Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

INTERNAL QUALITY ASSURANCE CELL

Criterion1- Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including academic calendar and conduct of continuous internal assessment

Curricular Planning and Implementation
Part B-Science Individual Level

INDEX

Curricular Planning and Implementation Part B-Science

Sr. No.	Name of Faculty	Subject
1	Dr. S. N. Ipper	Chemistry
2	Mr. S. C. Motekar	Chemistry
3	Smt. Dr. A. A. Kachare	Chemistry
4	Dr. S. A. Dake	Chemistry
5	Dr. S.S. Gavali	Chemistry
6	Miss. Dr. T. R. Deshmukh	Chemistry
7	Mr. F. S. Sayyed	Chemistry
8	Prof. Dr. I. B. Salunkhe	Botony
9	Dr. M. S. Wankhade	Botony
10	Dr. R. U. Shete	Botony
11	Smt. Dr. V. R. Kale	Botony
12	Prof. Dr. R.T. Pawar	Zoology
13	Prof. Dr. P. A. Deshpande	Zoology
14	Smt. Dr. S. A. Shaikh	Zoology
15	Mr. S. R. Munde	Zoology
16	Prof. Dr. S. K. Vyawahare	Physics
17	Mr. O. H. Sarge	Physics
18	Mr. K. J. Langade	Physics
19	Prof. Dr. G. K. Sanap	Mathematics
20	Miss. K. D. Jagtap	Mathematics
21	Smt. K. I. Taur	Mathematics

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.					B.Sc. I SNI
Tue.					
Wed.					B. Sc. II SNI
Thu.		B. Sc. III SNI			B. Sc. II SNI
Fri.		B. Sc. III SNI			B. Sc. III SNI
Sat.		B. Sc. III SNI			B. Sc. III SNI

Sr.No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	SNI=Dr. S.N. Ipper	Paper XIV Organic Chemistry	03	20	23

Signature of Faculty

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.					
Tue.					
Wed.					B. Sc. II SNI
Thu.		B. Sc. III SNI			B. Sc. II SNI
Fri.		B. Sc. III SNI			B. Sc. III SNI
Sat.		B. Sc. III SNI			B. Sc. III SNI

Sr. No	Name of Faculty	Name of Paper	Theory	Practical	Total
1	SNI=Dr. S.N. Ipper	Paper XVI Inorganic Chemistry	03	16	19

Signature of Faculty

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term) Class-M. Sc. I Year

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.		CHE-102 Inorganic Chemistry (SNI)		
Tue.		CHE-102 Inorganic Chemistry (SNI)		
Wed.		CHE-102 Inorganic Chemistry (SNI)		
Thu.			CHE-102 Inorganic Chemistry (SNI)	CHE-210 Lab Course (SNI)
Fri.				
Sat.				

Dr. Shankar N. Ipper-(SNI)-CHE-102- Inorganic Chemistry

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Time – Table Academic Year 2021-2022 (Second Term) Class-M. Sc. I Year

	Theory	Theory	Theory	Practical
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.		CHE-206 Inorganic Chemistry (SNI)		
Tue.		CHE-206 Inorganic Chemistry (SNI)		
Wed.		CHE-206 Inorganic Chemistry (SNI)		
Thu.			CHE-206 Inorganic Chemistry (SNI)	CHE-210 Lab Course (SNI)
Fri.				
Sat.				

Dr. Shankar N. Ipper-(SNI)-CHE-102- Inorganic Chemistry

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Time – Table Academic Year 2021-2022 (Third Term) Class-M. Sc. II Year

	Theory	Theory	Theory	Practical
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.				
Tue.				CHEO-422 Lab Course (SNI)
Wed.				
Thu.		CHEO-314 (SNI)		CHEO-424 Lab Course
Fri.		CHEO-314 (SNI)		
Sat.		CHEO-314 (SNI)	CHEO-314 (SNI)	

Dr. Shankar N. Ipper-(SNI)-CHEO 314- Organic Synthesis

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Time – Table Academic Year 2021-2022 (Fourth Term) Class-M. Sc. II Year

	Theory	Theory	Theory	Practical
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.	CHEO-418 (SNI)			
Tue.	CHEO-418 (SNI)			CHEO-422 Lab Course (SNI)
Wed.	CHEO-418 (SNI)		CHEO-418 (SNI)	
Thu.				CHEO-424 Lab Course
Fri.				
Sat.				

Dr. Shankar N. Ipper-(SNI)-CHEO- 418- Advanced Organic and Heterocyclic Chemistry

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Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	October	November	December	January
	B Sc II III[rd] Sem Chemistry Paper Lab Course II (Practical)	**Gravimetric Estimation: (Any Three)** i.Estimation of Zinc gravimetrically as Zinc ammonium phosphate (ZnNH4PO4) ii.Estimation of Mn gravimetrically as Manganese Ammonium Phosphate (MnNH4PO4)	iii.Estimation of Nickel gravimetrically as Ni-DMG iv.Estimation of Barium gravimetrically as Ba-Chromate (BaCrO4) v.Estimation of Aluminum as Aluminum Oxinate. vi.To determine the equilibrium constant for the reaction: KI + I2-KI3 vii.Determine the molecular mass of polymer from viscometry measurements. viii. To investigate the Kinetics of Iodination of acetone.	**Complexometric Titration: (Any Two)** i. Estimation of Zinc by EDTA solution using EBT indicator. ii.Estimation of Nickel by EDTA using Murexide indicator iii.Estimation of copper by EDTA using fast sulphon black F indication	iv.Estimation of Lead By EDTA using Xylenol Orange indicator.

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Subject: Chemistry (Second Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	March	April	May	May
	B Sc II IVth Sem Chemistry Paper Lab Course IV (Practical)	**Organic Derivatives:- Preparation, Crystallization and Physical Constant. (Any Three)** i. Acetyl Derivatives a) Aniline b) Salicylic Acid ii.Benzoyl Derivatives a) Aniline b) B-naphtol	iii.Hydrolysis Derivatives a) Ethyl Benzoate b) Aspirin iv.Bromo-Derivatives a) Phenol b) Cinnamic Acid	v.Reduction Derivatives a) M-dinitrobenzene vi.Osazone Derivatives a) Sucrose b) Glucose **Organic Estimations: (Any Two)** i.Estimation of nitro group by reduction. ii.Estimation of glucose.	iii. Estimation of ester by hydrolysis. iv.Estimation of amides by hydrolysis.

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Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	October	November	December	January
	B Sc III Vth Sem Chemistry Paper Lab Course V (Practical)	1 Inorganic Qualitative Analysis (Semi-Micro Analysis) (Atleast five mixtures) Mixture No. 1 Mixture No. 2	Mixture No. 3 Mixture No. 4 Mixture No. 5 2. Separation of calcium and Barium and estimation of Ca-volumetrically . 3. Separation of Cu and Ni from binary mixture solution and estimation of Cu-volumetrically . 4. Estimation of oxalic acid and H2SO4 in a given mixture Solution using NaOH and KMnO4 solution.	5. Estimation of Fe by potassium dichromate using diphenyl ammine indicator. 6. Estimation of available chlorine in the given sample of bleaching powder. 7. Separation of calcium and Barium and estimation of Ba-gravimetically.	8. Separation of Cu and Ni from binary mixture solution and estimation of Ni-gravimetrically

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Subject: Chemistry (Second Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	March	April	May	May
	B Sc III VIth Sem Chemistry Paper Lab Course VI (Practical)	**Organic Estimation** i) Estimation of Carbonyl group by hydrazone formation method ii) Estimation of vitamin C in commercial soft drink / Glucon D	iii) Estimation of ascorbic acid iv) Estimation of Saponification value of oil **Organic Preparation and its purity by TLC** i) Preparation of Hydrazobenzene from azobenzene. ii) Preparation of Phthalic anhydride from phthalic acid.	iii) Preparation of 2, 4 dinitrophenyl hydrazone of acetone. iv) To prepare picrate of Naphthalene.	v) To prepare picrate of Anthracene. Vi) preparation of p – bromo acetanilide from acetanilide

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Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	October	November	December	January
	B Sc III Vth Sem Chemistry Paper XIV Theory	**1. Organo Metallic - compounds:** Alkyl Magnesium halides-ethyl magnesiumbromide formation, structure and chemical reactions. Organozinc compound dialkyl zinc formation and chemical reactions, organolithium compound- n butyllithium formation and chemical reactions. **2. Organic Synthesis via Enolates** Defination, Active methylene compounds, Preparation of Aceto acetic ester, (Claisen condensation with Mechanism), Acidity of alpha hydrogen, properties and reactions involving formation of mono, di and unsaturated carboxylic acids, also synthesis of ketone, di ketone, 4-methyl uracil from acetoacetic ester, keto Enol tautomerism.	Preparation of diethyl malonate, properties and reactions involved in alkylation, formation of mono, di and unsaturated carboxylic acids, and also synthesis of aminoacid and barbituric acids from diethyl malonate **3.Fats, oils and detergents** Natural fats, edible and industrial oils of vegetable origin, manufacture of soyabean oil by solvent extraction method and isolation and uses of essential lTypes of animals fats and oils and defination of saponification value, iodine value, and acid value. Detergents: Defination, Introduction and preparation of sodium alkyl sulphonate, alkyl	benzene sulphonate, and amide sulphonate, (one example each),Cleansing action of detergent. **4.Spectroscopy** Nuclear magnetic resonance (NMR) spectroscopy. Proton magnetic resonance (1H NMR) spectroscopy, nuclear shielding and deshielding, chemical shift and molecular structure, spin-spin splitting and coupling constants, areas of signals,	interpretation of PMR spectra of simple organic molecules such as ethyl bromide, ethanol, acetaldehyde, 1, 2, 2 tribromoethane, ethyl acetate, toluene and Acetophenone. Problems pertaining to the structure elucidation of simple organic compounds using UV, IR and PMR spectroscopic techniques. (Combine and single . max using woodwordfischer rule)

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Annual Teaching Plan 2021-22

Subject: Chemistry (Second Term) Name of Associate Professor: **Dr S. N. Ipper**

Sr No	Class Subject &Paper No	March	April	May	May/June
	B Sc III VIth Sem Chemistry Paper XVI Theory	**1. Metal-Ligand Bonding in Transition Metal Complexes** Limitations of Valence Bond Theory An Elementary idea of Crystal Field Theory Crystal Field Splitting in Octahedral, Tetrahedral and Square Planar Complexes Factors affecting Crystal Field Parameters	**2. Electronic Spectra of Transition Metal Complexes** **Types of Electronic Transitions** Selection rules for d -d transitions Spectro -chemical series d1, d5 d9 Orgel Energy level diagram for And 3+ Electronic Spectrum of [Ti (H2O)6]3+ complex ion. **3. Organometallic Compounds** Definition, Nomenclature and classification of Organometallic Compounds Preparation, Properties, Bonding and Applications of alkyls and aryls of - Li, Al, Hg, Sn and Ti. A Brief account of metal - ethylenic Complexes Nature of bonding in metal carbonyls.	**4. Bioinorganic Chemistry** Essential and trace elements in biological processes Metalloporphyrins with special reference to hemoglobin and myoglobin Biological role of alkali (Na+, K+) and alkaline earth metal ions(Mg2+, Ca2+). Nitrogen fixation	**5. Chromatography** Definition and classification of chromatography Paper and Thin Layer Chromatography Method of Development (Ascending, Descending Chromatography) Locating Technique (UV-light / Chemicals) R f value Comparison between paper and TLC Applications.

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Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Associate Professor: **Dr S. N. Ipper**

Sr No	Class Subject &Paper No	October	November	December	January
	B Sc I Ist Sem Chemistry Paper III Lab Course	**II Inorganic Qualitative Analysis :** Identify two acid and two basic radical from the given binary Mixture. a] CdSO4 + NH4Cl b] BaCO3 + Al2 (NO3) c] ZnCO3 + KBr d] MnCO3 + MgSO4	**Volumetric Analysis :** 1. Preparation of 0.1N. NaOH solution and its standardization By given oxalic acid solution. 2. Preparation of 0.1 N oxalic acid solution and its standardization by given KMNO4 solution **III Physical Chemistry Eudiometer :** Determination of Equivalent Weight of mg. Weight of mg.	• **Staglanometer:** To determine surface tension of given liquid. • Chemical Kinetics: *To study the effect of acid strength on the hydrolysis of an ester. **Viscometer :** To Determine Viscosity of given liquid (Water / Ethanol) by Viscometer.	*To determine the specific reaction rate of the hydrolysis methy1 / ethy1 acetate catalyzed by hydrogen ions at room Temperature. **Colorimeter :-** Verification of Lambert-Beer's law using Spectrophotometer. [Colorimeter].

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Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Associate Professor: Dr. **S. N. Ipper**

Sr No	Class Subject &Paper No	October	November	December	January/February
	M.Sc. I Yr IthSem Chemistry Paper CHE-102 Theory	**Unit -I : symmetry concepts** Introduction to symmetry operations, symmetry elements, point group, classifications of point groups, point group of H2O, NH3, CO2, BF3, C2H4, PCI, PCls, C6H6, [PIC] [PtCl2(NH3)], [CoCl2(NH3)4] HCI, BeF2, CO, [FeF6], C2H2Cl2, o, m, & p substituted benzene molecule.(AB2, AB3, AB4,ABS and AB6 type molecules) **Unit II: Representation of Groups** Application of point group, definition of group, properties of group, Group multiplication table, matrix representation of symmetry elements. Reducible and irreducible representation, character of representation, character of matrix, Conjugate matrix, Properties of irreducible representations, Great orthogonality theorem (without proof) and its importance, construction of character table of C2 & C3y point group. Mulliken symbolism rules for irreducible representations & it's applications with examples. Standard reduction formula direct product and uses.	**Unit III: Reaction mechanism of transition metal complexes.** Classification of inorganic reactions, ligand substitution reaction and their mechanisms of Octahedral complexes, acid hydrolysis, factors affecting the acid hydrolysis base hydrolysis, conjugate base mechanism, Electron transfer teaction: mechanism of inner and outer sphere electron transfer reactions in octahedral complexes.	**Unit IV: Metal ligand equilibria in solution:** Definition of stability constant, step wise and overall formation constant, factors affecting the stability of metal complexes with reference to the nature of metal ion and ligand.Determination of formation constant for binary complexes using pH-metric technique.	**Unit V: Inorganic chemistry in biological systems** Essential and trace elements in biological systems and their functions, structure and function of metalloenzymes, metallodrugs and metalloporphyrins , Role of Rhodium, Gold, Copper and cobalt complexes as anticancer agents, Electron transfer, Respiration and photosynthesis Reaction, Metal deficient diseases of Fe, Zn, Cu and Mn and their therapy.

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Subject: Chemistry (Second Term) Name of Associate Professor: Dr. **S. N. Ipper**

Sr No	Class Subject &Paper No	October	November	December	January/February
	M.Sc. I Yr IISem Chemistry Paper CHE-206 Theory	**Unit -I: Spectroscopic term symbols** Terms, Inter-electronics repulsion, spin orbit coupling, ground terms, determination of terms symbol for d' to d^3 Configuration / complexes, Hunds rule, microstates. Racah Parameter. Weak and stronger field approach, correlation diagram of d', d^2, ds and d° configuration in octahedral and tetrahedral environments, Non-crossing rule, Orgel diagram of d' to d configuration in an octahedral and tetrahedral environments, Tanabe Sugano diagram of d^2 and d' configuration of an octahedral environments. **Unit II: Electronic Spectra and magnetic properties of metal complex:** Types of experimental recording of the spectra, interpretation of electronic spectrum of transition metal complex with suitable examples, Band intensities, intensity of d-d bands, intensity of change transfer bands. Calculation of Dq, B and ß parameters.	Classification ofcharge transfer transitions and their mechanisms with suitable examples. Magnetic moment, electronic spectrum and structure of cobalt and Nickel complexes. ferromagnetic and anti-ferromagnetic behavior of compounds. Magnetic exchange coupling, **Unit III: Chemistry of Metal Carbonyls** Classification; Chemistry of carbonyl group Preparation, properties, structures and bonding in -iron carbonyls, Ni(CO)4, Co2(CO), Mn2(CO)10, Cr(CO), Mo(CO), and W(CO) Co4(CO)12 and V(CO)6. EAN rule applied to these carbonyls structures of mixed carbonyls of transition metals and EAN rule applied to these carbonyls. Preparations carbonyl halides	**Unit IV: Metal nitrosyl compounds** Preparations and properties of Nitrosyl halides (NOX), Metal nitrosyl halides, compounds containing NO-group, Compounds containing NO+ groups, Preparation, structure and application of sodium Nitropruside. EAN and Eighteen electron rules applied to: Nitrosyl compounds of Cobalt, iron and Manganese. Significance of NO for the life of living animals	**UNIT- V** **Theories of Metal-Ligand Bonding in complexes** Valance bond theory; assumptions of VBT, VBT applied to octahedral complexes, limitation of VBT. Crystal field theory Important features of CFT crystal field splitting of d-orbital in octahedral tetrahedral, square plannar and tetragonal complexes CFSE, calculation of CFSE of octahedral and tetrahedral complexes, factor affecting on magnititude of crystal field stabilization energy John Teller distortion and its application of CFT Limitation of CFT, Molecular Orbital Theory: molecular orbital in complexes principal of molecular orbital theory construction and explaination of molecular orbitalenergy level diagram of octahedral tetrahedral, square plannar and tetragonal complexes involving sigma as well as pi bonding with suitable complex.

