Semester No		V	CO2	2	3	3	3	2	2	2	2	2	2	2	3	2	3	3
Teacher Name		Ghumare G. N.	CO3	1	1	2	1	3	1	3	2	3	1	2	3	2	2	2
Course Outcomes			CO4	1	2	2	1	2	3	2	1	2	1	1	3	2	1	3
	CO1	To understand the refractometry technique and its applications , how to determine the molecular refraction of liquids	CO5	1	2	0	2	3	3	1	3	3	2	2	2	2	3	2
	CO2	To learn the spectrophotometry technique and its applications to estimate the amount of Cu(II) and Fe(II) ions in the given sample	Average	1.60	1.80	1.80	2.00	2.20	2.20	2.00	2.20	2.40	1.40	2.00	2.60	1.80	2.40	2.60

	CO3	To study the conductometry technique and its applications , to determine the concentration of sample solution and verification of onsagar equation
	CO4	To know how determine the molecular weight of polymer by viscocity method
	CO5	The analysis ofRiboflavin from vitamin capsul

Class	TYBSC	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CH-504		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Inorganic Chemistry-I	CO1	2	2	1	1	1	1	2	1	0	1	0	0	2	2	1
Semester No	V	CO2	1	2	2	2	1	2	2	3	1	1	1	1	3	1	2
Teacher Name	Dr. Kawade V.A.	CO3	2	2	2	3	1	2	1	3	2	2	1	0	2	3	1
Course Outcomes		CO4	3	2	2	2	2	1	1	2	1	1	1	1	1	2	2
CO1	To understand the MOT of complexes, Charge transfer spectra,.	CO5	3	2	2	2	2	1	1	2	1	1	0	1	2	3	1
CO2	To understand the classification of inorganic reaction and its mechanism, trans effect.	Average	2.20	2.00	1.80	2.00	1.40	1.40	1.40	2.20	1.00	1.20	0.60	0.60	2.00	2.20	1.40
CO3	To understand the chemistry of d-block element and its trends in properties.																
CO4	To understand the chemistry of meaning of term f-block elements, Inner transition elements, lanthanides, actinides																
CO5	To understand the meaning of metal & semiconductor, and difference between metal, semiconductor and insulator																

Class	T.Y.B.Sc	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CH-505		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Industrial Chemistry	CO1	2	2	1	1	1	1	2	3	0	1	0	0	2	2	1
Semester No	V	CO2	3	2	2	2	1	2	2	3	1	1	1	1	3	1	2
Teacher Name	Ms. S. A. Balid	CO3	2	2	2	3	1	2	1	3	2	2	1	0	2	3	1

Course Outcomes															
			CO4	3	2	2	2	2	1	1	2	1	1	1	1	2	2	2
	CO1	To understand the basic requirement of chemical industry including processes and different unit	CO5	3	2	2	2	1	1	1	2	1	1	0	1	2	3	2
	CO2	To study the manufacturing process of Ammonia , Nitric acid and Sulphuric acid	Average	2.60	2.00	1.80	2.00	1.20	1.40	1.40	2.60	1.00	1.20	0.60	0.60	2.20	2.20	1.60
	CO3	To study the details about Sugar Industry and Fermentation Industry and manufacture of fermented product																
	CO4	To understand Soap and detergent industry including their charecteristics, preparation and uses.																
	CO5	To study the Dyes and and their reaction and Pigments																

Class		T.Y.B.Sc	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-506		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Inorganic chemistry Practical	CO1	3	1	2	3	1	2	2	3	2	1	3	2	1	3	3
Semester No		V	CO2	2	3	3	3	2	2	2	2	2	2	2	3	2	3	3
Teacher Name		Mrs. Tikone S.G.	CO3	2	1	2	2	3	1	3	2	3	1	2	3	2	2	2
Course Outcomes			CO4	1	2	2	1	2	3	2	1	2	3	1	3	2	1	3
	CO1	Quantitative analysis using gravimetric principles	CO5	1	2	1	2	3	3	1	3	3	2	2	2	2	3	2
	CO2	Synthesis of metal complexes ,identification of metal and ligand using spot test	Average	1.80	1.80	2.00	2.20	2.20	2.20	2.00	2.20	2.40	1.80	2.00	2.60	1.80	2.40	2.60
	CO3	Principle and application of inorganic qualitative analysis																
	CO4	in order to avoid reagent and solvent loss spot test are important																
	CO5	seperation and identification of elements usinh particular reagenr.																

