Time Table (July - December)

DAYS	1	2	3	4	5	6	7	8	9	10
Monday				Sem-V DSE3P		C7T SEM-I	C5P. SEM-III			
Tuesday	C2P. SEM-I			GE3T SEM-III	C5T SEM-III	DSE1T, SEM-V				
Wednesday	C2T SEM-I	DSE1T SEM-V				GE3P	SEM-III			
Thursday					C5T SEM-III	DSE1T Practical				
Friday										
Saturday										

SUMMARY

Class	SEM-I	SEM-III	SEM-V	
Subject	C2P and C2T (Physical Chemistry)	C5T and C5P. (Physical Chemistry)	DSE1T and DSE3P Physical Chemistry	
No. of Periods	4	4	4	

Time Table (January - June)

DAYS	1	2	3	4	5	6	7	8	9	10
Monday	C8T SEM-IV	GE-4T SEM-IV	SEM-VI C14T		SEM-IV	C8P. Practical				
Tuesday		SEM-VI C14T	C8T SEM-IV		SEM-II	GE-2P. Practical				
Wednesday	JAM. SEM-IV			JAM. SEM-VI	SEM-IV	GE-4P Practical				
Thursday		GE-2P SEM-II		SEM-II	GE-2P. Practical					
Friday										
Saturday										

SUMMARY

Class	SEM-II	SEM-IV	SEM-VI	
Subject	GE2T, GE2P. (Physical Chemistry)	C8T, C8P, GE4T, GE4P (Physical Chemistry)	C14T, C14P, Physical Chemistry	
No. of Periods	5	9	4	

1. Method of Teaching

1. We use 'Chalk and talk' method i.e the board work and interaction through the speaking method included for easy discussion.

2. Demonstration method i.e. with the lecture in the class, the demonstration through Laboratory instrument they been followed.

3. For more modern technique, We use ICT based method like, Computer, Laptop, Projector, Smart board and internet facility.

4. Our chemistry department poses. three computer, one LCD Projector with Smart board for Lecture and Seminars.

We, the faculties of Chemistry department demonstrate the theory along with the Practical classes. also with the help of powerpoint Presentation, even via internet via hotspot to give the live demonstration.

2. A Syllabus of the Work in Outline

Chemistry (Hons.) CBCS.

1st Sem

1. Organic Chemistry (C1T) (Theory and Practical)
2. Physical Chemistry (C2T) (Theory and Practical)

2nd Sem

1. Inorganic Chemistry (C3T) (Theory and Practical)
2. Organic Chemistry (C4T) (Theory and Practical)

3rd Sem.

1. Physical Chemistry (C5T) (Theory and Practical)
2. Inorganic Chemistry (C6T) (Theory and Practical)
3. Organic Chemistry (C7T) (Theory and Practical)
4. SEC (Pharmaceuticals Chemistry) (Theory and Practical)

4th Sem.

1. Physical Chemistry (C8T) (Theory and Practical)
2. Inorganic Chemistry (Theory and Practical)
3. Organic Chemistry (Theory and Practical)
4. SEC (Chemistry of ~~Paints~~ Perfume and cosmetics.) (Theory and Practical)

3. Detailed Syllabus
(A) First Term

From 2021 To 2023

C2T (Physical Chemistry):—

Kinetic theory of gases and gaseous state:—

Kinetic theory of gases:— Concept and Pressure and temp, Collission between the molecuels, Collission number, diameter, mean free Path, frequency of binary collission, rate of effusion.

Maxwell distribution of Speed and energy:— Nature of distribution of speed and velocities in one, two and three dimensions., Calculation of average, rms, most Probable velocities, Calculation no. of molecuels having energy $\geq \epsilon$, Principle of equipartition of energy and its application to calculate the classical limit of molar heat Capacities.

Real gases and virial equations:—

Deviation from ideal gas behavior, Compressibility factor, Boyle temp., Andrews and Amagat Plot, Other eqn of state. Vanderwaal eqn and its feature, Critical state., Laws of Corresponding State, Vander Waals eqn. in virial form, Intermolecular attraction force (Debye, Keesom, London interaction, L.J. Potential.)