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Annual Teaching Plan 2021-22

Subject: Chemistry (Third Term) Name of Associate Professor: Dr. **S. N. Ipper**

Sr No	Class Subject &Paper No	March	April	May	May/June
	M.Sc. II Yr IIISem Chemistry Paper CHEO-314 Theory	**Unit -I: Spectroscopic term symbols** (a) Oxidation of alcohol to aldehyde, ketone or acid: Jones reagent, Swern oxidation, Collins reagent, Fetizones reagent, PCC, PDC, PFC, IBX, Activated MnO2. Chromyl chloride (Etard reaction), TEMPO, CAN, NMO, Moffatt oxidation. (b) Oxidative cleavage of Carbon-Carbon double bonds: KMnO4, Ozanolysis. (c) Allylic Oxidation: SeO_2, PhSeBr. (d) Selective cleavages at functional groups: Cleavage of glycols, 104, Pb(OAc). **UNIT-II Reductions** (a) Catalytic Hydrogenation; (b) Reduction of nitriles, oximes and nitro compounds; (c) Reduction of acids and Esters;	(d) Reduction with metal hydride- Sodium cyanoborohydride, Diborane, L- & K-Selectrides, LiBH, DIBAL-II; (e) Reduction by dissolving metals-Sodium-alcohol, Sodium-Liq, Ammonia, Mg, Zinc-HCl or Acetic acid, Sn/Fe-HCl; (f) Reduction of aldehyde and ketones-Platinum, Rancy nickel, NaBH. LIBH.: (g) Birch reduction and related teactions, Luche reagent, Wolf-Kishner reduction, Clemmenson reduction, Wilkinson catalyst, TBTH **Unit -III: Organic Reagents** Gilbert, DCC, , EDC, DDQ, 1,3 Dithiane LDA, DMDO, OsO4, RuO4, SmlyDess-Martin Periodinane, Borane Complexes, Diazomethane, Lawesson's reagent.	**UNIT-IV Reaction Intermediates** (a) Ylides: Preparation and their synthetic applications along with their stereochemicalaspects of Phosphorous, Sulphur and Nitrogen ylides, (b) Enamines: Generation & application in organic synthesis with mechanistic pathways, storkenamine reaction. (c) Enolates: Generation & reaction of enolates with aldehydes and ketones, Robinson annulations, Reformatsky reaction.	**UNIT-V Formation of Carbon-Carbon bonds via organometallic reagents** Synthesis and applications of organo Lithium, Magnesium, Titanium, Cerium, Copper, Chromium, Zinc, Boron, Silicon, Cadmium, Rhodium.

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Annual Teaching Plan 2021-22

Subject: Chemistry (Fourth Term) Name of Associate Professor: Dr. **S. N. Ipper**

Sr No	Class Subject &Paper No	March	April	May	May/June
	M.Sc. II Yr IVSem Chemistry Paper CHEO-318 Theory	**UNIT-1 Rearrangements** Pummerer, Payne, Eschenmoser fragmentation, Brook, Anchimeric assistance (Neighbouring group participation) related rearrangement, Wagner-Meerwein, Wolf, Semipinacol, Epoxide rearrangement with lewis acid, Dienone-Phenol rearrangement, Tiffeneau-Demjanov, Favorskii, von Richter, Wittig, Neber, Smiles, Fries, Curtius, Lossen, Schmidt, Steven, Hofmann, Iodolactonisation.	**UNIT-II Name Reactions** Arndt-Eistert, Hunds-Diecker reaction, Baeyer-Villiager, Dakin, Gabriel synthesis, FARI AAdvanced Organic Chemistry Michael, Darzen, Prins, Henry, Reimer-Tiemann, Hoffmann-Loffler-Freytag, Dieckmann cyclization, Chichibabin, Vilsmeier, Ene, Ullmann reaction, Mannich, Strecker amino acid synthesis.	Bamford-Steven, Baylis-Hillmann, Corey-Fuchs Reaction, Julia Olefination, Mukaiyamaaldol, Mitsunobu, Peterson olefination, Corey-Winter olefination, Woodward and Prevost dihydroxylation, Shapiro, Ritter, Stille, Heck, Sonogashira, Suzuki, Duff, Chugaev, Petasis, McMurry reaction and Coupling..	Ring closing metathesis (Grubb's metathesis), Aldol-Tishchenko reaction (Evans-Tishchenko reaction), Ugi, Passerini, Biginelli, Hantzsch condensation

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Subject: Chemistry (First & Second Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	October /November	December /January/February	March/ April	May/June
01	**M. Sc. I I & II Sem Chemistry Paper CHE-210 Lab Course (Practical)**	1) Semi micro Qualitative Inorganic analysis. Identification of basic radicals including one rare earth and three common metal ion and one interfering acidic radical using semi micro qualitative analysis method.	Mixture No. 1 Mixture No. 2 Mixture No. 3 Mixture No. 4 Mixture No. 5 Mixture No. 6 Mixture No. 7 Mixture No. 8	II) A. Separation and estimation of metal ions from the following binary mixture solutions: 1. Copper-Nickel 4. Iron- Magnesium 2. Copper- Iron 5. Copper- Barium 3. Nickel-Zinc 6. Iron-Aluminium]	III) Synthesize, characterization and estimation of metal ion from the metal complexes. 1. Ti(CH,NO) $2H_2O$ 2.VO(neno)2 3.Cis-K[Cr(C2O4)2(H2O)2] 4. [Mn(acac)] 5.Ka[Fe(C_2O)] L[Co(NI)|Ch 8.[Co(III)(NO (NH) JCI2, 6.[Co(II)(Py):Cl] 2. Ni (NH3)6Cl2

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (Third &Fourth Term) Name of Associate Professor: **Dr. S. N. Ipper**

Sr No	Class Subject &Paper No	October/ November	December /January/February	March/ April	May/June
	M Sc II III & IV Sem Chemistry Paper CHEO-421 Lab Course (Practical)	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.
	M Sc II III & IV Sem Chemistry Paper CHEO-424 Lab Course (Practical)	Project work: Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.	Project work: Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.	Project work: Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.	Project work: Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.

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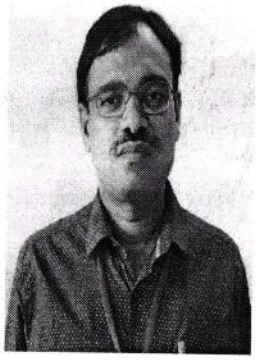
Biodata Format

Name of Institute:

Full Name		IPPER SHANKAR NAGNATH		
Name of Post		ASSISTANT PROFESSOR		
Subject		CHEMISTRY		
Specialisation		ORGANIC CHEMISTRY		
Caste Category Appointed From		NT-D		
UG/ PG Teacher		**UG TEACHER**		
Address & Contact Details		**Mobile No.: 9763287724 Email: isn13@rediffmail.com**		
Gender	MALE	**Date of Birth : 05-07-1980**		
Mother tongue	MARATHI	**Knowledge of Marathi: READ ,WRITE AND SPEAK**	**Specially Abled: NA**	

:: Caste Category of Candidate

Category : NT-D

Caste : VANJARI

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph. D	Dr. BAMU Abad	5th Oct 2019	Chemistry	--	--
SET	UGC	13 AUG 2006	CHEMICAL SCIENCES	--	PASSED
M.Sc.	SRTMU Nanded	April/May 2004	Chemistry	844/1300	First Division
B.Sc.	SRTMU Nanded	April/May 2002	Botany,Zoology, Chemistry,	2184/3200	Distinction
H.S.C.	Aurangabad	March 1998	Physics, chemistry, Sociology, Biology	401/600	First Division
S.S.C.	Aurangabad	March 1996	Science, Maths, social sciences	481/750	First Division

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
ACS College,Kille-Dharur	Permanent	Assistant Professor	Permanent	20 July 2007 to 29 June 2013	15600-39100 with AGP 7000	27-08-2007
Sunderrao Solanke Mahavidyalaya, Majalgaon	Permanent	Assistant Professor	Permanent	3o June 2013 to till today	135400/-	Transferred

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Co-Author	Peer Review/Impact Factor	API Score
International	Synthesis, Characterization and Antimicrobial study of Copper (II) Complex of (E)-3-(furan-2-yl)-1-(2,6-dihydroxyphenyl)prop-2-en-1-one.	Indian Journal of Applied Research, Vol.11, Issue 9, Sep 021, 1-2, ISSN-2249-55X, Peer Reviewed IF=4.894.	Sep 2021	Sol-Author	Peer Review	13.0 (8+5)*1.0

International	Synthesis, Characterization and Antimicrobial study of Manganese (II) Complex of 2-(furan-2-yl)-5-hydroxy-4H chromen-4-one.	International Journal of Scientific Research in Science &Technology, Vol.9, Issue 6, Oct 2021, 115-120, Print ISSN: 2395-6011| Online ISSN: 2395-602X.	Oct 2021	Sol-Author	Peer Reviewed	13.0 (8+5=13)	

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author	API Score
Synthesis, Characterization and Antibacterial& Antifungal Activities of Manganese (II) Complex of (E)-1-(2,6-dihydroxyphenyl)-3-(5-methylfuran-2-yl)prop-2-en-1-one Ligand.	International E- Conference	"National Conference on New Trends in Green Chemistry and Environmental Science NTGCES-2022	Mrs. K. S. K. College Beed.(MS)	**Yes**	**Sole author**	**5**

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author	API Score

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status
Nil					

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken

B.Sc.T.Y /Th (Semester-V & VI) **Paper XIV Organic Chemistry** **Paper XVI Inorganic Chemistry**	**UG**	**Black Board Lecture Method**	1 X 3 = 3	**100**
B.Sc.S.Y / XI & XII (Pr.)	**UG**	**Practical Method**	4 X 2= 8	**100**
B.Sc.T.Y / (Pr) **Paper XV & XVIII**	**UG**	**Practical Method**	4 X 2=8	**100**

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	**50**
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	**10**

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
B.Sc.T.Y / XVIII (Th.)	06	08	PPT, Printed Reading materials (3 topics),
B.Sc.S.Y / XI & XII (Pr.)	04	02	Lab. chart
B.Sc.F.Y / VIII (Pr.)	04	01	Lab. chart
B.Sc.S.Y / XV & XVI (Pr.)	04	02	Lab. chart
B.Sc.T.Y / XXII (Th.)	03	03	PPT, Printed Reading materials (3 topics),

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	**20**

(iv) Use of Participatory and Innovative Teaching-Learning Methodologies, Updating of Subject Content, Course Improvement etc.

Sr. No.	Short Description	API Score
01.	ITC based teaching like power point presentations, Multimedia, software's etc	10

02.	Use of ICT Based Teaching material	05
03.	Use of ball and stick modules and charts in teaching – learning process	05
	Total score (Max. 20)	**20**

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Sr. No.	Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	API Score
01.	Invigilation & Evaluation of answer script and JCS at Telgaon College.	Univ. Exam.(Th. & Pr.)	100%	15
02.	Internal College Examinations (Unit test, tutorials, seminars etc.) & Internal and External examiner for Chemistry practical examinations, Subject Expert.	Paper setting & evaluation	100%	10
03	BAMU EXAM MAY-2022	JCS at Telgaon College.	100%	10
	Total score (Max. 25)			**25**
Total Score (i+ ii + iii + iv + v) (Max. 125)				**125**

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counseling) ***API Score (Max Score:20)***	Co-curricular activities like seminars and Debate for student Community work NSS through. cultural activities, Science day, Science Quiz, Science Association, etc
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committiees & responsibilities ***API Score (Max Score:20)***	Participation in committees concerned with institutional management such as Chairman of admission committee, Time table committee. Responsibility for, Library Committee member, Member of Training and placement Cell.
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	Participation in seminars, workshop & Conference.
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	**Best Faculty** Award International Scientist Awards, 10 & 11 Sep-2021 On Engineering, Science and Medicine VDGOOD Professional Association, Coimbatore.
Invited lectures or presentations for conferences/symposia	--

Design of new course & curriculum	--
Particulars of current research work at personal level	Ph.D Awarded on 5th Oct 2019.
Co-curricular & extra curricular activities	-
Consultancy work carried out	--
Patents & IPR Details:	---
Any other information you wish to specify	---

Teaching Methods

Teaching Methods
Black Board Lecture Method
PPT, Printed Reading materials (3 topics),
Lab. chart
Lectures, Seminars, Tutorials, Practicals and Group Discussion

Teaching Aids

Sr. No	Short Description
01	ICT based teaching like PPT
02	Practice Models used for teaching
03	Audio-Visual based Teaching
04	Providing study material with the help of Whatsapp groups.
05	Organise guest lecture for specific topic for students

Dr. S.N. Ipper

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term) Class-M. Sc. I Year

Mr. Motekar Shrinivas

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-3.00**
Mon.	CHE-101 Analytical Chemistry			
Tue.	CHE-101 Analytical Chemistry			
Wed.	CHE-101 Analytical Chemistry		CHE-101 Analytical Chemistry	CHE-209 Lab Course
Thu.				
Fri.				
Sat.				

Mr. Motekar S.C.

Assistant Professor
Sunderrao Solanke Mahavidyalaya,
Majalgaon Dist.Beed.(MS)

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed. Department of Chemistry

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M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term)

Name of the Faculty: Mr. S. C. Motekar

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	7:00-10:00	10.50-11.40	11.40-12.30	1.20-2.10	3.00-6.00
Mon.					
Tue.					B.Sc. I SCM
Wed.					B. Sc. II SCM
Thu.				B. Sc. II SCM	B. Sc. II SCM
Fri.				B. Sc. II SCM	B. Sc. III SCM
Sat.				B. Sc. II SCM	B. Sc. III SCM

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	SCM=Mr.S. C. Motekar	Paper VIII Physical Chemistry	03	20	23

Signature of Faculty

Head

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Majalgaon, Dist.Beed.

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term)

Name of the Faculty: Mr. S. C. Motekar

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	7:00-10:00	10.50-11.40	11.40-12.30	1.20-2.10	3.00-6.00
Mon.					
Tue.					B.Sc. I SCM
Wed.					B. Sc. II SCM
Thu.			B.Sc. I SCM		B. Sc. II SCM
Fri.			B.Sc. I SCM		B. Sc. III SCM
Sat.			B.Sc. I SCM		B. Sc. III SCM

Sr. No	Name of Faculty	Name of Paper	Theory	Practical	Total
1	SCM=Mr. S. C. Motekar	Paper-IV Physical Chemistry	03	20	23

Signature of Faculty

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DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term) Class-M. Sc. I Year

Mr. Motekar Shrinivas

	Theory	Theory	Theory	Practical
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-3.00**
Mon.	CHE-205 Analytical Chemistry			
Tue.	CHE-205 Analytical Chemistry			
Wed.	CHE-205 Analytical Chemistry		CHE-205 Analytical Chemistry	CHE-209 Lab Course
Thu.				
Fri.				
Sat.				

Mr. Motekar S. C.

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DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Third Term) Class-M. Sc. II Year

Mr. Motekar Shrinivas

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-3.00**
Mon.				CHEO-421 Lab Course
Tue.				
Wed.				
Thu.	CHEO-313			CHEO-424 Lab Course
Fri.	CHEO-313		CHEO-313	
Sat.	CHEO-313			

CHEO-313 – Spectral Elucidation by Spectral Method

Mr. Motekar S.C.

Assistant Professor
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Majalgaon Dist.Beed.(MS)

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Majalgaon, Dist.Beed.