Class	T.Y.BSc Chemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CH 507		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Subject Name		Organic Chemistry-I	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		V	CO2	3	3	3	2	2	2	2	2	3	2	3	2	2	2	2
Teacher Name		Kasab V. M.	CO3	3	3	2	2	2	2	3	3	3	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	2	2	2	3	3	3	2	3	2	2	2	2
	CO1	Students will understand Aromaticity and aromatic compounds their properties and chemical reactions.	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Students will understand Active methylene containing compounds their properties, chemical reactions and their applications in organic chemistry.	Average	3.00	3.00	2.80	2.40	2.40	2.40	2.80	2.80	3.00	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Students will understand Organic Chemical Rearrangements to make them familiar with reaction mechanisms involved in them.																
	CO4	Students will understand Elimination reactions and chemistry involved in getting Carbon Carbon double bond. Will get familiar with different mechanisms involved in Elimination reactions and practicing writing mechanisms in elimination reactions																
	CO5	Students will practice various Organic reaction mechanisms in above mentioned reactions students will be ready for various entrance examinations by solving MCQ's.																

Class	T.Y.BSc	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CH-508		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Chemistry of Biomolecules	CO1	3	3	3	2	2	2	2	3	1	1	2	2	2	3	3
Semester No	V	CO2	3	3	3	2	2	2	2	2	3	2	3	2	2	2	2
Teacher Name	Ms. Sucheta Jadhav	CO3	3	2	2	2	2	2	3	3	3	2	3	1	3	3	3
Course Outcomes		CO4	2	1	3	2	1	2	3	3	3	2	3	2	2	2	2

	CO1	Introduction to molecular logic of life: The student will understand Cell types, Biological composition and organization of cell membrane, structure and function of various cell organelles of plant and animal cell. Concepts of biomolecules, Bonds that link monomeric units to form macromolecule	CO5	2	1	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Carbohydrates and Lipids: The student will understand the types of carbohydrates and lipids, their biochemical significance in living organisms, structure of carbohydrates and lipids, reactions of carbohydrates with Glucose as example. Properties of carbohydrate and lipids	Average	2.60	2.00	2.80	2.20	2.00	2.20	2.60	2.80	2.60	2.00	2.80	2.00	2.40	2.60	2.60
	CO3	Amino acids and proteins: The student will understand the structure and types of amino acids. Reactions of amino acids. Properties of amino acids. Peptide bond formation. Types of proteins. Structural features in proteins. Effect of pH on structure of amino acid, Determination of N and C terminus of peptide chain.																
	CO4	Enzymes: The student know the classes of enzymes with subclasses and examples. Enzyme specificity, Equations of enzyme kinetics Km and its significance, features of various types of enzyme inhibitions, industrial applications of enzymes																
	CO5	Hormones: Basic concepts of Endocrinology. Types of Endocrine glands and their hormones. Biochemical nature of hormones. Mechanism of action of lipophilic and hydrophilic hormones.																

Class	T.Y.BSc Chemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CH 509		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Organic Chemistry Practical-I	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Semester No		V	CO2	3	3	3	2	2	2	2	2	3	2	3	2	2	2	2
Teacher Name		Kasab V. M.	CO3	3	3	2	2	1	2	3	3	3	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	2	2	2	3	3	2	2	3	2	2	2	2
	CO1	The students will be able to perform Organic Qualitative analysis.	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Preparations of various Organic compound will make the students gain the necessary knowledge and skills to get desired/ expected organic compound with rather ease	Average	3.00	3.00	2.80	2.40	2.20	2.40	2.80	2.80	2.80	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Students will be able to achieve necessary knowledge/skills for getting utmost purity for their products by using various purification techniques.																
	CO4	Students will understand how to monitor their reaction and products by using techniques like TLC																
	CO5	Students will be able to develop a rational approach to tackle issues that may come across chemical laboratory																

Class		T.Y.BSc Chemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-510(B)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Polymer Chemistry	CO1	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3
Semester No		V	CO2	3	3	3	3	2	2	2	2	3	2	3	2	2	2	2
Teacher Name		S. B. Shinde	CO3	3	3	2	2	2	2	3	3	3	2	3	1	3	3	3
Course Outcomes			CO4	2	3	3	2	2	2	3	3	2	2	3	2	2	2	2
	CO1	Understand basic concepts of Polymer chemistry	CO5	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3
	CO2	Understand principles and applications of Polymerization reactions	Average	2.80	2.80	2.80	2.40	2.20	2.40	2.80	2.80	2.80	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Apply various techniques to know molecular weights of polymers																
	CO4	Students will know various commercial polymers and their applications																

	CO5	Students will know various commercial polymers and their applications

Class	T.Y.BSc Chemistry
Subject Code	CH-511(A)
Subject Name	Environmental Chemistry
Semester No	V
Teacher Name	Mrs A. K. Wadhawa