Thermodynamics:—

Zeroth and 1st law of thermodynamics:— Intensive, extensive, variable, State and Path function, closed and open system, Zeroth law of and 1st law of thermodynamics, Concept of heat, work, internal energy, enthalpy, relation between heat Capacities, Calculation of between heat capacities, Calculation of q, w, U, H.

reversible, irreversible and free expansion (ideal and Vander Waals gases) for isothermal and adiabatic process. Joule's exptl Joule-Thomson coefficient.

Thermochemistry:— Standard state, heat of equation, enthalpy of formation of molecules and ions; enthalpy of combustion and its application, Laws of thermochemistry, bond energy, bond dissociation energy. Kirchoff eqn.

2nd Law:— Statement and need for 2nd law of thermodynamics, heat engine, Carnot engine, Planck and clausius statement entropy, clausius inequality, entropy change for reversible and irreversible process, state function A, G & their variation, spontaneity and equilibrium

Thermodynamic relation:—

Maxwell, Gibbs-Helmoltz, relation, Joule-Thomson expt, Inversion temp.

Chemical Kinetics:—

Rate Law: order and molecularity:— rate law, extent of reaction, order, rate constant, First, second and nth order reaction, Pseudo first order, Half life, consecutive and Parallel reaction,

Role of T and theories of reaction rate:— Arrhenius eqn, energy of Activation, Rate determining step, Steady state approximation, Collision theory, Lindeman theory of Unimolecular reaction, Outline of transition state

Homogeneous Catalysis:— Homogeneous catalysis of acid and base catalysis, Primary Kinetic salt effect, enzyme catalysis, Michaelis-Menten equation, Lineweaver-Burk Plot, turn-over no, Autocatalysis, Periodic reaction

3. Detailed Syllabus
(B) Second Term

From 2021 To 2022

CHT (Physical Chemistry):-

a) Transport Process:-

i) Fick's law:- Flux, force, Phenomenological constant, different transport process.

ii) viscosity:— Streamline and turbulent flow, Mean for eqn, viscosity coefficient, Poiseuli eqn, effect of temperature on viscosity viscosity comparison with gas.

b) Conductance:— Ion Conductance, cell constant, Specific conductance, variation of Specific conductance with dilution of electrolyte. Equivalent and molar conductance at infinite dilution, Kolrausch's law, Determination of molar and equivalent conductance at infinite dilution for strong and weak electrolyte. Debye-Hukel theory of ionic atmosphere, ostwald's dilution law, ionic mobility, transport no, Principal of Hittroff method, moving-boundary method, Wein effect, Debye-Falkenhagen effect.

c) Application of thermodynamics:—

Partial Properties and Chemical Potential:- Chemical Potential, activity, Gibbs free energy, other state function, variation of chemical Potential with temperature. Gibbs-Duhem eqn, fugacity, variation of thermodynamic function with variable Composition. Equation of state, involving G, S, H,

chemical Equilibrium:- condition of equilibrium, degree of advancement of reaction, Vant Hoff reaction, Equilibrium constant, Standard Gibbs free energy change, K_p, K_c, K_n, isotherm & isochore of reaction, Le chatelier principal.

Chemical Potential:— Pure ideal gas chemical Potential, thermodynamic function, chemical potential, Mixture Distribution law, chemical potential of Pure, solid, liquid.

Foundation of Quantum mechanics:–

Begining of Quantum Mechanics:– Wave-particle duality, light as particle, Photoelectric effect, Compton effect, de-Broglie equation, uncertainity principle.

wave function:– Operation, operator, eigen function, eigen-value equation, Commutator, Hermitian operator, postulate of quantum mechanics.

Schrodinger time-indepedent wave-equation, nature of wave equation, energy, Expection value of x, P_x, x^2, P_x^2

Particle in 1D Box, Energy, wave function, extention to 3D box

Simple Hermonic Ossilator:– Setting of Schrodinger eqn, energy expression, expression of wave function for $n=0$, $n=1$ state and their feature.