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Fourth Term) Class-M. Sc. II Year

Mr. Motekar Shrinivas

	Theory	Theory	Theory	Practical
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-3.00**
Mon.				CHEO-421 Lab Course
Tue.				
Wed.				
Thu.	CHEO-417			CHEO-424 Lab Course
Fri.	CHEO-417		CHEO-417	
Sat.	CHEO-417			

CHE0-417– Organic Synthesis: Retrosynthetic Approach

Mr. Motekar S.C

Assistant Professor
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist.Beed.(MS)

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist.Beed. Department of Chemistry

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021 – 2022

Subject : Chemistry (First Term) Name of Asst.Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	July	August	September	October
1.	**B.Sc.S.Y. (III Sem) Physical Chemistry Theory Paper-VIII)**	**1) Thermodynamics: I** Definition: *of Thermodynamic Terms:* System, Surrounding types of system, intensive and extensive properties. Thermodynamic Process, Concept of heat and work. Work done in reversible and irreversible process, concept of maximum work (Wmax), Numerical Problems. First law of Thermodynamics: statement, Definition of Internal energy and Enthalpy. Heat capacity, heat	capacities at constant volume pressure and their relationship. Calculation of W,q, du and dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process, Numerical problems, Hess's law of heat Summation and its application. **2) Thermodynamic-II: 20 Hrs.** *Second Law of thermodynamics:* Need for the law, different statement of the law Carnot Cycle and its efficiency, Numerical Problems. Carnot Theorem. Concept of Entropy: Definition, Physical significance, Entropy as a State	Function, Entropy change in Physical change, Entropy as criteria of Spontaneity & Equilibrium Entropy Change in Ideal Gases. Gibbs and Helmholtz Functions: Gibbs Function (G) and Helmoltz Function (A) as Thermodynamic Quantities. A and G as criteria for Thermodynamic Equilibrium and Spontaneity, their Advantage over Entropy change. Variation A with P, V and T. **3) Chemical Equilibrium:** Equilibrium Constant and Free Energy	Thermodynamic Derivation of Law of Mass Action. Le Chatelier's Principle. Reaction Isotherm and Reaction Isochore. Clapeyron Equation, Clausius-Clapeyron Equation and its Application.

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (First Term) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	July	August	September	October
2.	**B.Sc. F.Y. (I Sem, Paper-III) Lab Course-I**	**I Volumetric Analysis :** 1) Preparation of 0.1N. NaOH solution and its standardization by given oxalic acid solution. 2) Preparation of 0.1 N oxalic acid solution and its standardization by given $KMnO_4$ solution.	**II Inorganic Qualitative Analysis :** • Identify two acid and two basic radical from the given binary mixture. a] $CdSO_4 + NH_4Cl$ b] $BaCO_3 + Al_2(NO_3)_3$ c] $ZnCO_3 + KBr$ d] $MnCO_3 + MgSO_4$ e] $NiSO_4 + MgCO_3$	**III Physical Chemistry:** Eudiometer: Determination of Equivalent weight of mg. Viscometer : To determine Viscosity of given liquid (Water / Ethanol) by viscometer . Staglanometer: To determine surface tension of given liquid.	Chemical Kinetics: To study the effect of acid strength on the hydrolysis of an ester. To determine the specific reaction rate of the hydrolysis methy1 / ethy1 acetate catalyzed by hydrogen ions at room temperature. Colorimeter:- Verification of Lambert-Beer's law using Spectrophotometer.

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (First Term) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	July	August	September	October
3.	**B.Sc. S.Y. (III Sem) Practical paper IX, Lab Course-III Section A (Physical Chemistry)**	i) To determine critical solution temperature of Phenol- water system. ii) To determine solubility of benzoic acid at different Temperature and determine H of dissolution process.	iii) To determine heat of neutralization (ΔH_n) of Na OH and HCl iv) To determine heat of neutralization (ΔH_n) of Na OH and Acetic acid.	v) Partition coefficient of Benzene-water system using benzoic acid. vi) To determine the equilibrium constant for the reaction: $KI + I_2 \text{ ----> } KI_3$.	vii) Determine the molecular mass of polymer from viscometry measurements. viii) To investigate the Kinetics of iodination of Acetone.

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (First Term) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	July	August	September	October
4.	**B.Sc. T.Y. (V Sem) Practical Paper XV Lab Course-V (Organic Chemistry)**	i) Benzoic Acid + β-naphthol ii) Salicylic Acid + P- nitro aniline iii) β-naphthol + Acetanilide	iv) m-nitroaniline + Naphthalene v) α-naphthol + O-nitroaniline vi) Cinnamic Acid + Naphthalene	vii) Salicylic Acid + Naphthalene viii) β-naphthol + m-dinitrobenzene ix) Cinnamic Acid + P- nitro aniline	x) Salicylic Acid + β-naphthol

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021 – 2022

Subject: Chemistry (Second Term) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	November	December	January	February	March
5.	**B.Sc.I (II Sem) Physical Chemistry Theory Paper- V)**	**I Mathematical Concepts :** Logarithmic relations, curve sketching, linear graphs and calculation of slopes, differentiation of functions like kx ex, xn, sin x, log x; maxima and minima, partial differentiation. **II Gaseous States:** Postulates of kinetic theory of gases, kinetic gas equation,	Deduction of Gas Laws : Boyles Law, Charles Law, Grahams Law of diffusion, Avogadro's hypothesis, deviation from ideal behavior, van der Waals equation of state. Critical Phenomena PV isotherms of real gases. **III Chemicals Kinetics and Catalysis:** Chemical Kinetics and its scope, rate of reaction, factors influencing the rate of reaction - concentration, temperature, pressure, solvent, light, catalyst concentration dependence of rates. Derivation of rate law and characteristics of simple chemical reactions - zero order, first order,	Second order, Pseudo order, half-life. Effect of temperature on rate of reaction. Arrhenius equation, concept of activation energy. **Catalysis:** Definition, types, and characteristics of catalysis, homogeneous, heterogeneous catalysis - Enzyme catalysis and its application. **IV Liquid State:** Intermolecular forces, structure of liquids (a qualitative description).	Differnce between solids, liquids and gases. Liquid Crystals: Classification, structure of nematic and cholestric phases. **V Solid State :** Types of solids, Amorphous, crystalline and difference between them, Miller Indices. Laws of crystallography – (i) Law of constancy of interfacial angels (ii) Law of rationality of indices (iii) Law of symmetry. Symmetry elements in crystals.	X-ray diffraction by crystals. Derivation of Bragg equation. **VI Colloidal State :** Definition of colloids, classification of colloids. Solids in liquids (sols) : properties - kinetic, optical and electrical; stability of colloids, protective action. Hardy - Schulze Law. Liquids in liquids (emulsions): types of emulsions, preparation. Liquids in Solids (gels): classification, preparation and properties, general applications of colloids.

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Sunderrao Solanke Mahavidyalaya Majalgaon MAJALGAON DIST.BEED (MAHARASHTRA)

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021 – 2022

Subject: Chemistry (Second Term) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	November	December	January	February	March
6.	**B.Sc. F.Y. (II Sem, Paper-VI) Lab Course-II**	**I Organic Qualitative Analysis:** Nature / Functional group / Element / Derivative / Physical constant Benzoic acid,	salicylic acid, β-naphthol,	p-nitroaniline, Naphthalene, Acetanilide.	**II Organic Estimation:** • Phenol by Bromination	• Estimation of basicity, molecular weight of organic acid (oxalic/acetic acid)

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Sunderrao Solanke Mahavidyalaya MAJALGAON DIST.BEED (MAHARASHTRA)

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021 – 2022

Subject: Chemistry (Second Term) Name of Asst. Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	November	December	January	February	March
7.	**B.Sc. S.Y. (IV Sem) Practical paper XII, Lab Course-IVSection A (Physical Chemistry)**	i. To determine normality and strength of HCI using (0.1N) NaOH Solution Conductometrically.	ii. To determine normality and strength of acetic acid using (0.1N) NaOH solution Conductometrically. iii. To determine normality and strength of HCI using (0.1N) NaOH solution by pH-metrically.	iv. To verify Lambert-Beers Law using KMn04 solution.	v. To estimate the amount of Sugar using Polarimeter. vi. To determine refractive index of ethanol water system.	vii. To determine indicator constant of indicator colorimetrically

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (Second Term) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	November	December	January	February	March
8.	**B.Sc. T.Y. (VI Sem) Practical paper XVIII, Lab Course-VI** **Physical Chemistry**	**Instrumental** 1. Determine the Strength of HCl and CH3COOH in a given mixture by titrating against strong base conductometrically.	2. Determine the strength of oxalic acid conductometrically using sodium hydroxide solution. 3. To determine empirical formula of ferric -5-sulphosalicylate	4. Determine the amount of Fe2+ in the given solution potentiometrically 5. To determine the refractive indices of series of salt solutions and to find out concentration of the salt in given unknown solution.	**Non-Instrumental** 1. To determine the interfacial tension between two immiscible liquids. 2. To study the effect of addition of an electrolyte NaCl / KCl on the solubility of benzoic acid at room temperature.	3. To determine the standard free energy change ΔG^0 and equilibrium constant for the reaction. Cu^{+2} Ag^{+} = Cu^{+2} + 2 Ag

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (First Semester) Name of Asst. Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	**M.Sc. F.Y. (I Sem, Paper-CHE-101 Analytical Chemistry)**	**Unit- I.** **Statistical Treatment of analytical data:** Introduction, types of errors, significant figures, precision and accuracy, methods of expressing accuracy, methods of expressing precision, the confidence limit, tests of significance- the F test, the student T test, rejection of results - the Q test. Statistics for small data sets, linear least squares, correlation coefficient, using spreadsheets for plotting calibration curves, slope, intercept and coefficient of determination, numericals.	**Unit II. Basic Separation techniques: Distillation and Solvent and Solid Phase extraction:** Distillation: Fractional distillation, distillation under vacuum, theory of operation of distillation methods, some practical considerations. Solvent and Solid Phase extraction: Phase equilibrium, the partition coefficient the distribution ratio, theory of phase contact methods, single equilibrations, repeated equilibrations, counter current distribution, practical aspects and applications - extraction of metals, extraction of molecular species, Ion pair extractions, Accelerated and microwave assisted extraction, solid phase extraction, Numericals. **Unit -III. Chromatography** Introduction, basic principles and theory of chromatographic techniques, plate theory of chromatography. rate theory of chromatography, other factors in zone broadening Development of the chromatogram - Frontal analysis, elution analysis displacement analysis.	Selection of chromatograph system, qualitative and quantitative analysis by chromatography. **Unit-IV. Chromatographic Systems** **(a) Thin layer Chromatography:** Basic principles, experimental techniques, solvent systems, plate development, detection of components, evaluation of chromatogram by different methods, applications of TLC. **(b) Liquid-Liquid partition chromatography** Introduction, theory, solid supports, selection of stationary and mobile phases, reverse phase chromatography, choice of adsorption or partition, applications of partition chromatography **(c) Column Chromatography:** Principle, experimental details, theory of development, column efficiency, factors affecting column efficiency, and applications. **(d) Gel permeation Chromatography:** Principle materials, gel preparation, column packing, detectors and applications.	**(e) Ion Exchange Chromatography:** Ion Exchange resins, Ion exchange equilibria, ion exchange capacity of resins and its determination, applications of ion exchange resins to chromatography, ion chromatography based on suppressors **Unit V Gas Chromatography** Introduction, principles of gas chromatography, instrumentation- carrier gas, sample introductory system, columns, detectors, substrates, temperature control, evaluation, retention volume, resolution, branches of gas chromatography, applications, numericals. **(b) High performance Liquid Chromatography** Principle, Instrumentation-column, column packing, mobile phone, pumping system, detector system, practical procedure, applications, HPLC adsorption and partition chromatography.

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (Second Semester) Name of Asst. Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	March	April	May	June
1.	**M.Sc. F.Y. (II Sem, Paper-CHE-205 SPECTROSCOPIC METHODS OF ANALYSIS)**	**Unit -I: General introduction of spectral methods of analysis.** Characterization of electromagnetic radiations, Regions of the spectrum, Interaction of radiations with matter absorption, emission, transmission, reflection, dispersion, polarization and representation of spectra. resolving power, signal to noise ratio. line width, and intensity of spectral lines. Energy levels. Components of spectrometer and their functions. **Microwave spectroscopy:** Rotation of molecules, rotational spectra, diatomic molecules - rigid diatomic molecules, effect of isotopic substitution, non-rigid rotator, the spectrum of non-rigid rotator, instrumentation and applications, numerical problems. **Unit -II: Vibrational and Raman spectroscopy** Review of linear harmonic oscillator, the vibrating diatomic molecule, the simple harmonic oscillator, the anharmonic oscillator, the diatomic vibrating rotator,	the vibration-rotation spectrum of carbon monoxide, breakdown of the Born-Oppenhemier approximation, the Vibration of polyatomic molecules, overtones and combination frequencies, the influence of rotation on the spectra of polyatomic molecules, the influence of nuclear spin, symmetric top molecules, analysis by Infra-red technique Group frequencies, outline of technique and instrumentation. **Raman spectroscopy:** Theories of Raman effect, pure rotational, Vibrational and Vibrational-rotational. Raman spectra, rule of mutual exclusion, overtone and combination vibrations, Rotational fine structure, Instrumentation and applications. **Unit -III: Atomic Spectroscopy:** Energies of atomic orbitals vector representation of momenta and vector coupling, spectra of hydrogen and alkali metal atoms. **Molecular Spectroscopy:** Energy levels, molecular orbital, vibronic transitions,	vibrational progression and geometry of the excited states, Franck-Condon principle, electronic spectra of polyatomic molecules. **Photoelectron spectroscopy:** Basic principles, ESCA-Introduction ESCA – ESCA satellite peaks spectral splitting ESCA chemical shifts, instrumentation, applications, Auger electron spectroscopy (brief review) **Unit-IV. Ultraviolet- Visible Spectroscopy:** Various Electronic transitions, chromophores, Auxochromes, Bathochromic and Hypsochromic Shifts, Effect of solvent on electronic transitions, Woodward-Fieser rules for dienes, enones and aromatic compounds, Applications of U.V.	**Infrared Spectroscopy** Characteristic vibrational frequencies of alkenes, alkynes, aromatic compounds, Carbonyl compounds, hydroxy compounds, amines and metal-ligand complexes. Factors affecting IR group frequencies, overtones, combination bands and Fermi resonance. Applications of IR. **Unit- V. Nuclear Magnetic Resonance Spectroscopy:** Elementary ideas, chemical shifts, factors affecting chemical shifts, spin-spin couplings and coupling constants (J), Integration. Interpretation of H^1NMR, C^{13}NMR, Mass IR and UV spectraof Methyl acetate, Methyl Propionate, Ethyl acetate, Cyclohexane, 1,3-dione, isobutyraldehyde, propionic acid and neopentane

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (First and second Semester) **Name of Asst. Prof.- S. C. Motekar**

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	M.Sc. F.Y. CHE -209 First and second Semester LABORATORY COURSE – (General & Analytical Chemistry)	Determination of saponification value of an oil sample. 2. Determination of active chlorine in the given sample of bleaching powder.	3. Determination of ion exchange capacity of given ion-exchange resin. 4. Determination of Mg++ from given sample of talcum powder.	5. Determination of aspirin in the given tablet. 6. Determination of molality of given unknown solution by Volhard method. 7. Determination of Hardness of the water sample.	8. Determination of pKa value of given substituted Benzoic acid 9. Determination of chemical oxygen demand (COD) of the given water sample.
		March	**April**	**May**	**June**
2		10. Determination of Cu2+ ion in the given solution spectrophotometrically. 11. Determination of dichromate & permanganate ion simultaneously in the given sample spectrophotometrically.	12. Determine the molecular weight of a given polymer by turbidimetry 13. Determine the concentration of sulphuric acid, acetic acid & copper sulphate in the given solution by conductometric titration method.	14. Estimation of Na/ K/ Li/ Ca by Flame photometry 15. Determination of Phosphoric acid cola averages by pH meter	16. Estimation of Vitamin C by 2,6 dichloro-indophenol method 17. Assay sulpha drugs.

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Subject: Chemistry (Third Semester) Name of Asst. Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	**M.Sc. S.Y. (III Sem, CHE-313** **Structural Elucidation by Spectral methods)**	**UNIT-I Nuclear Magnetic Resonance Spectroscopy ('H NMR)** Elementary ideas (Recapitulation); Spin-spin couplings, Different types of couplings, factors affecting on coupling constants, Karplus equation, Spin systems (AB, AX, ABX, AMX), Rate processes, spin decoupling, shift reagents, Nuclear Overhauser effect (NOE), INEPT and INADEQUATE.	**UNIT-II C Nuclear Magnetic Resonance Spectroscopy** Elementary ideas, instrumental problems, chemical shifts (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonyl carbons); Effect of substituents on chemical shifts. **UNIT-III Mass Spectroscopy** Introduction, ion production (EI, CI, FD and FAB), ion analysis, ion abundance, factors affecting on fragmentation, fragmentation of different functional groups, molecular ion peak, isotopic peaks, metastable peak, Nitrogen rule, McLaffcrty rearrangement, Retro-Diels-Alder reaction.	**UNIT-IV** Problems based on joint applications of UV, IR, 'H NMR, PC NMR and Mass spectroscopy. **UNIT-V** **(A) Mossbauer spectroscopy:** Principle, factors affecting the line position and shape, isomer effect and Quadrupole splitting iron salt like compounds, complexes, carbonyl compounds (temperature dependence of isomer shift and Quadrupole splitting in simple compound and coordination, polynuclear complexes), Numerical.	**(B) Electron Spin Resonance Spectroscopy:** Introduction, principle of ESR spectroscopy, presentation of spectrum, hyperfine splitting in various structures, hyperfine splitting diagram of representative examples, factors affecting the magnitude of "g " values, Zero field splitting, Kramer's degeneracy, Anisotropy in the hyperfine coupling constant, electron delocalization, instrumentation and applications.