Course Outcomes

	CO1	Understand basic concepts of Environmental Chemistry
	CO2	Understand principles and applications and scope of Environmental Chemistry
	CO3	Apply various techniques to know hydrosphere and water pollution
	CO4	Students will know various analytical techniques in water analysis
	CO5	Students will know water pollution and its treatment method

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	3	2	3	3	3	3	3	3	3	3
CO2	2	1	3	3	2	2	2	2	3	2	3	2	2	2	2
CO3	3	3	2	2	1	2	3	3	3	2	3	1	3	3	3
CO4	2	3	1	2	2	2	3	3	2	2	3	2	2	2	2
CO5	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3
Average	2.60	2.40	2.40	2.40	2.00	2.40	2.60	2.80	2.80	2.40	3.00	2.20	2.60	2.60	2.60

Class	T. Y. B. Sc.
Subject Code	CH-601
Subject Name	Physical Chemistry-II
Semester No	VI
Teacher Name	Ghumare G.N.

Course Outcomes

	CO1	To learn the construction of electrochemical cells. Nernst equation for E.M.F. of electrodes and electrochemical cells.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	1	3	3	2	3	3	3	3	3	3	3	3
CO2	2	2	3	3	2	2	2	2	3	2	3	2	2	2	2
CO3	3	3	1	2	1	2	3	3	3	2	3	1	3	3	3
CO4	1	3	1	2	2	2	3	3	2	2	3	2	2	2	2
CO5	3	3	3	3	2	1	3	3	3	3	3	3	3	3	3

	CO2	To understand the construction and working of chemical cells and concentration cells. Applications of e.m.f. measurements.	Average	2.40	2.60	2.20	2.20	2.00	2.00	2.60	2.80	2.80	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	To study the laws of crystallography and crystal structure analysis.																
	CO4	To study the phenomenon of radioactivity and kinetics of radioactive decay.																
	CO5	To study the applications of radioisotopes and measurement of radioactivity.																

Class	T. Y. B. Sc.	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CH-602		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Physical Chemistry III	CO1	2	2	2	2	1	3	1	2	3	3	1	2	2	2	1
Semester No	VI	CO2	2	2	1	3	1	2	3	3	1	2	2	1	3	1	2
Teacher Name	Dr. Dongare R. K	CO3	2	2	2	2	2	1	2	2	2	2	2	2	2	3	1
Course Outcomes		CO4	1	1	3	2	2	1	3	2	2	1	3	3	2	2	2
CO1	Remember basic concepts of colligative propertiesand kinetics.	CO5	0	2	2	1	2	2	2	1	2	2	2	3	2	3	2
CO2	Understand principles and applications Electronic structure and macroscopic properties	Average	1.40	1.80	2.00	2.00	1.60	1.80	2.20	2.00	2.00	2.00	2.00	2.20	2.20	2.20	1.60
CO3	Apply various techniques for gaining insights Kinetics of Reactions in the Solid State																
CO4	Students should be able to analyze the rates of various chemical reactions both theoretically and experimentally and also observe the effect of catalyst and determine energies of activation of such reactions																
CO5	Evaluate Molecular weights of polymers: Average Molecular weight, Number Average & Weight Average Molecular weight, degree of polymers																

Class		T. Y. B. Sc.	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-603		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Physical Chemistry Practical	CO1	2	2	3	2	1	3	1	3	3	3	1	2	2	2	1
Semester No		VI	CO2	2	1	1	3	2	2	3	3	1	2	2	1	3	1	2
Teacher Name		Ghumare G. N.	CO3	2	2	2	2	2	1	2	2	2	2	2	2	2	3	1
Course Outcomes			CO4	1	1	3	2	2	1	2	2	2	1	3	3	2	2	2
	CO1	To determine the dissociation constant and PKa value of weak acid, formal redox potential and composition of complexes by potentiometric titrations	CO5	1	2	2	2	2	2	2	1	2	2	2	3	2	3	2
	CO2	To learn pH metry technique and its applications, to determine degree of hydrolysis of aniline hydrochloride,dissociation constant of weak acid.	Average	1.60	1.60	2.20	2.20	1.80	1.80	2.00	2.20	2.00	2.00	2.00	2.20	2.20	2.20	1.60
	CO3	To measure the radioactivity of radioactive material by G.M. counter.																
	CO4	To study the colligative properties of electrolyte solutions and its applications																
	CO5	To know how to determine the concentration of sulphate and chloride ions by turbidometry technique																