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SEM-IV

C8T:– a) Application of thermodynamics:– vapour pressure of the soln, Ideal solution, ideally dilute solution, colligative property, Raoult's law, Thermodynamics relation of chemical potential, lowering of vapour pressure, elevation of boiling point, elevation of boiling point, depression of freezing point, osmotic pressure, molar mass of dissociate and undissociate solution.

Phase rule:– Phase, component, degree of freedom; Gibbs-phase rule, Phase diagram, H_2O, S, CO_2, Phase transition, Clausius-clapeyron eqn. Two component system, phenol-water system.

Binary solution:– Ideal solution at fixed temperature and pressure, Henry's law, Konowoff's rule, positive, negative deviation, deviation from ideal behaviour, Azeotropic solution.

b) Electrical properties of molecule:–

ionic Equilibrium:– chemical potential of ion activity, activity coefficient, Debye-Hükel Limiting law, ion-ion interaction model, Derivation of mean-ionic activity coefficient and its application

Electrochemistry:– Faraday's law, application of electrolysis, chemical cell, reversible, irreversible cell, EMF of cells and application standard electrode and its potential. Application of EMF measurement for determining ΔG, ΔS, ΔH for cell reaction, pH value using glass electrode, quinhydrone electrode, concentration cell, liquid-junction potential, transference no, Potentiometric titration.

c) Quantum chemistry:– Angular momentum, commutation rule, Total angular momentum, rigid rotor model of rotation, Schrodinger eqn Sperical Harmonics, Qualitative treatment of H-atom, Schrodinger eqn, most probable distance,

LACO AND HF-SCF:– Covalent bonding, valence bond, Molecular orbital approach, LACO-treatment of H_2^+, bonding antibonding orbital, Hartee-Fock model, development SCF, configuration interaction

Sem-VI

CHT:-

Spectroscopy:-

Rotational spectroscopy:- Rotor, moment of inertia, Energy levels, transition between the energy levels, selection rule, application.

vibration spectroscopy:- classical equation of vibration, force constant, anharmonicity, Morse Potential, dissociation energy, fundamental frequency, overtone, Hot bands, degrees of freedom for polyatomic molecule, mode of vibration, P, Q, R bands.

Raman Spectroscopy:- Rotational and vibrational Raman effect. Stokes, anti-Stokes, Rayleigh line, intensity difference, rule of mutual exclusion Principle

Nuclear Magnetic Resonance (NMR):- Principle of NMR, Larmor precession, chemical shift, low resolution spectra, different scales, Spin-spin coupling, interpretation of PMR Spectra.

Photochemistry:- Electromagnetic radiation, Lambert-Beer laws, Laws of Photochemistry, Stark-Einstein law, Photochemical equivalent, quantum yield, Flourescence, Phosphorescence, Jablonsky diagram, Franck-Condon Principle.

Surface phenomena:- Surface tension, Surface energy, Surface excess, temperature dependence of surface tension

Colloids:- Lyophobic, Lyophilic sol, Stability of lyophobic sols. Coagulation and Schultz-Hardy rule. Zeta potential and Stern-double layer, Electrokinetic phenomenon, Stern-double layer, Avogadro's Number, Perin method, Micell formation.

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IV. DIARY

Date week ending	FORECAST	Amount Taught
[illegible] – [illegible] 16.8.21 – 22.8.21	Concept of Statistical thermodynamics were given, with justification and signification. Idea about distribution; Macrostate, microstate, thermodynamic probability were given also some mathematical problem discussed.	3 Period
	Thermodynamics, state function, heat, work, different thermodynamic parameter and their change due to different process.	3 Periods.
	Conductance of solution, cell constant, specific, equivalent conductance were discussed and their relation	4. Period.
	Practical of Physical Chemistry regarding titration, conductivity, etc	4 Period