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Subject: Chemistry (Fourth Semester) Name of Asst. Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	March	April	May	June
1.	**M.Sc. S.Y. (IV Sem, CHEO-417** **Organic Synthesis: Retrosynthetic Approach)**	**UNIT-I Disconnection Approach** Introduction to: i) Grounding of organic chemistry for understanding retrosynthesis; ii) Retrosynthetic analysis and designing of the synthesis, iii) Disconnection approach: An introduction to synthons, synthetic equivalents, disconnection approach, functional group interconversions, importance of order of events in organic synthesis, one and two group CX disconnections,	selective organic transformations: chemo selectivity, regioselectivity, stereoselectivity, enantioselectivity, Reversal of polarity, cyclization reactions, amine synthesis. **UNIT-II Protecting Groups** Protection and deprotection of hydroxyl, carbonyls in aldehydes and ketones, amines, carboxylic acids, alkenes and alkynes. **UNIT-III C-C Disconnections:** **(i) One group C-C Disconnections:** Alcohols (including stereoselectivity), carbonyls (including regioselectivity), Alkene synthesis, use of acetylenes and aliphatic nitro compounds in organic synthesis.	**(ii) Two group C-C Disconnections:** Diels-Alder reactions, 1,3 difunctionalized compounds and a, p-unsaturated compounds, control in carbonyl condensations, 1,5 difunctionalized compounds, Michael addition and Robbinson annealation. **UNIT-IV Ring Synthesis** Introduction to ring synthesis, saturated heterocycles, synthesis of 3, 4, 5 and 6 membered rings, rearrangements and photochemistry in synthesis, aromatic heterocycles.	**UNIT-V Complex molecules** Synthetic routes based on retrosynthetic analysis for following molecules: Longifoline, Reserpine, Juvabione, Amphidicoline, Taxol.

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Annual Teaching Plan 2021 – 2022

Subject: Chemistry (Third and Fourth Semester) Name of Asst. Prof.- S. C. Motekar

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	**M.Sc. S.Y. (III & IV Sem, CHEO-421** **Lab course Organic chemistry)**	**Qualitative analysis of ternary mixtures** **In a mixture at least one liquid, one water soluble compound be given** **Mixture 1)** Oxalic acid + Aniline + Acetanilide **Mixture 1)** Cinnamic acid + N,N-dimethyl aniline + Glucose	**Mixture 3)** Oxalic acid + p-nitro benzoic acid + Benzyl alcohol **Mixture 4)** Glucose + Bromobenzene + o- cresol	**Mixture 5)** Urea + p-toludine + Nitrobenzene **Mixture 6)** Glycine + m-nitroaniline + Chlorobenzene	**Mixture 7)** Thiourea + o-cresol + Nitrobenzene **Mixture 8)** Oxalic acid + o-cresol + Ethyl benzoate
		March	**April**	**May**	**June**
	M.Sc. S.Y. III & IV Sem. Lab course, CHEO-424 **Project Work (Organic)**	**Project work for total 8 students** **i) Project work for two students**	**ii) Project work for two students**	**iii) Project work for two students**	**iv) Project work for two students**

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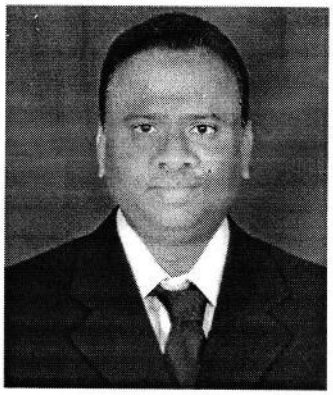
Biodata Format

Name of Institute: Sunderrao Solanke Mahavidyalaya, Majalgaon

Full Name		MOTEKAR SHRINIVAS CHANDRAMOLI		
Name of Post		ASSISTANT PROFESSOR		
Subject		CHEMISTRY		
Specialisation		ORGANIC CHEMISTRY		
Caste Category Appointed From		SONAR OBC		
UG/ PG Teacher		**UG TEACHER**		
Address & Contact Details		**Mobile No.: 9970294277 Email: shrimotekar@rediffmail.com**		
Gender	MALE	**Date of Birth : 18-02-1978**		
Mother tongue	MARATHI	**Knowledge of Marathi: READ ,WRITE AND SPEAK**	**Specially Abled:**	

:: Caste Category of Candidate

Category : OBC

Caste : SONAR

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
NET	CSIR-UGC	23 JUNE 2002	CHEMICAL SCIENCES	--	PASSED
NET	CSIR-UGC	22 JUNE 2003	CHEMICAL SCIENCES	--	PASSED
M.Sc.	SRTMU Nanded	April/May 2001	Chemistry	910/1300	DISTINCTION
B.Sc.	SRTMU Nanded	April/May 1999	Botany,Zoology, Chemistry,	2516/3700	First Division
H.S.C.	Aurangabad	March 1996	Physics, chemistry, Sociology, Biology	363/600	First Division
S.S.C.	Aurangabad	March 1994	Science, Maths, social sciences	574/750	First Division

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Approval date
Balbhim College, Beed	Permanent	Assistant Professor	Permanent	26 July 2007 to 16 July 2008	28-08-2007
Majalgaon College, Majalgaon	Permanent	Assistant Professor	Permanent	17 July 2008 to till today	Transfered

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author	API Score
Water Remediation Using Graphene-Based Materials	International	International Journal of Scientific Research in Science and Technology Volume 9 | Issue 6 |	Faculty of Science and IQAC Shri VitthalRukhminiCollege ,Sawana	--	sole	08

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author	API Score
Nil						

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status
Nil					

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B.Sc.S.Y / VIIITh	UG	Lecture Method	1 X 3 = 3	100
B.Sc.F.Y. / I(Th.)	UG	Lecture Method	03	100
B.Sc.S.Y / IX & XII (Pr.)	UG	Practical Method	4 X 3= 12	100
B.Sc.T.Y / XV & XVIII(Pr)	UG	Practical Method	4 X 2=8	100

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	50
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	10

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
B.Sc.F.Y / I (Th.)	11	07	Printed Reading materials (6 topics)
B.Sc.F.Y / III (Pr.)	03	02	Lab. chart
B.Sc.S.Y. / VIII(Th.)	05	03	Printed Reading materials (3 topics)
B.Sc.S.Y / XVIII (Th.)	10	08	Printed Reading materials (3 topics), NRC
B.Sc.F.Y / IV (Th.)	07	06	Printed Reading materials (3 topics)
B.Sc.F.Y / VIII (Pr.)	02	01	Lab. chart
B.Sc.S.Y. / XI(Th.)	10	07	Printed Reading materials (4 topics), NRC
B.Sc.S.Y / IX and XII (Pr.)	03	02	Lab. chart

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	**20**

(iv) Use of Participatory and Innovative Teaching-Learning Methodologies, Updating of Subject Content, Course Improvement etc.

Sr. No.	Short Description	API Score
01.	ITC based teaching like power point presentations, Multimedia, software's etc	10
02.	Use of ICT Based Teaching material	05
03.	Use of ball and stick modules and charts in teaching – learning process	05
	Total score (Max. 20)	**20**

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Sr. No.	Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	API Score
01.	Invigilation & Evaluation of answer script	Univ. Exam.(Th. & Pr.)	100%	15
02.	Internal College Examinations (Unit test, tutorials, seminars etc.) & Internal and External examiner for Chemistry practical examinations	Paper setting & evaluation	100%	10
03	Internal Exam Paper setting	B Sc F Y unit test	100%	10
	Total score (Max. 25)			**25**
Total Score (i+ ii + iii + iv + v) (Max. 125)				**125**

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counseling) ***API Score (Max Score:20)***	Co-curricular activities like seminars and Debate for student Community work training and placement cell. cultural activities, Science day, Science Quiz, Science Association, etc
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committiees & responsibilities ***API Score (Max Score:20)***	Participation in committees concerned with institutional management such as Chairman of Time table committee. Chairman of Training and placement Cell. Co-ordinator for Green, Energy and Environment Audit.
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures,	participation in seminars.

membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	Online STC completed --
Invited lectures or presentations for conferences/symposia	--
Design of new course & curriculum	--
Particulars of current research work at personal level	--
Co-curricular & extra curricular activities	-
Consultancy work carried out	--
Patents & IPR Details:	---
Any other information you wish to specify	---

Teaching Aids used in Chemistry

Sr. No.	Short Description
01.	ITC based teaching like power point presentations, Multimedia, software's etc
03.	Use of ball and stick modules and charts in teaching – learning process

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Mr. Shrinivas Motekar

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Teaching Methods used in Chemistry

Chemistry Course/Paper	Teaching Mode
B.Sc.S.Y / VIIITh	**Group Discussion and Lecture Method**
B.Sc.F.Y. / I(Th.)	**Group Discussion and Lecture Method**
B.Sc.S.Y / IX & XII (Pr.)	**Practical Method**
B.Sc.T.Y / XV and XVIII(Pr)	**Practical Method**

Assistant Professor

Mr. Shrinivas Motekar

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term)

Name of Faculty: **Dr. S. A. Dake**

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.				B.Sc. II SAD	B.Sc. I SAD
Tue.				B.Sc. II SAD	
Wed.				B.Sc. II SAD	B. Sc. II SAD
Thu.					B. Sc. II SAD
Fri.					B. Sc. III SAD
Sat.					B. Sc. III SAD

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	SAD = Dr. S. A. Dake	Paper-VII Organic Chemistry	03	20	23

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term)

Name of Faculty: **Dr. S. A. Dake**

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.		B.Sc. III SAD			B.Sc. I SAD
Tue.		B.Sc. III SAD			
Wed.		B.Sc. III SAD			B. Sc. II SAD
Thu.					B. Sc. II SAD
Fri.					B. Sc. III SAD
Sat.					B. Sc. III SAD

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	SAD = Dr. S. A. Dake	Paper-XVII Organic Chemistry	03	20	23

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DEPARTMENT OF CHEMISTRY

Time–Table Academic Year 2021-2022 (First Term) Class-M. Sc. I Year

Name of Faculty: **Dr. Satish A. Dake**

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.			CHE-103 Organic Chemistry (SAD)	
Tue.				
Wed.				
Thu.		CHE-103 Organic Chemistry (SAD)		
Fri.		CHE-103 Organic Chemistry (SAD)		CHE-211 Lab Course (SAD)
Sat.		CHE-103 Organic Chemistry (SAD)		

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Time – Table Academic Year 2021-2022 (Second Term) Class-M. Sc. I Year

Name of Faculty: **Dr. Satish A. Dake**

Day	Theory	Theory	Theory	Practical
	7:50-8.50	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.			CHE-207 Organic Chemistry (SAD)	
Tue.				
Wed.				
Thu.		CHE-207 Organic Chemistry (SAD)		
Fri.		CHE-207 Organic Chemistry (SAD)		CHE-211 Lab Course (SAD)
Sat.		CHE-207 Organic Chemistry (SAD)		

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DEPARTMENT OF CHEMISTRY

Time-Table Academic Year 2021-2022 (Third Term) Class-M. Sc. II Year

Name of Faculty: **Dr. Satish A. Dake**

Day	Theory	Theory	Theory	Practical
	7:50-8.50	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.		CHEO-315 (SAD)		
Tue.		CHEO-315 (SAD)		
Wed.		CHEO-315 (SAD)	CHEO-315 (SAD)	CHEO-423 Lab Course (SAD)
Thu.				CHEO-424 Lab Course
Fri.				
Sat.				

CHEO-315- Asymmetric Synthesis and Bioorganic Chemistry

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Sunderrao Solanke Mahavidyalaya, Majalgaon Dist-Beed
Department of Chemistry

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time-Table Academic Year 2021-2022 (Fourth Term) Class-M. Sc. II Year

Name of Faculty: **Dr. Satish A. Dake**

Day	Theory	Theory	Theory	Practical
	7:50-8.50	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.		CHEO-419 (SAD)		
Tue.		CHEO-419 (SAD)		
Wed.		CHEO-419 (SAD)		CHEO-423 Lab Course (SAD)
Thu.				CHEO-424 Lab Course
Fri.				
Sat.			CHEO-419 (SAD)	

CHEO-419- Chemistry of Natural Products

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Annual Teaching Plan Academic Year 2021-2022
Theory (First Term)

Name of Faculty: **Dr. S. A. Dake**

Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	October	November	December	January
01	**B.Sc. Second Year (Third Semester) Organic Chemistry Paper-VII**	**1) Alcohols:** Definition: Monohydric Alcohols: Methods of Formation by reduction of Aldehydes, Ketones, Carboxylic Acids and Esters (one e.g. each) Acidic Nature, Reactions of Alcohols. **Dihydric Alcohols:** Method of Formation of Ethylene Glycol-industrial method and From Alkenes using OSo_4, Chemical Reactions of Ethylene Glycolnitration, Acylation, Oxidation (Using $Pb(OAc)_4$ without Mechanism Pinacol Pinacolone rearrangement, **Trithydric Alcohols:** Preparation of Glycerol from propane, Reactions of Glycerol. **2) Phenols:** Preparation of Phenol from Cholorobenzene, Cumene and Benzene Sulphonic Acid, Physical properties, Acidic Nature of Phenol, Resonance stabilization of Phenoxide Ion. Reactions of Phenols-Electrophilic Aromatics Substitution, Acylation, Carboxylation (Without Mechanism) Reactions with Mechanism-intermolecular Fries Rearrangement, Claisen Rearrangement, Gattermann Synthesis and reamer Tiemann Reaction.	**3) Aldehydes and Ketones:** Aldehydes: Preparation of Aldehydes from Acid Chloride, Gattermann-Koch Synthesis Ketones-Preparation from Nitriles and from Carboxylic Acid, Physical Properties of Aldehydes and Ketones. Mechanism of Nucleophilic Additions to Carbonyl Group with particular emphasis on Benzoin, Aldol Knoenenagel condensations, Mannich Reactions. Use of Acetals as Protecting Group. Oxidation of Aldehydes using Chromium Trioxide, Baeyer-Villeger Oxidation of Ketones. **4) Carboxylic Acids:** Acidity of Carboxylic Acids, Effects of substituent's of substituents on Acid strength, preparation of Acetic Acid from CO_2 from Nitriles, from Acid Chloride, Anhydride, Ester and Amide.	Physical Properties and reactions of Carboxylic Acids-Synthesis of Acid Chloride, Ester and Amide, Hell-Volhard Zelinsky Reaction. Reduction using $LiAlH_4$, Mechanism of Decarboxylation, hydroxyl Acids-Malic, Tartaric and Citric Acid. Methods of Formation and Chemical reactions of Acrylic Acid. **5) Organic Compounds of Nitrogen:** Preparation of Nitroalkanes. Nitration of Benzene and Their Reduction in Acidic, Neutral and Basic Media. Amines-Basicity of Amines.	Amine Salt as PTC. Preparation of Alkyl and Aryl Amines (Reduction of Nitro Compounds, Nitriles) Reductive Amination, Hoffmann Bromamide Reactions. Reactions of Amines-Electrophilic Aromatic Substitution in Aryl amines, Reactions of Amines with Nitrous Acid.

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Annual Teaching Plan Academic Year 2021-2022
Practical (First Term)

Name of Faculty: **Dr. S. A. Dake**

Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	October	November	December	January
02	**B. Sc. First Year (First Semester) Chemistry Lab Course I Paper-III**	**I). Volumetric Analysis:** 1). Preparation of 0.1N. NaOH solution and its standardization by given oxalic acid solution. 2). Preparation of 0.1 N oxalic acid solution and its standardization by given $KMNO_4$ solution. **II). Inorganic Qualitative Analysis**: Identify two acid and two basic radical from the given binary mixture. a] $CdSO_4 + NH_4C$	b] $BaCO_3 + Al_2(NO_3)$ c] $ZnCO_3 + KBr$ d] $MnCO_3 + MgSO_4$ **III). Physical Chemistry: Eudiometer:** Determination of Equivalent weight of mg. **Viscometer:** To Determine Viscosity of given liquid (Water / Ethanol) by Viscometer.	**Staglanometer:** To determine surface tension of given liquid. **Chemical Kinetics:** To study the effect of acid strength on the hydrolysis of an ester. **Viscometer:** i). To Determine Viscosity of given liquid (Water / Ethanol) by viscometer.	ii) To determine the specific reaction rate of the hydrolysis methyl/ethyl acetate catalyzed by hydrogen ions at room temperature. **Colorimeter:** Verification of Lambert-Beer's law using Spectrophotometer. [Colorimeter].
03	**B.Sc. Second Year (Third Semester) Physical & Inorganic Chemistry Lab Course III Paper-IX**	**Section A (Physical Chemistry): Non Instrumental (Any Five):** i) To determine critical solution temperature of Phenol- water system. ii) To determine solubility of benzoic acid at different Temperature and determine H of dissolution process. iii) To determine heat of neutralization (Hn) of NaOH and HCl. iv) To determine heat of neutralization (Hn) of Na OH and Acetic acid. v) To determine Partition coefficient of Benzene-water system using benzoic acid of Acetone.	vi) To determine the equilibrium constant for the reaction: $KI+I_2$-->KI_3. vii) Determine the molecular mass of polymer from viscometry measurements. viii) To investigate the Kinetics of iodination of Acetone. **Section-B: (Inorganic Chemistry) Gravimetric Estimation: (Any Three)**: i) Estimation of Zinc gravimetrically as Zinc ammonium phosphate ($ZnNH_4PO_4$). ii) Estimation of Mn gravimetrically as Manganese Ammonium Phosphate ($MnNH_4PO_4$).	iii) Estimation of Nickel gravimetrically as Ni-DMG. iv) Estimation of Barium gravimetrically as Ba Chromate ($BaCrO_4$). v) Estimation of Aluminum as Aluminum Oxinate.vi) To determine the equilibrium constant for the reaction: KI + I_2-KI_3 vii) Determine the molecular mass of polymer from viscometry measurements. viii) To investigate the Kinetics of Iodination of acetone.	**Complexometric Titration: (Any Two)** i). Estimation of Zinc by EDTA solution using EBT indicator. ii). Estimation of Nickel by EDTA using Murexide indicator. iii). Estimation of copper by EDTA using fast sulphon black F indication iv). Estimation of Lead By EDTA using Xylenol Orange indicator.