Class		TYBSC	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-604		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Inorganic Chemistry –II	CO1	2	2	1	1	1	1	2	3	0	1	0	0	2	2	1
Semester No		VI	CO2	3	2	2	2	1	2	2	3	1	1	1	1	3	1	2
Teacher Name		Dr. Kawade V.A.	CO3	2	2	2	3	1	2	1	3	2	2	1	0	2	3	1
Course Outcomes			CO4	3	2	2	2	2	1	1	2	1	1	1	1	2	2	2
	CO1	To understand the organ metallic compound, its applications, M-C bond formation.	CO5	3	2	2	2	1	1	1	2	1	1	0	1	2	3	2

	CO2	To understand the homogeneous and heterogeneous catalysis reactions, Types of catalysis, differences between homogeneous and heterogeneous catalysis.	Average	2.60	2.00	1.80	2.00	1.20	1.40	1.40	2.60	1.00	1.20	0.60	0.60	2.20	2.20	1.60
	CO3	To understand role of metal in bioinorganic chemistry, different types of metalloprotein.																
	CO4	To understand different types of polymers, comparison between the inorganic and organic polymers.																
	CO5	To understand the ionic liquid Inorganic solids/ionic liquids and its application in reactions.																

Class		T.Y.B.Sc	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-605		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Inorganic chemistry III	CO1	2	3	1	1	3	1	2	3	0	1	0	0	2	2	2
Semester No		VI	CO2	3	2	2	2	1	2	2	3	1	1	2	1	3	1	2
Teacher Name		Mrs.Tikone S.G.	CO3	2	2	3	3	2	2	1	3	2	2	1	0	2	3	2
Course Outcomes			CO4	2	2	2	3	2	1	2	2	1	1	1	1	2	2	2
	CO1	different theories of acids and bases	CO5	3	2	2	2	1	1	1	2	1	1	0	1	2	3	2
	CO2	History of zeolite and applications of zeolites.	Average	2.40	2.20	2.00	2.20	1.80	1.40	1.60	2.60	1.00	1.20	0.80	0.60	2.20	2.20	2.00
	CO3	Nanomaterial synthesis and applications																
	CO4	to know the effect of toxic chemicals																
	CO5	know thw crystal structure of ionic solid																

Class		T.Y.B.Sc	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-606		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Inorganic Chemistry Practical	CO1	2	2	1	2	1	3	1	2	3	3	1	2	2	2	1
Semester No		VI	CO2	2	2	2	3	1	2	3	3	1	2	1	1	3	1	2

Teacher Name		Mrs.Tikone S.G.	CO3	2	2	2	2	2	1	2	2	2	2	2	2	2	3	1
Course Outcomes			CO4	3	1	3	2	1	1	3	2	1	1	3	3	2	2	2
	CO1	Quantitative estimation using volumetric analysis	CO5	3	2	2	2	1	1	1	2	1	1	0	1	2	3	2
	CO2	detection of element by using flame photometer.	Average	2.40	1.80	2.00	2.20	1.20	1.60	2.00	2.20	1.60	1.80	1.40	1.80	2.20	2.20	1.60
	CO3	solution preparation in ppm																
	CO4	nanomaterial synthesis and applications																
	CO5	student should understand column chromatography																

Class		T.Y.B.Sc	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-607		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Organic Chemistry II	CO1	3	2	2	2	1	3	2	2	3	3	1	2	2	2	1
Semester No		VI	CO2	2	2	2	3	1	2	3	3	1	2	1	1	3	1	2
Teacher Name		Dr. S. B. Kasar	CO3	2	2	2	2	2	1	2	2	2	2	2	2	2	3	1
Course Outcomes			CO4	3	2	3	2	2	1	3	2	2	2	3	3	2	2	2
	CO1	This course typically focus on equipping students with basic knowledge and skills in the field of spectroscopy	CO5	3	2	2	2	2	1	1	2	1	1	0	1	2	3	2
	CO2	Students should gain basic understanding of U. V. , I. R. and PMR	Average	2.60	2.00	2.20	2.20	1.60	1.60	2.20	2.20	1.80	2.00	1.40	1.80	2.20	2.20	1.60
	CO3	students should be deduce functional groups, connectivity, and stereochemistry																
	CO4	students should be able to solve combined problems on U.V. I. R. and NMR data																
	CO5	students should be able to predict basic values in U. V. , I. R. and PMR																

Class		T.Y.BSc Chemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH 608		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Organic Chemistry -III	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Semester No		VI	CO2	3	2	3	2	2	2	2	2	3	2	3	2	2	2	2
Teacher Name		Kasab V. M.	CO3	3	3	2	2	1	2	3	2	3	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	2	2	2	3	3	2	2	3	2	2	2	2
	CO1	Students will understand concept of Retrosynthetic analysis and different terms involved. Practice retrosynthetic analysis of some simple compounds.	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Students will understand few named reactions. Practice mechanisms for them, understand various parameters and conditions required for pushing the reactions towards facile pathways	Average	3.00	2.80	2.80	2.40	2.20	2.40	2.80	2.60	2.80	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Students will understand various chemical reagents there usage, their applications and proper methods for handling them. They will be able to solve/ practice some reaction mechanisms on paper																
	CO4	To introduce students various Natural products, ways to classify them, and isolate them. Planning for synthesis of few simple natural products																
	CO5	Students will practice various Organic reaction mechanisms in above mentioned reactions students will be ready for various entrance examinations by solving MCQ's.																