Date	Home task for the week
19.8.21 – [illegible]	Some home task were given to the students of all semester covering the related mathematical problem.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM – V	Students can explain the idea of distribution, and significance of statistical thermodynamics. Some positive response were observed regarding the subject.	Principal Mugberia Gangadhar Mahavidyalaya
SEM – I	The students face some confusion about mathematical concept, But after the discussion with mathematical example, the student can understand very easily.	Principal Mugberia Gangadhar Mahavidyalaya
SEM – V	Students understand very easily the subject idea, and also can explain the relations of the subject Students only get the concept of Expt	Principal Mugberia Gangadhar Mahavidyalaya
	Students can solve some of the problems.	Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
23.8.21 - 27.8.21	Expression entropy by Boltzmann, Concept of Partition function, Boltzmann distribution, partition function were discussed with their relation and also their application	2 Period.
	Different process, like isothermal, adiabatic process, the concept, work done, heat, Internal energy change for ideal gas were explained. so mathematical problems were discussed	2 Periods.
	Equivalent, molar conductance related with conce- the idea was explained, Kohlrausch law, infinite dilution and conductance was discussed with explanation	2 Periods.
	Pratical including ester hydrolysis and conductometric titration were performed by the students.	6 periods.
Date	**Home task for the week**	
27.8.21.	Some question with explanation, and Justification of their relation and derivation were given as home task.	1 Period.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students can able to explain the concept about the subject matter, they can justify the the equation regarding the functions.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-I	Students can solve the mathematical problems and derivation. Some questions were given to explain the region. They were able to solve them.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Students give the positive response about the idea of different parameter and the law.	Principal Mugberia Gangadhar Mahavidyalaya
	Most of the students can solve almost all the question given to them.	[signature] 29.8.21 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
30/8/21 – 4.9.21 30.8.21 – 4.9.21	The application about the calculation of U, H, P, by using partition function were discussed with their derivation.	2 Period.
	Graphical representation of work done for different process, their comparison, some expression of different expt were explained and their application to find different parameter were discussed	2 Periods
	Conductance depends on some parameters of soln; different effects, Ion-atmosphere model were explained,	2 Periods.
	Principles of previous expt and for SEM-V computational chemistry practicals were discussed.	6 Periods.

Date	Home task for the week
9.9.21	Some logical problems with proper explanation were explained.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students give positive response and can explain the idea of the subject.	
SEM-I	Student's progress about the solving of the derivation are noticed.	
SEM-III	Student were able to explained the variation of the property with different parameter. Some positive response were seen. The result of the expt carried out by the students were satisfactory.	
	Students were able to solve all the questions.	[signature] 4.9.21 Principal Mugberia Gangadhar Mahavidyalaya

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Date week ending	FORECAST	Amount Taught
8.9.21	Heat	
14.8.21	Heat capacity of monoatomic solid,	
6.7.21	Dulong-Petit law, applicability at	
-11.7.21	-High temp. but fails at low temp	2 Period.
	-The explanation given to the Students	
	A Finestine assumption of monoatomic solid	
	and the expression of Energy was	
	discussed.	
	Discussion about the adiabatic	
	Process, expression, work done,	2 Periods.
	internal energy, Work done with	
	mathematical Problems.	
	Ionic mobility, relation with	
	equivalent Conductance, transport no.	
	mobility and transport no. relation	2 Period.
	We discussed and explained.	
	New practical regarding	
	Enthalpy determination why	4 Period.
	directed.	
Date	Home task for the week	
9.9.24	Some questions with their	
	explanation given as Home	1 Period
	work.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
	Students were found to be	
SEM-V	Very satisfied and interested.	Principal Mugberia Gangadhar Mahavidyalaya
	give positive response.	
SEM-VIII	Student can solve the mathematical	
	problems. and also give the positive	Principal Mugberia Gangadhar Mahavidyalaya
	response	
	6	
SEM-I	Student give positive response	
	regularly understanding.	Principal Mugberia Gangadhar Mahavidyalaya
	Students were found to be	
	interested.	
	Student can solve almost	11.9.21
	all the questions.	Principal Mugberia Gangadhar Mahavidyalaya

Date week ending	FORECAST	Amount Taught
13.7.21		
–18.7.21	Using the energy expression of Einstein, Specific heat calculated and the value of c_v is determined at two.	2 Period
	extreme range of temperature i.e at $T \to \infty$ and $T \to 0$. The explained.	
	plot is then justified with the expt plot.	
	Comparative adiabatic plot with isothermal plot at different parameter.	2 Period.
	How, Using the adiabatic expression different mathematical problem given to the students.	
	Mathematical Problem regarding	
	ionic mobility, transport no, some	2 Period.
	question about the mobility and	
	transport no. given to think and	
	explain	
	Some question about the practical discuss.	4 Period.