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Annual Teaching Plan Academic Year 2021-2022

Practical (First Term)

Name of Faculty: **Dr. S. A. Dake**

Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	October	November	December	January
04	**B. Sc. Third Year (Fifth Semester) Organic & Inorganic Chemistry Lab. Course-V Paper-XV**	**Organic Chemistry** **Binary Mixture:** **Separation and Identification of both components** i) Benzoic Acid + β-naphthol ii) Salicylic Acid + P- nitro aniline iii) β-naphthol + Acetanilide iv) m-nitroaniline + Naphthalene v) α-naphthol + O-nitroaniline vi) Cinnamic Acid + Naphthalene vii) Salicylic Acid + Naphthalene	viii) β-naphthol + m-dinitrobenzene ix) Cinnamic Acid + P- nitro aniline x) Salicylic Acid + β-naphthol **Inorganic Chemistry**: 1. Inorganic Qualitative Analysis (Semi-Micro Analysis) (At least five mixtures) 2. Separation of calcium and Barium and estimation of Ca-volumetrically. 3. Separation of Cu and Ni from binary mixture solution and estimation of Cu-volumetrically.	4. Estimation of oxalic acid and H_2SO_4 in a given mixture Solution using NaOH and $KMnO_4$ solution. 5. Estimation of Fe by potassium dichromate using diphenyl ammine indicator. 6. Estimation of available chlorine in the given sample of bleaching powder. 7. Separation of calcium and Barium and estimation of Ba-gravimetrically.	8. Separation of Cu and Ni from binary mixture solution and estimation of Ni-gravimetrically.

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Theory (Second Term)

Name of Faculty: **Dr. S. A. Dake**

Subject: **Chemistry**

Sr. No	Class Subject & Paper No	March	April	May
05	**B. Sc. Third Year (Six Semester) Organic Chemistry Paper XVII**	**1. Heterocyclic Compounds:** **Introduction:** Molecular orbital picture and aromatic characteristics of pyrrole, furan, thiophene and pyridine, Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine. Comparison of basicity of pyridine, piperidine and pyrrole. Condensed Heterocyles: Introduction, Preparation of Quinoline (Skraups Synthesis), Isoquinoline (Bischler-Napirlaski) and Indole (Fischer indole Synthesis).	**2. Carbohydrates:** Definition, Introduction and Classification. Monsaccharides-Interconversion of Glucose and Fructose, chain lengthening, chain shortening of aldoses. Conversion of Glucose in to mannose. Determination of openchain structure of glucose & pyranose ring structure of glucose. Mechanism of Mutarotation and Introduction to disaccharides (maltose, sucrose and lactose) and Polysaccharides (Starch and cellulose) without involving structure determination. **3. Synthetic Polymers:** Introduction Classification based on nature of synthesis (without mechanism) with examples. (Addition and condensation polymers). Properties, uses and synthesis of polyvinyl chloride, polyvinyl acetate, polystyrene, polyacrylonitrile,	Nylon 6, Nylon 66. Introduction to synthetic and natural rubber, properties, uses and synthesis of Buna N., Neoprene and silicon rubber. **4. Synthetic Dyes and Drugs:** Synthetic Dyes - Definition, colour and constitution (electronic concept) of dye, Classification based on chemical constitution, synthesis of methyl orange, Congo red, malachite green, crystal violet, Alizarin and indigo dyes. **Synthetic Drugs**-Definition, introduction, classification of drugs. Properties of ideal drug. Synthesis of chloromycetien, paracetamol, phenacetien, sulphaguainidine.

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Practical (Second Term)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	March	April	May
06	**B. Sc. First Year (Second Semester) Chemistry Lab Course-II Paper VI**	**I). Organic Qualitative Analysis:** Nature / Functional group / Element / Derivative / Physical constant * Benzoic acid * salicylic acid, * ß-naphthol * p-nitroaniline	* salicylic acid, * ß-naphthol * p-nitroaniline, * Naphthalene, * Acetanilide **II). Organic Estimation:** • Phenol by Bromination	• Estimation of basicity, molecular weight of organic acid (oxalic/acetic acid)
07	**B. Sc. Second Year (Fourth Semester) Physical & Organic Chemistry Lab Course-IV Paper-XII**	**Section A: Physical Chemistry Instrumentation: (Any Five)** i). To determine normality and strength of HCI using (0.1N) NaOH Solution Conductometrically. ii). To determine normality and strength of acetic acid using (0.1N) NaOH solution Conductometrically. iii). To determine normality and strength of HCI using (0.1N) NaOH solution by pH-metrically. iv). To verify Lambert-Beers Law using KMn04 solution. v). To estimate the amount of Sugar using Polarimeter. vi). To determine refractive index of ethanol water system.	vii). To determine indicator constant of indicator colorimetrically. **Section B: Organic Chemistry** Organic Derivatives: Preparation, Crystallization and Physical Constant. **(Any Three)** i). Acetyl Derivatives : a) Aniline b) Salicylic Acid ii). Benzoyl Derivatives : a) Aniline b) B-naphtol iii).Hydrolysis Derivatives: a) Ethyl Benzoate b) Aspirin iv). Bromo-Derivatives: a) Phenol b) Cinnamic Acid v). Reduction Derivatives: a) M-dinitrobenzene	vi). Osazone Derivatives: a) Sucrose b) Glucose **Organic Estimations: (Any Two)** i). Estimation of nitro group by reduction. ii). Estimation of glucose. iii). Estimation of ester by hydrolysis. iv). Estimation of amides by hydrolysis.

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Annual Teaching Plan Academic Year 2021-2022

Practical (Second Term)

Name of Faculty: **Dr. S. A. Dake**

Subject: **Chemistry**

Sr. No	Class Subject & Paper No	March	April	May
08	**B. Sc. Third Year (Six Semester) Organic & Physical Chemistry Lab Course VI Paper-XVIII**	**Organic Estimation:** i) Estimation of Carbonyl group by hydrazone formation method ii) Estimation of vitamin C in commercial soft drink/Glucon-D. iii) Estimation of ascorbic acid. iv) Estimation of Saponification value of oil. **Organic Preparation and its purity by TLC:** i) Preparation of Hydrazobenzene from azobenzene. ii) Preparation of Phthalic anhydride from Phthalic acid. iii) Preparation of 2, 4 dinitrophenyl hydrazone of acetone. iv) To prepare picrate of Naphthalene. v) To prepare picrate of Anthracene.	vi) Preparation of p-bromo acetanilide from acetanilide. **Instrumental:** 1). Determine the Strength of HCl and CH_3COOH in a given mixture by titrating against strong base conductometrically. 2). Determine the strength of oxalic acid conductometrically using sodium hydroxide solution. 3). To determine empirical formula of ferric-5-sulphosalicylate. 4). Determine the amount of Fe^{2+} in the given solution potentiometrically 5). To determine the refractive indices of series of salt solutions and to find out concentration of the salt in given unknown solution.	**Non-Instrumental:** 1). To determine the interfacial tension between two immiscible liquids. 2). To study the effect of addition of an electrolyte NaCl/KCl on the solubility of benzoic acid at room temperature. 3). To determine the standard free energy change $\Delta G0$ and equilibrium constant for the reaction. $Cu + 2\ Ag^{+} = Cu^{+2} + 2Ag$

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Annual Teaching Plan Academic Year 2021-2022
Theory (First Semester)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	October	November	December	January
01	**M.Sc. First Year (First Semester) Organic Chemistry Paper-CHE-103**	**Unit-I: Nature of Bonding in Organic Molecules:** Delocalized chemical bonding, conjugation, cross conjugation, resonance, hyper conjugation, bonding in fullerenes, tautomerism. addition Aromaticity in benzenoid and non-benzenoid compounds, alternant and non-alternant compounds, Huckel rule, energy level of x-molecular orbitals, annulenes, aromaticity, homo- aromaticity, y-aromaticity, PMO approach; Bonds weaker than covalent compounds, crown ether complexes and cryptands, inclusion compounds, cyclodextrins, catenanes and rotaxanes.	**Unit-II: Reaction Mechanism: Structure and Reactivity** [Types of Mechanisms, Types of reactions, Thermodynamic and Kinetic requirements, Kinetic and Thermodynamic control, Hammond's postulate, Curtin-Hammett Principle, Potential energy diagrams, transition states and intermediates, methods of determining mechanisms, isotope effects, hard and soft acids and bases, Generation, structure, stability and reactivity of carbocations, Carbanions, free radicals, carbenes and Nitrenes. Effect of structure on reactivity, resonance and field effect, steric effect quantitative treatment, The Hammett equation, Linear free energy relationship, substituent and reaction constants, Taft equation.	**Unit-III & IV: Stereo-Chemistry:** Elements of symmetry, chirality, Enantiomeric and diastereomeric relationships, R and S, E and Z nomenclature. Molecules with more than one chiral center, Threo and Erytheo isomers, Prochiral relationships, groups and faces, stereospecific and stereoselective reactions. Optical activity in the absence of Chiral Carbon (Biphenyls, allenes and Spiranes), Chirality due to helical shape. Methods of resolution, optical purity, stereochemistry of the compounds containing Nitrogen, Sulphur and phosphorous. Conformational analysis of cycloalkanes, Mono and disubstituted cyclohexanes, decalins, effect of conformation on reactivity.	**Unit-V: Aliphatic Nucleophilic and Electrophilic Substitutions:** Nucleophilic: The SN2, SN' mixed SN' and SN and SET mechanisms. The neighbouring group mechanism, Neighbouring group participation by x and 6-bonds, anchimeric assistance. The SN mechanism. Nucleophilic Substitution at an allylic aliphatic trigonal and a vinylic carbon. Reactivity: Effect of substrate structure, attacking nucleophile, leaving group and reaction medium. Phase transfer catalysis, Ambident nucleophiles, regioselectivity. Finkelstein Electrophilic Reactions: Bimolecular mechanisms-SE2 and SE. The SE mechanisms. reaction, Appeal Delepine reactions Electrophilic substitution accompanied by double bond shifts.

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Annual Teaching Plan Academic Year 2021-2022

Theory (Third Semester)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr. No	Class Subject & Paper No	October	November	December	January
02	**M. Sc. Second Year (Third Semester) Asymmetric Synthesis and Bio-Organic Chemistry CHEO-315**	**UNIT-1 Introduction to Bioorganic chemistry** Basic concepts, Proximity effects in organic chemistry, Molecular adaptation, Molecula recognition. **UNIT-II Enzyme Chemistry** Nomenclature, Classification and Extraction of enzymes, Structural outlines of enzyme (proteins), Introduction to catalysis and enzymes; Multifunctional catalysis, Intramolecula Catalysis, Molecular asymmetry and prochirality, Mechanism of enzyme action,	Facto responsible for enzyme specificity, Enzyme activity and kinetics (Michaelis Menten and Lineweaver-Burk plots), Enzyme Inhibitions (Reversible and irreversible), Structur Mechanism of action and applications of a-Chymotrypain, Ribonuclease, lysozyme Carbopeptidess-A. Enzymes in synthetic organic chemistry, [Additions, elimination substitutions, condensations, cyclocondensations, oxidations, reductions rearrangement reactions are to be covered] **UNIT-III Co-Enzyme Chemistry:** Introduction to co-enzymes, , NADP),	Cofactors, prosthetic groups and apoenzymes, Chemica stractures of co-enzymes and cofactors, Oxidoreduction (NAD Pyrido phosphate (PLP), Thiamine pyrophosphate (TPP), Biotin (CO, carrier), Haemoglobin (0 carrier), Plavin (PMN, FAD, FADH2), Oxene Reactions, Lipolo acid, Mechanisms d reactions catalyzed by co-factors. **UNIT-IV Supramolecular Chemistry and Biomimetic Chemistry (Enzyme Models)** Host-Ouest approach, Chiral recognition, Designing Enzyme Models, Ionophores, Crow sthens, cryptands, Micelles, Cyclodextrins, calixarenes	**UNIT-V Asymmetric Synthesis** Chiral pool, Chiral auxiliary, Enantio- & Diastereoselective synthesis, Chiral reagent chiral catalyst including CBS reagent, NADH, Asymmetric hydrogenation including BINAP, Hydroboration-1pc,BH, Ipc3H2, Asymmetric epoxidation- (4) DET &() DET Sharpless, Jacobson, Asymmetric dihydroxylation (DHQD)PHAL & (DHQPHAL Felkin-Anh model, Zimmermann-Traxler transition state model, Proline cataly asymmetric reactions.

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Annual Teaching Plan Academic Year 2021-2022
Practical (First & Second Semester)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr No	Class Subject & Paper No	October /November	December /January/February	March/ April	May
03	**M.Sc. First Year (First & Second Semester) Lab. Course (Organic) Paper-CHE-211 (Practical)**	1) **Qualitative Organic Analysis:** Separation, purification and identification of binary mixtures. The separation should be carried out using ether/ dichloromethane. The two components may be solid-solid, solid-liquid or liquid-liquid (non-volatile).	The water soluble solid/liquid should also be given. Student should submit the purified samples of the separated compounds and prepare a derivative of the two compounds separated out. **Note:** Analysis of at least ten mixtures should be carried out.	**Single Stage Preparations:** i) Benzaldehyde to cinnamic acid (Perkin Reaction). ii) o-lodo or o-chlorobenzoic acid from Anthranilic Acid. iii) B-benzoyl propionic acid from succinic anhydride and benzene. (Friedel-Craft reaction) iv) p-nitro acetanilide from acetanilide. v) p-nitrobromobenzene from bromobenzene. vi) Dibenzal acetone from Benzaldehyde	vii) Salicylaldehyde from phenol (Reimer-Tiemann Reaction). **Note:** i) The preparations should be carried out using (0.02 to 0.05 mole) of the starting material. ii) The yield, melting point and TLC of the recrystallized product should be recorded. iii) The sample of the purified product and TLC plate should be submitted for inspection.

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Theory (Second Semester)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	March	April	May
04	**M.Sc. First Year (Second Semester) Organic Chemistry Paper-CHE-207**	**Electrophilie Substitutions:** The arenium ion mechanisum, orientation and reactivity, energy profile diagram. The ortho/para ratio, IPSO substitution, orientation in other ring system, Recapitulation of halogenation, nitration, sulphonation and Fridel Craft's reaction, diazonium coupling. Nucleophilic Substitution: The SN, SN, benzyne mechanisum, Effect of substrate structure, leaving group and attacking nucleophile on reactivity. **Unit-II: Addition to Carbon-Carbon multiple bond:** Mechanism and stereochemical aspect of addition reaction involving electrophile, nucleophile	and free radicals. Regioselectivity and chemoselectivity, orientation and reactivity, Michael addition, Sharpless asymmetric epoxidation. **Unit-III: Addition to Carbon-Hetero Multiple bond:** Mechanisum of metal hydride reduction of saturated and unsaturated carbonyl compounds, acid, ester and nitriles. esters and amides. Addition of Grignard reagent, Organo zinc and organo lithium reagent to carbonyl and unsaturated carbonyl compounds. Wittig reaction. Mechanisum of condensation reaction involving enolates - Aldol, Knovenagel, Claisen, Mannich, Benzoin, Perkin, Stobbe reaction. Hydrolysis of esters and amides.	**Unit-IV: Elimination Reactions:** The E, E2, and Bicu mechanisum, orientation of double bond. Reactivity: effect of substrate structure, attacking base, the leaving group and the medium, pyrolytic elimination. **Unit-V: Rearrangements:** General mechanistic consideration, nature of migration, migratory aptitude, memory effect,pinacole. pinacolone, Benzil-Bezilic acid, Beckmann, Hoffman

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Annual Teaching Plan Academic Year 2021-2022
Theory (Fourth Semester)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr. No	Class Subject & Paper No.	March	April	May
05	**M.Sc. Second Year (Fourth Semester) Chemistry of Natural Products CHEO-419**	**UNIT-I Terpinoids & Carotenoids** Classification, Nomenclature, occurrence, isolation, general methods of structure determination, isoprene rule Structure determination, stereochemistry, and synthesis of the following representative molecules: Citral, Geraniol, a-Terpineol, Menthol, Farnesol, Zingiberene, Phytol, Abietic acid and B-Carotene.	**UNIT-II Alkaloids** Definition, nomenclature and physiological action, occurrence, isolation, general methods of structure elucidation, degradation, classification based on nitrogen heterocyclic ring, role of alkaloids in plants. Structure, stereochemistry and synthesis of the following: Ephedrine, (+)-conline, nicotine, atropine, Quinine and Morphine. **UNIT-III Steroids** Occurrence, nomenclature, basic skeleton, Diel's hydrocarbon and stereochemistry. Testosterone, Isolation, structure determination and synthesis of Bile acids, Androsterone, Estrone, Progestrone.	**UNIT-IV Anthocyanins and Flavones** Occurrence, nomenclature and general methods of structure determination. Synthesis of cyanidin chloride. cyanin, Hirsutidin chloride, Flavones (Kostanecki and Baker-Venkataraman approaches), Flavonols, Qurcetin, and Isoflavones. **UNIT-V Biogenesis** The building blocks and construction mechanisms of the following (a) Terpenoids: Mono-, Sesqui-, Di-, Tri-Terpenoids and steroids. (b) Alkaloids: pyridine alkaloids, Benzyl Isoquinoline alkaloids, morphine alkaloids and Indole alkaloids.(c) The Shikimic acid pathway.