Class		T.Y.BSc Chemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH 609		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Organic Chemistry Practical-II	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		VI	CO2	3	2	3	2	2	2	2	2	3	2	3	2	2	2	2
Teacher Name		Kasab V. M.	CO3	3	3	2	3	1	2	3	2	2	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	2	2	2	3	3	2	2	3	2	2	2	2
	CO1	Students will be able to Interpret IR and PMR Spectra	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

	CO2	Students will be able to understand Quantitative analysis of Organic Compounds. The students will be able to do find their way forward to quantify using appropriate techniques and do the necessary computations to get the results	Average	3.00	2.80	2.80	2.60	2.20	2.40	2.80	2.60	2.60	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Students will be able to understand various Organic Extractions methods for isolation of various natural products																
	CO4	Students will be able to understand concept of column chromatography and will be able to purify some mixtures of organic compounds.																
	CO5	Students will be able to develop a rational approach to tackle issues that may come across chemical laboratory																

Class		T.Y.BSc Chemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CH-610(A)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		Chemistry of Soil and Agrochemicals	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		VI	CO2	3	2	3	2	2	2	2	2	3	2	3	2	2	2	2
Teacher Name		Mrs A. K. Wadhawa	CO3	3	3	2	3	1	2	3	2	2	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	2	2	2	3	3	2	2	3	2	2	2	2
	CO1	Know the different components and properties of soil.	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Know classification of soil on the basis of pH.	Average	3.00	2.80	2.80	2.60	2.20	2.40	2.80	2.60	2.60	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	Identify the problematic soil and recommend method for their reclamation.																
	CO4	Know the different plant nutrients required for plants and their functions.																
	CO5	Know the role of various fertilizers and manures required for plant growth.																

Class	T.Y.B.Sc	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CH-611(A)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Subject Name		Analytical chemistry	CO1	2	2	1	1	1	1	2	3	0	1	0	0	2	2	1
Semester No		VI	CO2	3	2	2	2	1	2	2	3	1	1	1	1	3	1	2
Teacher Name		Mr.Kadamdhad Kunal J.	CO3	2	2	2	3	1	2	1	3	2	2	1	0	2	3	1
Course Outcomes			CO4	3	2	2	2	2	1	1	2	1	1	1	1	2	2	2
	CO1	To understand the principle of solvent extraction and their theoretical concepts	CO5	3	2	2	2	1	1	1	2	1	1	0	1	2	3	2
	CO2	To understand and study the different techniques of chromatography	Average	2.60	2.00	1.80	2.00	1.20	1.40	1.40	2.60	1.00	1.20	0.60	0.60	2.20	2.20	1.60
	CO3	To study liquid and gas chromatography in detail																
	CO4	To study atomic adsorption chromatography in detail																
	CO5	To study flame emmision spectrosopy																