Date	Home task for the week
15.7.21	Some question with justification given as home work.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students can explain all the derivation regarding subject and explain the plot.	
SEM-III	Students were found to be very interested in the subject matter.	
SEM-III	Students response was found to be satisfactory.	
	Students can solve almost all the question but some question the response is not so good. But after given example the result is satisfactory.	18.9.21 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
20.7.21 - 25.7.21	Nernst Heat theorem, third law of thermodynamics was explained with the mathematical expression and the statement.	2 Period.
	Isothermal, adiabatic process for Van der Waals gas was discussed and some expression of internal energy, work, enthalpy was derived.	2 Period.
	Abnormal transport no, explain of CdI_4^{2-} ion with explaination different method for determination of transport no was discussed.	2 Period.

Date	Home task for the week
23.7.21	Some question was given in groups for logical thinking.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students gets interested and solve easily.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-II	Students give positive response about the mathematical derivation given to them.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Students give satisfactory result regarding the explaination that why abnormal transport no. come.	Principal Mugberia Gangadhar Mahavidyalaya
	Students give the new idea input in the given matter to think in logical way.	[signature] 25.7.21 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
27.9.21		
- 2.10.21	This law of thermodynamics and its application was explained. The entropy change about the fact was discussed.	1 Period.
	Some previous asked and different question was discussed.	1 Period
	Some mathematical problems and graphical problems was given to. solved.	2 Periods.
	Some Practical was discussed regarding the syllabus.	1 Period
Date	Home task for the week	
28.9.21	Some mathematical Problems was given as homework.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
~~4.10.21~~		
~~5.10.21~~	Student give Positive response	Principal Mugberia Gangadhar Mahavidyalaya
SEM-V		
SEM-I	Students response and the result was satisfactory	Principal Mugberia Gangadhar Mahavidyalaya
SEM-IV	Students were found to be able to. solve the given problems.	Principal Mugberia Gangadhar Mahavidyalaya
	Students can solve the given questions.	Principal 2.10.21 Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
25.10.21		
30.10.21	Some Previous problems and Subject was discussed for recapitulation of the subject.	1 Period
	Previous subject matter was discussed.	1 Period.
	Some mathematical problem was given to solve	1 Period.
Date	Home task for the week	
	Some suggestions was given as next holidays Homework.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Student was found to be able to memorize the previous subject matter.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-IV	Subject was able to solve the given problems.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Student was asked to solve the problems again	30.10.21 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
8.11.21 – 14.11.21	Concept ensemble, different type of ensemble are discussed.	2 Period.
	Thermochemistry subject are introduced. Standard state, reaction enthalpy are discussed, standard enthalpy formation enthalpy are discussed.	2 period.
	Introduction to quantum mechines are given what is function operator Eigen function, well behaved function are explained.	12 period.
Date	Home task for the week	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students are found to understand the subject matter.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-I	Students full interested in thermochemistry.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Students are able to understand the subject.	Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
15.10.21 – 21.10.21	Diffict question was given to solve	2 Periods
	Enthalpy of combustion, Laws of thermochemistry, some mathematical problems regarding bond entropy & bond to dissociation energy was discussed.	2 Periods
	Commutator, different commutator expression, different examples, Hermitial operator, normalization, orthogonal function	2 Periods