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Annual Teaching Plan Academic Year 2021-2022

Practical (Third & Fourth Semester)

Name of Faculty: **Dr. S. A. Dake** Subject: **Chemistry**

Sr. No.	Class Subject & Paper No.	October /November	December/ January/February	March/ April	May
06	**M.Sc. Second Year (Third & Fourth Semester) Preparations Paper-CHEO-423 Lab Course (Practical)**	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.	Preparations involving at least two stage based on name reactions, condensations. Cyclocondensations, reagents and rearrangements (as covered under the theory). Separation, purification of the product by column is desired.
07	**M.Sc. Second Year (Third & Fourth Semester) Project Paper-CHEO-424 Lab Course (Practical)**	**Project work:** Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.	**Project work:** Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.	**Project work:** Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.	**Project work:** Dissertation be prepared and should contain literature survey, aim, scope of the project, experimental details and concluding discussions.

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Department Of Chemistry

Sunderrao Solanke Mahavidyalaya

Majalgaon, Dist.Beed.

Biodata Format

Name of Institute: **Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist: Beed-431131**

Full Name		**Dr. DAKE SATISH ASHRUBA**	
Name of Post		Assistant Professor	
Subject		Chemistry	
Specialisation		Organic Chemistry	
Caste Category Appointed From		Maratha (SEBC)	
UG/ PG Teacher		UG Teacher	
Address & Contact Details		Mobile No.: 8999810006 Email: satish_dake57@yahoo.com	
Gender	Male	**Date of Birth :** 05/04/1982	
Mother tongue	Marathi	**Knowledge of Marathi:** YES	**Specially Abled:** NA

:: Caste Category of Candidate

Category: SEBC

Cast: Maratha

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph.D. (Chemistry)	S.R.T.M. University, Nanded	18 November 2011 Awarded	Chemistry	--	--
M. Phil. (Chemistry)	Alagappa University, Karaikudi. (TM).	April-2008	Chemistry	343/500	68.6%
B.Ed. (Maths & Science)	S.R.T.M. University, Nanded	June-2006	Maths & Science Methods	496/800	62%
M.Sc. (Org. Chemistry)	Dr. B. A. M. U. Aurangabad	July-2005	Chemistry	667/1200	55.58%
B.Sc. (Comp. Science)	Dr. B. A. M. U. Aurangabad	June-2003	Physics, Chemistry, Comp. Science	2374/3700	64.16%
H.S.C.	Aurangabad Board	May-2000	Phy, Chem, Bio, Maths	299/600	49.83
S.S.C.	Amravati Board	March-1998	Marathi, Sanskrit, Eng., Maths, Sci., Soc. Sci,	481/750	64.13%

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Pay scale	Approval date
Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist: Beed	Fulltime	Assistant Professor	Permanent	04/01/2020 To Till-date	57700-182400	06/03/2020

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor	API Score
National	Synthesis, Characterization, Antibacterial and Antifungal Activities of Manganese (II) Complex of (E)-1-(2,6-dihydroxy phenyl)-3-(5-methylfuran -2-yl)prop-2-en-1-one	International Journal of Scientific Research in Science and Technology, **2022,** *9(8),* 28-34.	**2022**	Co-Author	**Peer Review**	**3.9**

International	A Mini Review: Origin, Treatments, Preventions, Real Facts and Viability of the Recent Pandemic of Novel Coronavirus-2019, 2021, 2, e300421185336.	*Coronaviruses,*	2021	Co-Author	**Peer Review**	**7**
National	Synthesis, Characterization of Mn(II) Complex of 2-(furan-2-yl)-5-hydroxy-4H-chromen-4-one Ligand as Antibacterial and Antifungal Agents. Pp-24-30.	*International E-Conference, International Research Mirror,*	2021	Co-Author	**Peer Review**	**7**

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author	API Score

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author	API Score
International	**Book Chapter:** **Chapter-5:** Nanocatalyzed Synthesis of Bioactive Pyrrole, Indole, Furan, and Benzofuran Derived Heterocycles, pp-75-94	**CRC Press,** Boca Raton, Florida	eBook ISBN 9781003141488	**2022**	**Co-author**	**05**

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status
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:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score
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CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B. Sc. S. Y. Semester-III: (Paper-VII, Org. Chem.) **B. Sc. T. Y.** Semester-VI: (Paper – XVII, Org. Chem.)	**UG**	**Chalk & Black Board**	1x 3=3	**100%**
Practical / Laboratory **B.Sc. F.Y.** Paper- III & IV (Pr.) lab course-I & II	**UG**	**Practical Demonstration Method**	1 x 4 =4	**100%**
B.Sc. S.Y. P- IX & XII (Pr.) lab course-III & IV	**UG**	**Practical Demonstration Method**	4 X 2= 8	**100%**
B.Sc. T.Y. P-XV & XVIII (Pr) lab Course-V & VI	**UG**	**Practical Demonstration Method**	4 X 2=8	**100%**

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	**50**
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	**10**

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
B. Sc. S. Y. Semester-III (Paper-VII, Org. Chem.)	09	07	PPT, Printed Reading materials
B. Sc. T. Y. Semester-VI: (Paper – XVII, Org. Chem.)	03	02	PPT, Printed Reading materials
Practical / Laboratory **B.Sc.F.Y.** / Paper- III & IV (Pr.) lab course-I & II	03	02	Lab. chart
B.Sc.S.Y /P- IX & XII (Pr.) lab course-III & IV	02	01	Lab. chart
B.Sc. T.Y / XV & XVIII (Pr) lab Course-V & VI	03	02	Lab. chart

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	**20**
4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject content, course improvement etc.	
API Score (Max Score:20)	**20**

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	API Score
Worked as Internal Examiner for B. Sc. T. Y. Chemistry Pr. for Dr. B.A.M.U. Exam Feb. 2022	03/02/2022 to 04/02/2022	100%	10

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counselling) ***API Score (Max Score:20)***	➢ Worked as committee member of admission committee, Science Association etc.
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committees & responsibilities ***API Score (Max Score:20)***	➢ Participation in committees concerned with institutional management such as admission committee, Science Association, ISO committee etc.
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	➢ Life Membership of The Indian Science Congress Association (ISCA) [**L26012**] ➢ **Associate Editor Member** of Anti-Infective Agents Journal (Bentham Science) ➢ Associate Editor Member of Basic and Applied Science Journal
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	Orientation Course: 4th Online Guru-Dakshta, Faculty Induction Programmes (FIP) of 30 days (Equivalent to Orientation Programme) organized by University Grants Commission Human Resource Development Centre (HRDC) Gujarat University, Ahmedabad-380009.
Invited lectures or presentations for conferences/symposia	
Design of new course & curriculum	
Particulars of current research work at personal level	Synthesis of Heterocyclic Compounds and study of their biological activities.
Co-curricular & extra curricular activities	
Consultancy work carried out	
Patents & IPR Details:	
Any other information you wish to specify	

Teaching Methods

Sr. No.	Short Description
1	Chalk & Black Board Method
2	Practical Demonstration Method
3	Lectures, Seminars,
4	Group Discussion

Teaching Aids

Sr. No.	Short Description
1	Models used for teaching
2	ICT based teaching like PPT with help of Computer
3	Laboratory Charts
4	Printed study materials & notes
5	Provided study material on Whatsapp groups

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	7:00-10:00	10.50-11.40	11.40-12.30	1.20-2.10	3.00-6.00
Mon.		SSG			
Tue.	B.Sc. I SSG	SSG			
Wed.	B. Sc. II SSG	SSG			
Thu.	B. Sc. II SSG				
Fri.	B. Sc. III SSG				
Sat.	B. Sc. III SSG				

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
5	SSG=Dr. S. S. Gawali	Paper XIII Physical Chemistry	03	20	23

Gawali.

Dr. S.S. Gawali

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.				SSG	
Tue.	B.Sc. I SSG			SSG	
Wed.	B. Sc. II SSG			SSG	
Thu.	B. Sc. II SSG				
Fri.	B. Sc. III SSG				
Sat.	B. Sc. III SSG				

Sr. No	Name of Faculty	Name of Paper	Theory	Practical	Total
5	SSG=Dr. S. S. Gawali	Paper XI Physical Chemistry	03	20	23

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term) Class-M. Sc. I Year

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.				
Tue.			CHE-104 Physical Chemistry (SSG)	
Wed.				
Thu.	CHE-104 Physical Chemistry (SSG)			
Fri.	CHE-104 Physical Chemistry (SSG)			
Sat.	CHE-104 Physical Chemistry (SSG)			CHE-212 Lab Course (SSG)

Dr. Suhas S. Gawali (SSG)- CHE-104- Physical Chemistry

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term) Class-M. Sc. I Year

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.				
Tue.			CHE-208 Physical Chemistry (SSG)	
Wed.				
Thu.	CHE-208 Physical Chemistry (SSG)			
Fri.	CHE-208 Physical Chemistry (SSG)			
Sat.	CHE-208 Physical Chemistry (SSG)			CHE-212 Lab Course (SSG)

Dr. Suhas S. Gawali (SSG)- CHE-104- Physical Chemistry

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DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Third Term) Class-M. Sc. II Year

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.	CHEO-316 (SSG)			
Tue.	CHEO-316 (SSG)			
Wed.	CHEO-316 (SSG)			
Thu.			CHEO-316 (SSG)	CHEO-424 Lab Course
Fri.				
Sat.				

Dr. Suhas S. Gawali (SSG)-CHEO-316- Photo chemistry, Free Radicals and Pericyclic Reactions

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DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Fourth Term) Class-M. Sc. II Year

	Theory	**Theory**	**Theory**	**Practical**
Day	**7:50-8.50**	**8.50-9.50**	**9.50-10.50**	**11.00-5.00**
Mon.				
Tue.				
Wed.				
Thu.		CHEO-420 (SSG)	CHEO-420 (SSG)	CHEO-424 Lab Course
Fri.		CHEO-420 (SSG)		
Sat.		CHEO-420 (SSG)		

Dr. Suhas S. Gawali (SSG)-CHEO-420- Medicinal Chemistry

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Annual Teaching Plan Academic Year 2021-22

Theory/ Practical (First Term)

Name of Faculty: **Dr. S. S. Gawali**

Subject: **Chemistry**

Sr. No	Class Subject & Paper No	October	November	December	January
01	**B.Sc. (Second Year) (Third Semester) & Physical Chemistry Paper XIII**	**1) Elementary Quantum Mechanics:** Black body radiation, Planck's radiation law, photoelectric effect, Bohr's modes of hydrogen atom (no derivation) and its defects. Compton effect. De Broglie Hypothesis, the Heisenberg's uncertainty principles, Harmiltonian operator, Schrödinger wave equation and its importance, physical interpretation of the wave function, postulates of quantum mechanics. Schrödinger wave equation for H-atom, separation into three equations (without derivation), quantum numbers and their importance.	**2) Spectroscopy:** Introduction - Electromagnetic radiation, regions of the spectrum, basic features of different spectrometers, statement of the Born-Oppenheimer approximation. Rotational Spectrum - Diatomic molecules, energy levels of a rigid rotor (semi classical principles), selection rule, rotational spectra of rigid diatomic molecule, determination of bond length, numerical problems. **3) Photochemistry:** Introduction of radiation with matter, difference	Laws of photochemistry, Grothus - Drapper law, StarkEinstein law, Jablonsiki diagram qualitative description of fluorescence, phosphorescence, non-radiative processes (Internal conversion, Intersystem crossing), quantum yield, photosensitized reactions. **4) Physical properties and molecular structure:** Optical activity and its measurement, dipole moment and its measurement by temperature change method, magnetic property and its measurement by Guoy balance method, Applications of optical activity, dipole moment and magnetic property for	**5) Nano Material:** Introduction to nano-materials Methods of Synthesis - i) High energy ball milling, ii) Physical vapour deposition (PVD) iii) Chemical vapour deposition (CVD) iv) Micro emulsion. Synthesis using micro-organisms and plant extract.

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			between thermal and photochemical processes.	determination of structure of molecule.	
02	**B. Sc. (First Year) (First Semester) & Inorganic Chemistry Paper I**		**S-Block Elements:** Comparative study, diagonal relationship, salient features of hydrides,	solvation and complexation tendencies including their functions in biosystems	
03	**B.Sc. (Second Year) (Third Semester) & Lab Course VI Inorganic Chemistry Paper XII**	**Gravimetric Estimation:** i) Estimation of Zinc gravimetrically as Zinc ammonium phosphate ($ZnNH_4PO_4$) ii) Estimation of Mn gravimetrically as manganese ammonium phosphate ($MnNH_4PO_4$)	iii) Estimation of Nickel gravimetrically as Ni-DMG iv) Estimation of Barium gravimetrically as Ba-Chromate (BaCrO4)	**Complex metric Titration:** i) Estimation of Zinc by EDTA solution using EBT indicator. ii) Estimation of Nickel by EDTA using Murexide indicator+ I_2-KI_3 vii. Determine the molecular mass of polymer from viscometry measurements. To investigate the Kinetics of Iodination of acetone.	iii) Estimation of copper by EDTA using fast sulphon black F indication iv) Estimation of Lead By EDTA using Xylenol Orange indicator.

04	**B Sc (Third Year) (Fifth Semester) & Lab. Course V Organic Chemistry Paper-XV**	Binary Mixture: Separation and Identification of both components Mixture No. i) Benzoic Acid + β-naphthol ii) Salicylic Acid + *P*- nitro aniline	Mixture No. iii) β-naphthol + Acetanilide iv) m-nitroaniline + Naphthalene v) α-naphthol + O-nitroaniline	vi) Cinnamic Acid + Naphthalene vii) Salicylic Acid + Naphthalene viii) β-naphthol + m-dinitrobenzene	ix) Cinnamic Acid + P- nitro aniline x) Salicylic Acid + β-naphthol

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Annual Teaching Plan Academic Year 2021-22

Theory/ Practical (Second Term)

Name of Faculty: **Dr. S. S. Gawali** Subject: **Chemistry**

Sr. No.	Class Subject &Paper No	February	April	May	June
01	**B. Sc. (Second Year) (Fourth Semester)** **&** **Physical Chemistry-II** **Paper XIV**	**Phase Equilibrium:** Statement and Meaning of the Terms: Derivation of Phase Rule Equation. Phase, Component, Degree of Freedom, Phase Equilibria of the One Component System: Water System. Phase Equilibria of Two Components System: Solid-Liquid Equilibria, Simple Eutectic Pb-Ag. System Desilverisation of Lead. Solid Solutions: Compound formation with congruent Melting Point (Mg-Zn) and Incongruent Melting Point	Partially Miscible Liquids : Phenol –Water, Trimethyl Amine – Water, Nicotine-water System, Lower and Upper Consulate Temperature. Effect of Impurity on Consulate Temperature. **2) Electro Chemistry- I** Electrical Transport: Conduction in metals and in Electrolyte Solutions. Specific Conductance and equivalent conductance, measurement of equivalent conduction, variation of equivalent and specific	Transport Number: Definition, Determination by Hittorf's Method and Moving Boundary Method. Conductometric Titration: Types and its advantages. **3) Electrochemistry – II** Types of Reversible Electrodes: Gas-Metal Ion, Metal-Metal Ion, Metal-Insoluble salt Anion and Redox Electrodes. Nernst Equation, Derivation of Cell, E.M.F. and single Electrode Potential, Standard Hydrogen Electrode, Reference	Electrolytic and Galvanic Cells, Reversible and Irreversible Cells, Conventional Representation of Electro Chemical Cells. E.M.F. of a Cell and its Measurement, Calculation of Thermodynamic Quantities of Cell Reactions (ΔG, ΔH and K) Definition of pH, pKa- Determination of pH using SHE and Glass Electrode by Potentiometer method. Buffer- Acidic and Basic Buffers, Mechanism of Buffer Action,

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		($FeCl_3$ – H_2O) System. Freezing Mixture, Acetone-Dry Ice. Liquid-Liquid Mixture: Raoult's Law and Henry's Law. Ideal and Non-Ideal system. Azeotropes: HCl – H_2O and Ethanol – Water System.	conductance with dilution. Numerical problems. Kohlrausch's law and its application. Arrhenius Theory of Electrolyte Dissociation and its limitations. Weak and Strong Electrolytes, Ostwald's Dilution Law, its use and Limitations.	Electrodes, Standard Electrode Potential, Sign Conventions, Electro-Chemical Series and its significance.	Henderson- Hasselbalch equation. Corrosion: Dry (Atmospheric) Corrosion and Wet (Electro-Chemical) Corrosion Electrochemical Theory of Corrosion.
02	**B. Sc. (First Year) (Second Semester)** **&** **Inorganic Chemistry - II** **Paper-V**		**Liquid State:** Intermolecular forces, structure of liquids (a qualitative description). Differnce between solids, liquids and gases. Liquid Crystals: Classification, structure of nematic and cholestric phases.		
03	**B. Sc.** **(Second Year)**	**Instrumentation:** i) To determine normality and strength of HCl using	iii) To determine normality and strength of HCl using (0.1N) NaOH solution by pHmetrically.	v) To estimate the amount of Sugar using Polarimeter.	