CO-PO Mapping

			Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		1	CH-101	1.60	1.60	2.00	1.20	1.60	7.60	2.00	1.40	1.80	1.60	2.40	2.00
		2	CH-102	1.60	1.60	2.60	1.20	1.60	2.20	2.00	1.80	2.20	1.80	2.40	2.20
		3	CH- 103	1.60	2.00	2.00	2.20	1.80	1.60	1.80	1.80	1.60	1.80	1.80	1.60
		4	CH-201	2.25	2.25	2.75	2.00	1.25	1.75	2.50	1.50	2.00	2.25	1.75	1.75
		5	CH-202	1.60	2.00	1.60	1.60	2.00	2.00	2.00	1.80	1.60	2.20	1.80	1.60
FY	FY	6	CH- 203	2.00	1.80	1.80	2.20	1.60	1.80	2.00	2.20	1.60	1.80	2.00	2.00
		1	CH- 301	1.60	1.60	1.80	2.00	2.20	2.20	2.20	2.20	1.80	1.60	2.00	2.20
		2	CH-302	2.20	2.20	2.40	2.20	2.20	2.20	2.20	2.20	1.80	2.40	2.40	2.40
		3	CH -303	1.20	2.20	2.20	1.80	2.20	2.40	1.60	2.40	1.80	2.00	1.80	2.00
		4	CH- 401	1.20	2.20	2.20	1.80	2.20	2.40	1.60	2.40	1.80	2.00	1.80	2.00
		5	CH-402	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SY	SY	6	CH -403	2.20	3.00	2.20	2.00	2.20	2.00	2.20	2.20	2.40	2.20	2.20	2.00
		1	CH-501	2.60	2.20	2.60	2.40	2.20	2.00	2.80	2.80	2.80	2.40	2.60	2.20
		2	CH-502	3.00	3.00	2.80	2.40	2.20	2.40	2.80	2.80	2.80	2.40	3.00	2.20
		3	CH-503	1.60	1.80	1.80	2.00	2.20	2.20	2.00	2.20	2.40	1.40	2.00	2.60
		4	CH-504	2.20	2.00	1.80	2.00	1.40	1.40	1.40	2.20	1.00	1.20	0.60	0.60
		5	CH-505	2.60	2.00	1.80	2.00	1.20	1.40	1.40	2.60	1.00	1.20	0.60	0.60
		6	CH-506	1.80	1.80	2.00	2.20	2.20	2.20	2.00	2.20	2.40	1.80	2.00	2.60
		7	CH 507	3.00	3.00	2.80	2.40	2.40	2.40	2.80	2.80	3.00	2.40	3.00	2.20
		8	CH-508	2.60	2.00	2.80	2.20	2.00	2.20	2.60	2.80	2.60	2.00	2.80	2.00
		9	CH 509	3.00	3.00	2.80	2.40	2.20	2.40	2.80	2.80	2.80	2.40	3.00	2.20
		10	CH-510(B)	2.80	2.80	2.80	2.40	2.20	2.40	2.80	2.80	2.80	2.40	3.00	2.20
		11	CH-511(A)	2.60	2.40	2.40	2.40	2.00	2.40	2.60	2.80	2.80	2.40	3.00	2.20
		12	CH-601	2.40	2.60	2.20	2.20	2.00	2.00	2.60	2.80	2.80	2.40	3.00	2.20
		13	CH-602	1.40	1.80	2.00	2.00	1.60	1.80	2.20	2.00	2.00	2.00	2.00	2.20
		14	CH-603	1.60	1.60	2.20	2.20	1.80	1.80	2.00	2.20	2.00	2.00	2.00	2.20
		15	CH-604	2.60	2.00	1.80	2.00	1.20	1.40	1.40	2.60	1.00	1.20	0.60	0.60
		16	CH-605	2.40	2.20	2.00	2.20	1.80	1.40	1.60	2.60	1.00	1.20	0.80	0.60
		17	CH-606	2.40	1.80	2.00	2.20	1.20	1.60	2.00	2.20	1.60	1.80	1.40	1.80
		18	CH-607	2.60	2.00	2.20	2.20	1.60	1.60	2.20	2.20	1.80	2.00	1.40	1.80
		19	CH 608	3.00	2.80	2.80	2.40	2.20	2.40	2.80	2.60	2.80	2.40	3.00	2.20
		20	CH 609	3.00	2.80	2.80	2.60	2.20	2.40	2.80	2.60	2.60	2.40	3.00	2.20
		21	CH-610(A)	3.00	2.80	2.80	2.60	2.20	2.40	2.80	2.60	2.60	2.40	3.00	2.20
TY	TY	22	CH-611(A)	2.60	2.00	1.80	2.00	1.20	1.40	1.40	2.60	1.00	1.20	0.60	0.60

CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
0.832	0.832	1.04	0.624	0.832	3.952	1.04	0.728	0.936	0.832	1.248	1.04
1.344	1.344	2.184	1.008	1.344	1.848	1.68	1.512	1.848	1.512	2.016	1.848
0.746667	0.933333	0.9333	1.026666667	0.84	0.746667	0.84	0.84	0.746667	0.84	0.84	0.746667
0.93	0.93	1.1367	0.826666667	0.516667	0.723333	1.033333	0.62	0.826667	0.93	0.723333	0.723333
1.088	1.36	1.088	1.088	1.36	1.36	1.36	1.224	1.088	1.496	1.224	1.088
2	1.8	1.8	2.2	1.6	1.8	2	2.2	1.6	1.8	2	2
1.344	1.344	1.512	1.68	1.848	1.848	1.848	1.848	1.512	1.344	1.68	1.848
2.2	2.2	2.4	2.2	2.2	2.2	2.2	2.2	1.8	2.4	2.4	2.4
1.2	2.2	2.2	1.8	2.2	2.4	1.6	2.4	1.8	2	1.8	2
0.624	1.144	1.144	0.936	1.144	1.248	0.832	1.248	0.936	1.04	0.936	1.04
0	0	0	0	0	0	0	0	0	0	0	0
2.2	3	2.2	2	2.2	2	2.2	2.2	2.4	2.2	2.2	2
2.184	1.848	2.184	2.016	1.848	1.68	2.352	2.352	2.352	2.016	2.184	1.848
2.52	2.52	2.352	2.016	1.848	2.016	2.352	2.352	2.352	2.016	2.52	1.848
1.6	1.8	1.8	2	2.2	2.2	2	2.2	2.4	1.4	2	2.6
0.909333	0.826667	0.744	0.826666667	0.578667	0.578667	0.578667	0.909333	0.413333	0.496	0.248	0.248
2.6	2	1.8	2	1.2	1.4	1.4	2.6	1	1.2	0.6	0.6
1.32	1.32	1.4667	1.613333333	1.613333	1.613333	1.466667	1.613333	1.76	1.32	1.466667	1.906667
2.2	2.2	2.0533	1.76	1.76	1.76	2.053333	2.053333	2.2	1.76	2.2	1.613333
2.6	2	2.8	2.2	2	2.2	2.6	2.8	2.6	2	2.8	2
3	3	2.8	2.4	2.2	2.4	2.8	2.8	2.8	2.4	3	2.2
2.352	2.352	2.352	2.016	1.848	2.016	2.352	2.352	2.352	2.016	2.52	1.848
2.6	2.4	2.4	2.4	2	2.4	2.6	2.8	2.8	2.4	3	2.2
2.4	2.6	2.2	2.2	2	2	2.6	2.8	2.8	2.4	3	2.2
1.176	1.512	1.68	1.68	1.344	1.512	1.848	1.68	1.68	1.68	1.68	1.848
1.6	1.6	2.2	2.2	1.8	1.8	2	2.2	2	2	2	2.2
0.797333	0.613333	0.552	0.613333333	0.368	0.429333	0.429333	0.797333	0.306667	0.368	0.184	0.184
1.248	1.144	1.04	1.144	0.936	0.728	0.832	1.352	0.52	0.624	0.416	0.312
2.144	1.608	1.7867	1.965333333	1.072	1.429333	1.786667	1.965333	1.429333	1.608	1.250667	1.608
2.322667	1.786667	1.9653	1.965333333	1.429333	1.429333	1.965333	1.965333	1.608	1.786667	1.250667	1.608
2.68	2.501333	2.5013	2.144	1.965333	2.144	2.501333	2.322667	2.501333	2.144	2.68	1.965333
2.68	2.501333	2.5013	2.322666667	1.965333	2.144	2.501333	2.322667	2.322667	2.144	2.68	1.965333
2.68	2.501333	2.5013	2.322666667	1.965333	2.144	2.501333	2.322667	2.322667	2.144	2.68	1.965333
2.6	2	1.8	2	1.2	1.4	1.4	2.6	1	1.2	0.6	0.6

Percentage CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
52	52	52	52	52	52	52	52	52	52	52	52
84	84	84	84	84	84	84	84	84	84	84	84
46.66667	46.66667	46.667	46.66666667	46.66667	46.66667	46.66667	46.66667	46.66667	46.66667	46.66667	46.66667
41.33333	41.33333	41.333	41.33333333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
68	68	68	68	68	68	68	68	68	68	68	68
100	100	100	100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84	84	84	84
100	100	100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52	52	52	52
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84	84	84	84
84	84	84	84	84	84	84	84	84	84	84	84
100	100	100	100	100	100	100	100	100	100	100	100
41.33333	41.33333	41.333	41.33333333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
100	100	100	100	100	100	100	100	100	100	100	100
73.33333	73.33333	73.333	73.33333333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333
73.33333	73.33333	73.333	73.33333333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333
100	100	100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84	84	84	84
100	100	100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84	84	84	84
100	100	100	100	100	100	100	100	100	100	100	100
30.66667	30.66667	30.667	30.66666667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
52	52	52	52	52	52	52	52	52	52	52	52
89.33333	89.33333	89.333	89.33333333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333
89.33333	89.33333	89.333	89.33333333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333
89.33333	89.33333	89.333	89.33333333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333
89.33333	89.33333	89.333	89.33333333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333
89.33333	89.33333	89.333	89.33333333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333	89.33333
100	100	100	100	100	100	100	100	100	100	100	100