Date	Home task for the week
20.10.21	Home task was given regarding the mathematical problems.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-IV	Students can solve almost all the question	Principal Mugberia Gangadhar Mahavidyalaya
SEM-I	All the aspect of the subject was easy to understand for the students.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Students can understand the mathematical expression.	21.10.21 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
22.11.21		
- 5.12.21	Some mathematical Problems way given to solve	: 2 Periods
	2nd law of thermodynamics, Introduction, Specific, carnot cycle, carnot efficiency, carnot engines, carnot theorem way explained.	2 Periods.
	postulate of quantum mechanics, Expection Value, mathematical. Problems regarding the previous aspect way discussed	2 Periods.
	Some practical oriented problems way explained.	
Date	Home task for the week	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students can understand the problems and solve it.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-I	Students can understand the Problems and solve it.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Students can understand the Problems and solve it.	5.12.21 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
6.12.21 - 31.1.22	Some problems and question was given to solve	6 Period.
	Difination of entropy, entropy change for other process was derived and some mathematical problem	6 Period.
	Some mathematical problem, Particle in 1D box and its application, SHO energy expression, transition, ground state energy, zero point energy was discussed.	6 Periods

Date	Home task for the week

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-V	Students give satisfactory result.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-VI	Students give positive response	Principal Mugberia Gangadhar Mahavidyalaya
SEM-III	Students give satisfactory result.	[signature] 31.1.22 Principal Mugberia Gangadhar Mahavidyalaya

END OF THE SEMESTER

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SEM-II, IV, VI

IV. DIARY

Date week ending	FORECAST	Amount Taught
25.2.22 - 6.3.22	Concept of Spectroscopy, different type of spectroscopy and their correlation in correlation with the absorption of light of diffent wavelength, Rotational spectroscopy analysis with transition energy intensity, application, Introduction of IR Spectroscopy with different transition way discussed.	6 Periods
	Electrochemical cell: Concept with the energy involved in any cell, Concept of the reversible and irreversible cell way explained.	6 Periods
	Classes not start.	
Date	Home task for the week	
	some conceptual question was given to the students.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-VI	Some positive response way noticed with the solution of the question given to them.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-IV	Students were found to have getting interest in this subject area	Principal Mugberia Gangadhar Mahavidyalaya
	Students were found to solve all the question	Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
8.3.22 – 19.3.22	Harmonic oscillator and anharmonic oscillator and their transitional selection rule with some mathematical derivation was discussed. Application of IR spectroscopy was explained. Introduction to Raman spectroscopy was given.	6 Periods.
	Relation between energy concept with temperature energy change. Half cell, redox reaction, EMF of cell, Nernst equation and different thermodynamic Parameter was derived.	6 Periods
	Kinetic theory of gas: Its assumption, Kinetic eqn, Pressure of the gas, different velocity expression was given with mathematical expression	4 Periods.
Date	Home task for the week	
	Some mathematical Problem with logical question was given as home work.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-VI	Although Students have some Problems with mathematical Problems was solved but with proper example it was solved.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-IV	Some mathematical problems given to the Students was found to be solve by the students very easily.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-II	Students have interest in this subject regularity. introduction part.	Principal Mugberia Gangadhar Mahavidyalaya
	Some positive result was seen.	Principal 9.3.22 Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
21.3.22 – 9.4.22	Some Concept of classical and quantum analysis of Raman Spectra, its transition at different lines in this Spectra are very explained.	6 Periods
	Application of Electrochemical Cell Engineering Calculation of activity coefficient Standard electrochemical potential, acid dissociation constant, very explained pH determination of a buffer using glass electrode, Quinhydrone electrode	6 Periods
	Equipartition energy, CP, CV for different gases, Maxwell distribution formula, with mathematical expression very explained. Relation between different velocity Way given.	4 & Periods
Date	Home task for the week	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-VI	Students can explained the Subject wise, with logical analysis in different aspect.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-IV	Students can solve the mathematical expression with the physical Concept.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-II	Students can explained the physical Concept of this subject to matter.	Principal Mugberia Gangadhar Mahavidyalaya 9.4.22