	(Fourth Semester) **&** **Lab Course VII** **Physical Chemistry Paper XV**	(0.1N) NaOH Solution Conductmetrically. ii) To determine normality and strength of acetic acid using (0.1N) NaOH solution Conductmetrically.	iv) To Verify Lambert-Beers Law using KMnO 4 solution.	vi) To determine refractive index of ethanol water system. vii) To determine indicator constant of indicator colorimetrically.	
04	**B Sc (Third Year) (Sixth Semester)** **&** **Lab Course VI Organic Chemistry Paper XVIII**	**Organic Estimation** i) Estimation of Carbonyl group by hydrazone formation method ii) Estimation of vitamin C in commercial soft drink / Glucon D	iii) Estimation of ascorbic acid iv) Estimation of Saponification value of oil **Organic Preparation and its purity by TLC** i) Preparation of Hydrazobenzene from azobenzene. ii) Preparation of Phthalic anhydride from phthalic acid.	iii) Preparation of 2, 4 dinitrophenyl hydrazone of acetone. iv) To prepare picrate of Naphthalene.	v) To prepare picrate of Anthracene. Vi) preparation of p bromo acetanilide from acetanilide

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Annual Teaching Plan Academic Year 2021-22
Theory/ Practical (First Term)

Subject: **Chemistry (First Semester)**

Name of Faculty: **Dr. S. S. Gawali**

Sr. No	Class Subject & Paper No	October	November	December	January
01	M.Sc. (First Year) (First Semester) & 104- Physical Chemistry	**Unit I: Ionic Equilibria and Biological Reactions** Exact treatment of the dissociation of week acids and bases, Dissociation constant of polyprotic acids, Statistical effects in polyprotic acids, Dissociation constant of complex ions, Logarithmic expression for pH and pOH, Calculations involving buffer solution, buffer capacity and buffer index, Salt effect and solubility product and its applications. Thermodynamics of biochemical reactions, Binding of oxygen by myoglobin and hemoglobin,	Isotope effect on reaction rate. Primary salt effect, secondary salt effect. Dynamics of uni-molecular reactions, Lindmann and Hinshelwood theory Kinetics of fast reactions, study of fast reactions by flow method, relaxation method, flash photolysis and NMR method. Reactions in solution: Reaction between ions, influence of solvent-double sphere model, single sphere model, influence of ionic strength, numericals. **Unit III: Classical Thermodynamics** Nernst heat theorem, the third law of thermodynamics, determination of absolute entropies of solids, liquids and	**Unit IV: Surface Chemistry** Surface tension, capillary action, pressure difference across curved surface (Laplace equation) vapour pressure of droplets (Kelvin equation) Gibbs adsorption isotherm, estimation of surface area (BET equation), surface films on liquids (Electro kinetic phenomenon), catalytic activity at surfaces, numericals. Colloidal electrolytes, Types of micelles 'n colloidal electrolytes, Surface active agents,	**Unit V: Electro-Chemistry** Debye-Huckel theory of strong electrolytes, Debye-Huckel-Onsager equation Testing of the equation, Debye-Falkenhagen effect, Wein effect, activity coefficient, mean ionic activity coefficient; Debye-Huckel limiting law ionic strength. Electrocapillary phenomena, and its measurements. Effect of anions, cations and molecules on electrocapillary curves. Electrocapillary

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		Reaction between microscopic and macroscopic dissociation constant. **Unit II: Chemical Dynamics** Collision theory, modified collision theory, weakness of the collision theory, Theory of absolute reaction rates, equilibrium hypothesis, Derivation of the rate equation, statistical mechanical derivation and thermodynamic formulation.	gases. Partial molar properties : Partial molar free energy, chemical potential, partial molar volume and partial molar heat content and their significance, determination of these quantities, concept of fugacity and determination of fugacity, numerical.	Classifications of surface active agents, Micellization, critical micellar concentration, Factors affecting CMC, Thermodynamics of micellization, Mechanism of Micellization, Determinations of critical micellar concentration, Reverse micelles, Solubilization	properties of mercury-solution interface. Polarography: the Ilkovic equation and its derivation, concentration polarization, instrumentation, advantages of DME, half wave potential. Applications of polarography, numericals.

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Annual Teaching Plan Academic Year 2021-22

Theory/ Practical (First Term)

Subject: **Chemistry (Second Semester)** Name of Faculty: **Dr. S. S. Gawali**

Sr. No.	Class Subject &Paper No	March	April	May	June
01	M.Sc. (First Year) (Second Semester) & 208- Physical Chemistry	**Unit - I: Quantum Chemistry: I** The Schrodinger equation, particle in a one dimensional box, Eigen values and Eigen functions, operators, properties of quantum mechanical operators, Hermitian, Linear, Ladder, Hamiltonian and angular momentum operators. Particle in three dimensional box, harmonic oscillator, rigid rotator and numericals. **Unit - II: Quantum Chemistry: II** Term symbols and selection rules, spin-orbital coupling, The variation theorem, non-	Huckel molecular orbital theory of conjugated systems, application to ethylene, butadiene, cyclopropenyl radical: cyclobutadiene and benzene, numericals. **Unit -III : Phase Rule** Recapitulation of phase rule and terms involved in it, one component system, two component systems (solid-solid, solid-liquid and liquid-liquid), reduced phase rule, three component systems, partially miscible three liquid systems : one partially miscible pair, two partially miscible pairs, three partially miscible pairs, systems composed of	**Unit -IV: Crystallography** Classification of solids on the basis of shapes, and bonding, crystal lattice and unit cell, laws of crystallography crystal symmetry, symmetry elements, lattice planes and_ their designations, liquid crystals. Principle of crystal structure. close packing of atoms, packing of equal sized spheres in HCP, CCP, BCC structures. packing in ionic solids, ionic radius, radius ratio rule, (3, 4, 6, 8 coordinate structures). octahedral and tetrahedral voids, isomorphism and polymorphism, numericals.	**Unit -V : Photochemistry** Absorption of light and nature of absorption spectra, electronic transitions. photo-dissociation and pre-dissociation. photo-oxidation, photo-reduction and photo-dimerization. photo-physical phenomenon. Jablonski diagram. photo-physical pathways of molecular de-excitation, difference between delayed fluorescence and phosphorescence, Stern-Volmer equation, deviations from Stern-Volmer equation, concentration dependence

		degenerate perturbation theory and its applications.	two solids and a liquid : crystallization of pure components only, formation of binary compounds, formation of ternary compounds, formation of solid solutions, partial miscibility of solid phases, numericals.		of quenching and eximer formation, quenching of fluorescence formation of excimer and exciples.

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan Academic Year 2021-22

Theory/ Practical (First Term)

Subject: **Chemistry (First and Second Semester)** Name of Faculty: **Dr. S. S. Gawali**

Sr. No.	Class Subject &Paper No	October	November	December	January
01	M.Sc. (First and Second Year) (First and Second Semester) &	**A. Instrumentation.** 1. Determination of strengths of halides in a mixture potentiometrically. 2. Determination of dissociation constants of phosphoric acid potentiometrically. 3. Determination of dissociation constants of weak acid potentiometrically.	4. Determination of acidic and basic dissociation constants of an amino acid and its isoelectric point. 5. Determination of the strength of strong and weak acid in a given mixture conductometrically. 6. Determination of solubility and solubility product of sparingly soluble salt $BaSO_4$.	7. Study of kinetics of inversion of cane sugar. 8. Determination of equilibrium quotient for the formation of monothiocynato iron (II) complex. 9. Determine the indicator constant of given indicator by colorimetric measurements.	10. Determine the pK1 and pK2 value of phosphoric acid by pH metry. 11. To study the kinetics of mutarotation of glucose/fructose potentiometrically.
		March	**April**	**May**	**June**

	212-Physical Chemistry **Laboratory Courses**	**Non-Instrumentation.** 1. Determine the molecular refraction of methyl acetate, ethyl acetate, n-hexane and carbon tetrachloride and calculate the refraction of CH_2,C, H and O atoms. 2. To study the effect of surfactants (sodium chloride) on surface tension of given liquid. 3. To determine the radius of molecule by viscosity measurements.	4. To study the adsorption of acetic acid from aqueous solution by activated charcoal and examine the validity of Freundlich and langmuir's isotherm. 5. To construct the phase diagram for three component system (chloroform-acetic acid-water).	6. Determine the solubility of benzoic acid in water at different temperature and hence its heat of solution. 7. Determine the velocity constant of hydrolysis of ester. 8. To study auto catalysis reaction between potassium permanganate and oxalic acid.	9, Determine the rate constant of the reaction between potassium persulphate and potassium iodide having equal/unequal concentration of the reacting species. 10. Determine the formula of the complex formed between Cu(II) and ammonia by distribution method. 11. To study the variation of viscosity with the composition of mixtures (ethanol-water-HNO_3-chloroform) and to determine the formation of complex between two liquids.

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan Academic Year 2021-22

Theory/ Practical (First Term)

Subject: **Chemistry (Third Semester)** Name of Faculty: **Dr. S. S. Gawali**

Sr. No	Class Subject & Paper No	October	November	December	January
01	**M.Sc. (First Year) (Third Semester) & 316- Physical Chemistry**	**UNIT-I Pericyclic Reactions-I** Features and classification of pericyclic reactions, Phases, nodes and symmetry properties of molecular orbital in ethylene, 1,3-butadiene, 1,3,5-hexatriene. Allyl cation, allyl radical, pentadienyl cation and pentadienyl radical. Thermal and photochemical reactions. **Electrocyclic reactions:** Con-rotation and dis-rotation, electrocyclic closure and opening in 4n and 4n+2 systems, Woodward-Hoffmann selection rules for electrocyclic reactions.	Woodward-Hoffmann selection rules for cycloaddition reactions. Explanation for the mechanism of cycloaddition reactions by 1) Conservation of orbital symmetry and orbital symmetry correlation diagrams (2) Fukui Frontier Molecular Orbital (FMO) theory and (3) Huckel-Mobius aromatic and antiaromatic transition state method. Endo-exo selectivity in Diels-Alder reaction and it's explanation by FMO theory. Examples of cycloaddition reactions. **Sigmatropic reactions:** [i, j] and [i, j] shifts. Suprafacial and autarafacial shifts. Selection rules for [i, j] shifts. Cope,	Photoaddition reactions. Excited states of aromatic compounds, photodimerisation of benzene,photosubstitution reactions of aromatic compounds and Photo-Fries rearrangement. **UNIT-IV Photochemistry-II** Photochemistry of (n, π^*) transitions: Excited state of carbonyl compounds, hemolytic cleavage of α -bond-Norrish type I reaction in acyclic, cyclic ketones and strained cycloalkanediones.	Photochemistry of azo compounds, diazo compounds, azides and diazonium salts. Singlet oxygen-photo oxygenation reactions, Ene reaction, formation of dioxetanes and endoperoxides. Chemiluminescent reactions, Oxidative coupling. **UNIT-V Free radical reactions:** Introduction, generation, stability, reactivity, characteristics, structural and stereo chemical properties of free radicals. Persistent free radicals.

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		Explanation for the mechanism of electrocyclic reactions by: (i) Symmetry properties of HOMO of open chain partner; (ii) Conservation of orbital symmetry and orbital symmetry correlation diagram and (iii) Huckel-Mobius aromatic and antiaromatic transition state Method. **UNIT-II Pericyclic Reactions-II** **Cycloaddition reactions:** Suprafacial and antarafacial interactions. (π) and (4π)cycloadditions. Cycloreversions. Stereochemical aspects in supra—supra, antara-supra and antara-antara' (π) and (π) cycloadditions. Diels-Alder reaction.	degenerate Cope and Claisen rearrangements. Explanation for the mechanism of sigmatropic reactions by 1) symmetry properties of HOMO 2) Huckel-Mobius aromatic and antiaromatic transition state method. Introduction to chelotropic reactions and the explanation of mechanism by FMO theory. **UNIT-III Photochemistry-I** **Photochemistry of (π, π^*) transitions:** Excited state of alkenes, cis-trans isomerisation, photochemistry state, electrocyclisation and Si gmatropic rearrangements, di π - methane rearrangement. **Intermolecular reactions:** photocycloadditions, Photodimerasation of sample and conjugated olefins, addition of olefins to α, β unsaturated carbonyl compounds, excimers and exiplexes.	**Intermolecular abstraction of hydrogen:** Photo reduction and photo oxidation-influence of temperature, solvent, nature of hydrogen donors and structure of the substrate. **Intramolecular abstraction of hydrogen:** Norrish type II reaction in ketones, esters and 1, 2-diketones. **Addition to C-C multiple bonds:** Paterno-Buchi reaction, photodecarboxylation, photochemistry of alkyl peroxides, hypohalites and nitriles. Barton reaction.	**Reaction of free radicals:** Addition, substitutions, fragmentations (Norrish-I, II, Mclafferty rearrangement), Oxidations and reductions, Neighboring group assistance. Detection of free radicals, Homolysis and free radical displacement. Radical chain reactions, Addition and rearrangements, radical cyclization, reactivity of aliphatic and aromatic substrates at bridgehead, Coupling of alkynes and arylation of aromatic compound by diazonium salt, Sandmeyer reaction, Hunsdieker reaction, Allylic halogenations, McMurry reaction, Acyloin condensation, Birch reduction, Bouveault-Blank reduction.

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Annual Teaching Plan Academic Year 2021-22
Theory/ Practical (Second Term)

Subject: **Chemistry (Fourth Semester)**

Name of Faculty: **Dr. S. S. Gawali**

Sr. No	Class Subject & Paper No	March	April	May	June
01	**M.Sc. (Second Year) (Fourth Semester) & 420-Medicinal Chemistry**	**UNIT-I Basic consideration of drug activity** Definition and Introduction of following terms-Drug, Prodru g, Hard and Soft drags, agonists, antagonists, affinity, efficacy, potency, isosterism, bioisosterism, pharmacophores, lead molecule, lethal dose (L150) and effective dose (2D50) (i) Factors affecting bioactivity, (ii) Theories of drug activity, (iii) Structure activity relationship (SAR), QSAR (2D and 3D method) and Hantzsch equation (iv) Drug receptor mechanism,	**UNIT-II Pharmacokinetics** Drug absorption, Distribution and deposition of drugs, (ii) Excretion and elimination of drugs, Bioavailability, **UNIT-III Pharmacodynamics** (i) Mechanism of drug action: Enzyme stimulation and enzyme inhibition, antimetabolites, membrane active drugs, chelation; (ii) Drug metabolism and inactivation: Factors affecting drug metabolism, pathways of drug metabolism [Metabolic reaction (Phase I) and conjugation reaction (Phase II)]. **UNIT-IV Classification of Drugs** The detail contents of the each class of the drugs.	**UNIT-V** Synthesis and Utilities of the following drug molecules (at least one convenient synthetic route with possible mechanism) from following classes: **I. Anti inflammatory Drugs:** (a) Naproxen (b) Ibuprofen (c) Oxaprozin (d) Diclofenac Sodium (e) Rofecoxib (f) Celecoxib.	**II. Anti-hypertensive Drugs:** (a) Verapamil (b) Captopril (c) d-sotalol (d) Atenolol (e) Diltiazem (f) Semotiadil fumarate. **III. Drugs acting on CNS:** (a) CNS Siimulani ; Dexiro-am phetamine (b) Respiratory Stimulant : Doxapram (c) CNS anti-depressant: (i) Chlorpromazine (Antipsychotic) (ii) Diazepam (Anxiolytic) (iii) Phenobarbitol (Antiepileptic) **IV Anesthetic Drugs:** (a) General : Ketamine (b) Local : (i) Lidocaine (ii) Procaine

					V. Antibiotics: (a) Chloramphenicol (b) Ampicillin (c) Amoxycillin (d) Cefepime (e) Cefpirome (f) Antimycobactrial: Ethambutol (g) Antiviral: Acyclovir (h) Antimicrobial: Sulfamethoxazole **VI. Antidiabeties:** (a) Troglitazone (b) Chlorpropamide (c) Tolbutamide **VII. Antineopastic Drugs:** (a) Antagonist: Fluorouracil (b) Alkylating agents: i) Chlorambucil (ii) Cis-Platin

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Annual Teaching Plan Academic Year 2021-22

Theory/ Practical (Second Term)

Subject: **Chemistry (Fourth Semester)**

Name of Faculty: **Dr. S. S. Gawali**

Sr. No.	Class Subject &Paper No	March	April	May	June
01	**M.Sc. (Second Year) (Fourth Semester)** **&** **424- Organic Chemistry** **Laboratory Courses**	Project work: Dissertation be prepared and should contain Literature survey, aim, scope of the project, experimental details and concluding discussions. Project work for 8 students (i) Project work for two students	(ii) Project work for two students	(iii) Project work for two students	(iv) Project work for two students

Gawali.