CO-PSO MAPPING

		Course	PSO1	PSO2	PSO3
	1	CH-101	1.60	1.60	1.80
	2	CH-102	1.60	1.60	1.80
	3	CH- 103	1.40	1.20	1.60
	4	CH-201	2.00	1.75	2.00
	5	CH-202	1.80	1.80	2.00
FY	6	CH- 203	1.80	2.00	2.40
	1	CH- 301	2.00	1.60	1.60
	2	CH-302	4.60	2.60	2.40
	3	CH -303	2.00	1.60	2.00
	4	CH- 401	2.00	1.60	2.00
	5	CH-402	0.00	0.00	0.00
SY	6	CH -403	2.40	2.80	2.60
	1	CH-501	2.60	2.60	2.60
	2	CH-502	2.60	2.60	2.60
	3	CH-503	1.80	2.40	2.60
	4	CH-504	2.00	2.20	1.40
	5	CH-505	2.20	2.20	1.60
	6	CH-506	1.80	2.40	2.60
	7	CH 507	2.60	2.60	2.60
	8	CH-508	2.40	2.60	2.60
	9	CH 509	2.60	2.60	2.60
	10	CH-510(B)	2.60	2.60	2.60
	11	CH-511(A)	2.60	2.60	2.60
	12	CH-601	2.60	2.60	2.60
	13	CH-602	2.20	2.20	1.60
	14	CH-603	2.20	2.20	1.60
	15	CH-604	2.20	2.20	1.60
	16	CH-605	2.20	2.20	2.00
	17	CH-606	2.20	2.20	1.60
	18	CH-607	2.20	2.20	1.60
	19	CH 608	2.60	2.60	2.60
	20	CH 609	2.60	2.60	2.60
	21	CH-610(A)	2.60	2.60	2.60
TY	22	CH-611(A)	2.20	2.20	1.60

CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3	
CH-101	0.832	0.832	0.936	
CH-102	1.344	1.344	1.512	
CH- 103	0.653333	0.56	0.746667	
CH-201	0.826667	0.723333	0.826667	
CH-202	1.224	1.224	1.36	
CH- 203	1.8	2	2.4	
CH- 301	1.68	1.344	1.344	
CH-302	4.6	2.6	2.4	
CH -303	2	1.6	2	
CH- 401	1.04	0.832	1.04	
CH-402	0	0	0	
CH -403	2.4	2.8	2.6	
CH-501	2.184	2.184	2.184	
CH-502	2.184	2.184	2.184	
CH-503	1.8	2.4	2.6	
CH-504	0.826667	0.909333	0.578667	
CH-505	2.2	2.2	1.6	
CH-506	1.32	1.76	1.906667	
CH 507	1.906667	1.906667	1.906667	
CH-508	2.4	2.6	2.6	
CH 509	2.6	2.6	2.6	
CH-510(B)	2.184	2.184	2.184	
CH-511(A)	2.6	2.6	2.6	
CH-601	2.6	2.6	2.6	
CH-602	1.848	1.848	1.344	
CH-603	2.2	2.2	1.6	
CH-604	0.674667	0.674667	0.490667	
CH-605	1.144	1.144	1.04	
CH-606	1.965333	1.965333	1.429333	
CH-607	1.965333	1.965333	1.429333	
CH 608	2.322667	2.322667	2.322667	
CH 609	2.322667	2.322667	2.322667	
CH-610(A)	2.322667	2.322667	2.322667	
CH-611(A)	2.2	2.2	1.6	

Percentage CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3	
CH-101	52	52	52	
CH-102	84	84	84	
CH- 103	46.66667	46.66667	46.66667	
CH-201	41.33333	41.33333	41.33333	
CH-202	68	68	68	
CH- 203	100	100	100	
CH- 301	84	84	84	
CH-302	100	100	100	
CH -303	100	100	100	
CH- 401	52	52	52	
CH-402	#DIV/0!	#DIV/0!	#DIV/0!	
CH -403	100	100	100	
CH-501	84	84	84	
CH-502	84	84	84	
CH-503	100	100	100	
CH-504	41.33333	41.33333	41.33333	
CH-505	100	100	100	
CH-506	73.33333	73.33333	73.33333	
CH 507	73.33333	73.33333	73.33333	
CH-508	100	100	100	
CH 509	100	100	100	
CH-510(B)	84	84	84	
CH-511(A)	100	100	100	
CH-601	100	100	100	
CH-602	84	84	84	
CH-603	100	100	100	
CH-604	30.66667	30.66667	30.66667	
CH-605	52	52	52	
CH-606	89.33333	89.33333	89.33333	
CH-607	89.33333	89.33333	89.33333	
CH 608	89.33333	89.33333	89.33333	
CH 609	89.33333	89.33333	89.33333	
CH-610(A)	89.33333	89.33333	89.33333	
CH-611(A)	100	100	100	