



KVR, KVR & MKR COLLEGE: KHAJIPALEM

KHAJIPALEM - 522329 , Bapatla District (A.P)

(Re- Accredited by NAAC "B++" Grade With CGPA: 2.81

E-Mail: kvrkvr_mkrcollege@yahoo.co.in , kvrkvrmkrc@gmail.com



Ph: 08643-258745

ESTD: 1981

DEPARTMENT OF PG CHEMISTRY

S.No	Dept	Course code	Course Name	CO Number	Course Outcomes
1	Organic Chemistry Semester-1	R22CH1.1	Inorganic Chemistry-1	1	The student will understand the Vesper theory, symmetric and unsymmetric hydrogen bonds in Inorganic molecules
				2.	The students are able to understand the jobs method ,hard and soft acids and bases
				3.	The students are able to understand the study of age compounds of oxygen, phosphorous and sulphur compounds and also isopoly and heteropoly anions.
		R22CH1.2	Organic Chemistry-1	1.	Students can able to understand aromaticity in Benzenoid compound and non Benzenoid compounds.
				2.	Students are able to understand formation of various heterocyclic compounds and their synthesis.
				3.	Students can understand the importance of natural products in medicinal chemistry and to write the stereo chemical forms for different organic molecules.



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		R22CH1.3	Foundation for chemistry	1	The students will understand the required tools in analytical and inorganic estimations.
				2.	Students are able to understand the basics on various environmental concerns.
		R22CH1.4	Physical Chemistry-1	1.	Students can able to understand the classical thermo dynamics, fugacity, Gibbs adsorption equation, Bet equation.
				2.	Students are able to understand the Electrochemical cells, complex reactions and chain reactions.
		R22CH1.7	Human values and professional ethics	1.	Students are able to understand relation to religion and ethical values.
				2.	Students are able to understand to character and conduct to crime & theories of punishment
2.	Semester-2	R22CH2.1	Physical Chemistry-2	1	Students understand the third law of thermodynamics free radical polymerisation.
				2.	Students understand the branching chain reactions, enzyme catalysis and photochemical equilibrium.



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		R22CH2.2	Organic Chemistry-2	1.	Students understand the mode of addition reactions involving addition by electrophile and nucleophiles.
				2.	Students understand the mechanisms of studied named reactions and their applications.
		R22CH2.3	Essential lab techniques for industry	1.	The students will understand advantage of chromatographic separation and applications.
				2.	The students will understand the advantage of HPLC & GC over conventional separation techniques.
		R22CH2.4A	Inorganic Chemistry-2	1.	The students will understand the various metal clusters and metal bonds.
				2.	Students understanding the reactions of organo metallic compounds and its applications.
				3.	The students are able to understanding structure and functions of hemoglobin, myoglobin and vitamins.
		R22CH2.8	Communicative English	1.	Students to realize the importance of communication skills in job arena.



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				2.	Students to enhance to ability to communicate and improve analytical thinking.
3.	Semester-3	R22CH3.1(O)	Organic Spectroscopy-1	1.	Students can understand the fundamentals of spectroscopic techniques and apply to investigate the structural information of molecules.
				2.	Students can understand interpretation of NMR and how to structural elucidation.
				3.	Students can understand the applications of ESR Spectra to solve the problems of individual spectral methods.
		R22CH3.2(O)	Organic synthesis and Reaction mechanism-1	1.	Students can understand the fundamental tools required for the determination of reaction mechanisms.
				2.	Students can understand the reduction by dissolving metals, reduction with metal and acid.
				3.	Students can understand the terminology, selectivity in synthesis and analytical methods.
		R22CH3.3(O)	Alkaloids, Terpinoids, Quin	1.	Students can



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			ones &Phenothaizines		understand the definitions and importance of various alkaloids.
				2.	Students can understand the structure elucidation and also know the synthetic proces of applications.
				3.	Students can understand the streochemistry of alkaloids.
		R22CH3.4A(O)	Chemistry of Natural Products	1.	Students can understand the classification and general methods of synthesis of various flavonoids.
				2.	Students can understand the synthesis of fat and water soluble vitamines.
				3.	Students able to understand different types of naturally occuring insrcticides and their specific and commercial importance.
4.	Semester-4	R22CH4.1(O)	Organic Spectroscopy-2	1.	Students can provide ability to apply the spectroscopy knowledge for the structural elucidation of Natual products.
				2.	It also provide platform for awareness towards ¹³ C NMR and Mass Spectrometry which aims to apply these knowledge towards



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					research.
		R22CH4.2(O)	Organic synthesis and Reaction Mechanisms-2	3.	Students can understand the spectral characteristics of natural products involving all spectral data.
				1.	Students understand the basics of C-C single and double bond formations and Diels-Alder reactions.
				2.	Students learnt the terminology and develop skills in writing retro-synthetic routes for target molecules.
		R22CH4.3A(O)	Advanced Organic Chemistry	1.	Students able to understand novel named reactions and applications in modern organic synthesis.
				2.	Students understand the importance and principles of green chemistry.
				3.	Students know the current importance of Nano chemistry in various fields and their synthetic methods.
		R22CH4.4A(O)	Chemistry of Antibiotics and drugs	1.	Students under the basics on antibiotics and their importance and various drugs used in medicinal chemistry.
				2.	Students are able to understand chemistry and



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					synthesis of antimalarials in medicines.
				3.	Students can identify the classification of herbal drugs, antifungal drugs & to understand the mode of action of sedatives.

PSO1– After completion of M.Sc students are imparted with the theoretical knowledge and practical knowledge of handling chemicals and doing experiments.

PSO2-They are now eligible to enter into government sector related to chemistry particularly in Food safety department, water testing laboratories and pharma industry, ONGC& Polytechnic Lecturer.

PSO3-In private sector, they can enter into pharmaceutical industry, paint industry, Fertilizer industry as trainee chemist in various departments.

PSO4-These students are now eligible to write CSIR-UGC-NET, JRF, GATE, APRSET, APSET Examinations. If qualified students are eligible for to do research into Ph.d. After Ph.D they are eligible to DL, JL and DRDO Scientists.