IV. DIARY

Date week ending	FORECAST	Amount Taught
11.4.22	Intensity of line in raman Spectra	
-28.4.22	application of Raman Spectra way	6 Periods
	explained. Example of mutual exclusion	
	principle way discussed. NMR Spectroy	
	way explained with the physical	
	concept, physical significance, and	
	its application way discussed.	
	Polarisometric titration way discuss	
	Introduction to Quantum mechanics	
	way discussed for diffent system like	6 Periods
	diatomic rotor: Angular momentum,	
	Commutation of operators. way	
	discussed	
	Concept of Real gas. its behaviour	
	deviations from ideal gas,	4 periods.
	Andrews expt. Amagat expt.	
	way explained with expt. Plots.	
Date	Home task for the week	
	Some mathematical Problems	
	way given to the Students	
	as Home Work.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
	The result is Statisfactory	
SEM-VII	to section the Students can	Principal
	explain the result of the	Mugberia Gangadhar Mahavidyalaya
	given Spectra	
	Students gave the positive	
SEM-IV	response when the analysis	Principal
	given to them.	Mugberia Gangadhar Mahavidyalaya
	The Students gave positive	
SEM.-VII	results about the	Principal
	Questions given to them.	Mugberia Gangadhar Mahavidyalaya
	Always with the Students. Can solve	28.4.22
	the Problems given to them.	Principal
		Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
2.5.22 – 14.5.22	Lamor frequency, chemical shift, different scales chemical shift was discussed with the formula. Molecular weight of polymer, different methods for determining molecular weight was explained.	6 Periods
	Solution of Schrodinger's eqn spherical harmonics, shape of orbitals, introduction to hydrogen atom and its solution was explained.	6 Periods
	Compressibility factor, liquification of gas, critical constants was explained. Some mathematical problems was also given with their solution	4 periods

Date	Home task for the week
	Some questions and mathematical problems was given to the students as homework.

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
SEM-VI	The students found interest about the new subject matter & and can solve questions given to them.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-IV	Positive response from the students was found as they can give the answer for the question given to them.	Principal Mugberia Gangadhar Mahavidyalaya
SEM-II	The result from the students was satisfactory.	Principal Mugberia Gangadhar Mahavidyalaya
	The students can solve all the question given to them.	[signature] 14.5.22 Principal Mugberia Gangadhar Mahavidyalaya

IV. DIARY

Date week ending	FORECAST	Amount Taught
16.5.22	Galaxy tradition temp way discussed	
28.5.22	with its variation on different parameter	6 Periods
	Some previous problem about the	
	subject matter way discussed with	
	mathematical Problems	
	Spherical Harmonics of H-atom way	
	given with physical meanings.	6 Periods
	as Radial Part and angular part	
	way way explained.	
	Some previous problems regarding	4 Periods
	the subject matter as some	
	material Problem is given with	
	their solutions.	
Date	Home task for the week	
	Difficult logical question way given to	
	solve for home work.	

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
	Students can solve the logical	
	question given to them.	Principal Mugberia Gangadhar Mahavidyalaya
	Students can understand the	Principal Mugberia Gangadhar Mahavidyalaya
	mathematical problems.	
	Students can solve the given	Principal Mugberia Gangadhar Mahavidyalaya
	type problems given to them.	
	Students	28.5.22
	almost all the question can	Principal Mugberia Gangadhar Mahavidyalaya
	solved them.	

IV. DIARY

Date week ending	FORECAST	Amount Taught
1.6.22		
- 18.6.22	Some Previous Problems of the Subject matter was discussed.	2 Periods.
	VB theory, and some mathematical expression was discussed.	4 Periods
	Some mathematical Problems was given with the solution	4 Periods

Date	Home task for the week

IV. DIARY

Class and Subject	Notes and observation by the teacher	Remarks by Principal or HOD
	Students can give satisfactory results	Principal Mugberia Gangadhar Mahavidyalaya
	Students can understand all the mathematical expression and can solve the questions given to them.	Principal Mugberia Gangadhar Mahavidyalaya
	Students can solve all the question given to them.	18.06.22 Principal Mugberia Gangadhar Mahavidyalaya
	END OF THE SEMESTER	