Dr. Gawali S.S.

Sunderrao Solanke Mahavidyalaya, Majalgaon Department of Chemistry

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Majalgaon, Dist.Beed.

Biodata [2021-22]

Name of Institute: Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist: Beed-431131

Full Name		**Dr. Gawali Suhas Shahaji**	
Name of Post		Assistant Professor	
Subject		Chemistry	
Specialisation		Organic Chemistry	
Caste Category Appointed From		Chambhar (SC)	
UG/ PG Teacher		UG	
Address & Contact Details		Mobile No.: 7588931175 Email: suhasgawali90@gmail.com	
Gender	Male	**Date of Birth :** 13/12/1990	
Mother tongue	Marathi	**Knowledge of Marathi:** Speak write read	**Specially Abled:** N/A

:: Caste Category of Candidate

Category : SC

Caste : Chambhar

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph.D. (Chemistry)	Homi Bhabha National Institute	December 2020 Awarded	Chemistry	--	--
NET	CSIR-UGC	June-2014	Chemical Science	--	Passed
BS-MS	Indian Institute of Science Education and Research, Pune	May-2013	Chemistry		6.3/10
H.S.C.	Maharastra state Board of Secondary and Higher Secondary Education, Pune	Feb-2008	Science	449/600	74.83%
S.S.C.	Maharastra state Board of Secondary and Higher Secondary Education, Pune	March-2006	Marathi, Eng., Maths, Sci., Soc. Sci,	531/750	70.80%

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Pay scale	Approval date
IIT Bombay	Fulltime	JRF	Temporary	July 2013-May 2014	16000 pm	June 2013
Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist: Beed	Fulltime	Assistant Professor	Permanent	13/01/2020 To Till-date	57700-182400	06/03/2020

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor	API Score
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:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author	API Score
--	--	--	--	--	--	--

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author	API Score
--	--	--	--	--	--	--

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status
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:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score
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CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B. Sc. T. Y. Paper-XIII, Physical Chemistry (**First term**)	UG	Black Board/ Online Lecture Method	1 X 3 = 3	88
B. Sc. S.Y. Paper- XI, Physical Chemistry II (**Second term**)	UG	Black Board/ Online Lecture Method	1 x 3=3	92
B.Sc. F.Y. lab course I (Paper III) (**First term**)	UG	Practical Method	1 x 4 =4	89
B.Sc. S.Y. lab course III (Paper IX) (**First term**)	UG	Practical Method	1 X 4= 4	95
B.Sc. T.Y. lab course V (Paper XV) (**First term**)	UG	Practical Method	1 X 4=4	95
B.Sc. F.Y. lab course II (Paper VI) (**Second term**)	UG	Practical Method	1 x 4 =4	90
B.Sc. S.Y. lab course IV (Paper XII) (**Second term**)	UG	Practical Method	1 X 4= 8	92
B.Sc. T.Y. lab course VI (Paper XVIII) (**Second term**)	UG	Practical Method	1 X 4=8	96

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	**46**
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	**10**

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
B. Sc. T.Y.	04	02	Printed Reading materials (all topics),
B. Sc. S. Y. Semester-IV Paper XIV Physical Chemistry-II	09	05	Printed Reading materials (all topics)
B.Sc. F.Y / III (Pr.)	02	03	Lab. chart
B.Sc. S.Y / IX & XII (Pr.)	04	02	Lab. chart
B.Sc. F.Y / VIII (Pr.)	06	01	Lab. chart

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	**20**
4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject content, course improvement etc.	**-**
API Score (Max Score:20)	**-**

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	API Score
Worked as External Examiner for B.Sc. F.Y. online Practical July/August 2021	29/07/2021 to 07/08/2021	100%	10
Worked as Internal Examiner for B.Sc. S.Y. Practical March/April 2021 held in September 2021	08/09/2021 to 09/09/2021	100%	10
Worked as Internal Examiner for B.Sc. S.Y. Practical Feb 2022 held in February 2022	01/02/2022 to 02/02/2022	100%	10
Worked as Internal Examiner for B.Sc. S.Y. Practical March/April 2022 held in May 2022	20/05/2022 to 21/05/2022	100%	10

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities,	**-**

subject related events, advisement & counselling) ***API Score (Max Score:20)***	
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committees & responsibilities ***API Score (Max Score:20)***	-
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	Participated in (Orientation Program) 3rd Faculty Induction Program (HRDC- DAVV Indore) from 20/08/2021 to 16/09/2021
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	-
Invited lectures or presentations for conferences/symposia	-
Design of new course & curriculum	-
Particulars of current research work at personal level	-
Co-curricular & extra curricular activities	-
Consultancy work carried out	-
Patents & IPR Details:	-
Any other information you wish to specify	-

Teaching methodology is important in the chemical sciences, including chemistry methods gives research a certain structure and helps students understand.

Teaching Aids	Teaching Methodology
1. Models used for teaching	1. Chalk & Black Board Methods
2. ICT based teaching like PPT with help of computer	2. Practical Demonstration Method
3. Laboratory charts	3. Lecture, Seminars
4. Study materials and Notes on Whatsapp group	4. Group Discussion

Dr. Gawali S.S.

Assistant professor

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Individual Time – Table Academic Year 2021-2022 (First Term)

Name of Faculty: Dr. Archana A. Kachare

Class & Time	Practical (Lab. 1,2,3,4)		Theory		Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	7:00-10:00	10.50-11.40	11.40-12.30	1.20-2.10	3.00-6.00
Mon.	B.Sc. I AAK		AAK		
Tue.			AAK		
Wed.	B. Sc. II AAK		AAK		
Thu.	B. Sc. II AAK				
Fri.	B. Sc. III AAK				
Sat.	B. Sc. III AAK				

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	AAK= Dr. A.A. Kachare	Paper II Organic Chemistry	03	20	23

Signature of Teacher

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Department of Chemistry

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SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Individual Time – Table Academic Year 2021-2022 (Second Term)

Name of Faculty: Dr. Archana A. Kachare

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	7:00-10:00	10.50-11.40	11.40-12.30	1.20-2.10	3.00-6.00
Mon.	B.Sc. I AAK		AAK		
Tue.	B.Sc. I		AAK		
Wed.	B. Sc. II AAK		AAK		
Thu.	B. Sc. II AAK				
Fri.	B. Sc. III AAK				
Sat.	B. Sc. III AAK				

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	AAK= Dr. A.A. Kachare	Paper-V Inorganic Chemistry	03	20	23

Signature of Teacher

Sundarrao Solanke Mahavidyalaya, Majalgaon Dist.Beed. Department of Chemistry

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Sunderrao Solanke Mahavidyalaya, Majalgaon
Annual Teaching Plan Academic Year 2021-22
Theory/ Practical (First Term)

Name of Faculty: Dr. A. A. Kachare
Subject: Chemistry

Sr. No	Class Subject &Paper No	November	December	January	February
01	**B.Sc. (First Year) (I Semester)** **Organic Chemistry Paper II**	**1) Structure and Bonding:** Localized and delocalized chemical bond; charge transfer complexes, resonance, hyper conjugation, inductive effect, hydrogen bonding, conjugative effect, steric effect. **2) Mechanism of Organic Reactions:** Homolytic and heterolytic bond breaking. Types of reagents eletrophiles and nucleophiles. Types of organic reactions. Energy considerations. Reactive intermediates-carbocations, carbanions, free radicals (with two examples each).	**3) Stereochemistry of Organic Compounds-** Concept of Isomerism-Types of isomerism. Optical Isomerism-elements of symmetry molecular chirality, enantiomers, stereogenic centre, optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centres, diastereomers, threo and erythro diastereomers, meso compounds. Relative and absolute configuration, sequence rules, D and L and R and S systems of nomenclature. Geometric Isomerism- Determination of configuration of geometric isomers. E and Z system of nomenclature, geometric isomerism in oximes and alicylic compounds. **4) Alkanes:** Methods of formation (Koble reaction, Corey-House reaction and decarboxylation of carboxylic acids) Physical properties and Chemical reactions of alkanes Chlorination, Nitration, Sulphonation, Catalytic oxidation.	**5) Alkenes:** Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides. The Saytzef rule, Hofmann elimination, physical properties and relative stabilities of alkenes. Chemical reactions of alkenes-mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydro boration and oxidation with $KMnO_4$ .Polymerization of alkenes with one example each. **6) Arenes and Aromaticity:** Nomeclatureofbenzenederivatives.Thearylgroup.Aromaticnucleus.sidechainand structure of benzene :molecular formula and Kekule structure.	Resonance Structure, MO Picture, Aromaticity: The Huckel rule, aromatic ions Aromatic electrophilic substitution: General Pattern of the mechanism. (Nitration, halogenations and Sulphonation) and Friedel Crafts reaction. **7) Alkyl and Aryl halides:** Polyhalogen Compounds: Chloroform, Carbon tetrachloride .Methods-formation of aryl halides, nuclear and side chain reaction. UNIT TEST
02	**B.Sc. (First Year)** **Lab Course I Paper**	**Lab Course-I** **Volumetric Analysis** Preparationof0.1N. NaOHsolutionandittsstandardization. Preparationof0.1Noxalicacidsolutionanditsstandardizationbygiven$KMNO_4$solution.	**II) Inorganic Qualitative Analysis:** Identify two acid and two basic radical from the given binary mixture. a] $ZnCO_3$+KBr	b] $BaCO_3+Al_2(NO_3)_3$ d] $MnCO_3+MgSO_4$ c] $NiSO_4+MgCO_3$ To investigate the Kinetics of iodination of Acetone.	**III) Physical Chemistry:** Eudiometer: Determination of Equivalent weight of mg weight of mg. Viscometer: To Determine Viscosity of given liquid (Water/Ethanol)by viscometer. Staglanometer: To determine surface tension of given liquid.

03	**B.Sc. (Second Year) (Third Semester)** **& Lab Course III Paper IX (Physical / Inorganic) Practical**	**Section A (Physical Chemistry)** **Non Instrumental (Any Five)** To determine critical solution temperature of Phenol- water system. To determine solubility of benzoic acid at different Temperature and determine H of dissolution process. To determine heat of neutralization (Hn) of NaOH and HCl	To determine heat of neutralization (Hn) of Na OH and Acetic acid. To determine Partition coefficient of Benzene-water system using benzoic acid. To determine the equilibrium constant for the reaction: KI + I_2 --- > KI_3. Determine the molecular mass of polymer from viscometry measurements. To investigate the Kinetics of iodination of Acetone.	**Section B (Inorganic Chemistry) Gravimetric Estimation: (Any Three)** Estimation of Zinc gravimetrically as Zinc ammonium phosphate ($ZnNH4PO_4$). Estimation of Mn gravimetrically as Manganese Ammonium Phosphate ($MnNH4PO_4$). Estimation of Nickel gravimetrically as Ni-DMG Estimation of Barium gravimetrically as Ba-Chromate ($BaCrO_4$). Estimation of Aluminum as Aluminum Oxinate. To determine the equilibrium constant for the reaction: KI + I_2-KI_3 vii. Determine the molecular mass of polymer from viscometry measurements. To investigate the Kinetics of Iodination of acetone.	**Complexmetric Titration: (Any Two)** Estimation of Zinc by EDTA solution using EBT indicator. Estimation of Nickel by EDTA using Murexide indicator Estimation of copper by EDTA using fast sulphon black F indication Estimation of Lead By EDTA using Xylenol Orange indicator.
04	**B Sc Third Year (V^{th} Semester)** **Lab Course V** **(Practical)**	1 Organic Binary Mixtures (Atleast five mixtures) i) Benzoic Acid + β-naphthol ii) Salicylic Acid + P- nitro aniline iii) β-naphthol + AcetanilideMixture	iv) m-nitroaniline + Naphthalene v) α-naphthol + O-nitroaniline vi) Cinnamic Acid + Naphthalene	vii) Salicylic Acid + Naphthalene viii) β-naphthol + m-dinitrobenzene ix) Cinnamic Acid + P- nitro aniline	x) Salicylic Acid + β-naphthol

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Sunderrao Solanke Mahavidyalaya, Majalgaon
Annual Teaching Plan Academic Year 2021-22
Theory/ Practical (Second Term)

Name of Faculty: Dr. A. A. Kachare
Subject: Chemistry

Sr. No.	Class Subject &Paper No	March	April	May	May
01	**B Sc. First Year** **Paper V Inorganic Chemistry** **(IInd Sem)**	**Chemistry of noble gases :** Chemical properties of the noble gases, chemistry of xenon structure and bonding in xenon compounds. **Chemical Bonding:** Covalent Bond - Valence theory and its limitations, characteristic of covalent bond, various types of hybridization shapes of simple inorganic molecules and ions, Valence shell electron pair repulsion (VSEPR) theory of NH_3, SF_4, ClF_3, ICl_2 and H_2O. MO theory, homonuclear (He, N_2	and O_2) and heteronuclear (CO and NO) diatomic molecules, bond strength and bond energy, percentage ionic character from dipole moment and electro negativity difference Ionic Bonds - Definitions, Factors affecting ionic bond formation. (C) Hydrogen bonding, Van-der-Waals forces, Metallic bond and its free electron concept	**Nuclear Chemistry:** Definition; Atomic number, mass number, Isotopes,Isobars mass defect and Binding Energy, Packing fraction N/Z ratio, Radio activity properties Artificial transmutation. Applications with respec to trans-uranic elements, carbon dating **Theory of volumetric Analysis:** Types of titrations, volumetric apparatus, calibration of pipette and burette. Indicators used in pH - titrations,	oxidizing agents used in titrations. Theory of Internal, External and self indicators for redox titration
02	**B Sc. First Year** **Paper V Inorganic Chemistry** **(IInd Sem)**	**Chemistry of noble gases :** Chemical properties of the noble gases, chemistry of xenon	structure and bonding in xenon compounds.	**Nuclear Chemistry:** Definition; Atomic number, mass number, Isotopes,Isobars mass defect and Binding Energy, Packing fraction N/Z ratio,	Radio activity properties Artificial transmutation. Applications with respec to trans-uranic elements, carbon dating
03	**B Sc. First Year** **(IInd Sem)** **Chemistry Lab Course II**	**Organic Qualitative Analysis:**Nature/Functionalgroup/Element/Derivative/Physicalconstant *Benzoicacid,*	,*β-naphthol, *Naphthalene, *Acetanilide.	**ChemicalKinetics:***Tostudytheeffectofacidstrengthonthehydrolysisofanester. Colorimeter:-Verification of Lambert-Beer's law using. Spectrophotometer.[Colorimeter].	**Organic Estimation :** Phenol by Bromination Estimationof basicity, molecular weight of organic acid. (oxalic / acetic acid).
04	**B. Sc. Second Year (IV Semester)** **Lab Course IV Paper XII Physical Chemistry**	i) To determine normality and strength of HCl using (0.1N) NaOH Solution Conductometrically. ii) To determine normality and strength of acetic acid using (0.1N) NaOH solution Conductometrically.	iii) To determine normality and strength of HCl using (0.1N) NaOH solution by pH-metrically.	iv) To estimate the amount of Sugar using Polarimeter v) To verify Lambert-Beers Law using KMn04 solution To determine refractive index of ethanol water system	vi) To determine indicator constant of indicator colorimetrically

05	**B Sc Third Year (VIth Semester)** **Lab Course VI** **(Practical)**	**Organic Estimation** i) Estimation of Carbonyl group by hydrazone formation method ii) Estimation of vitamin C in commercial soft drink / Glucon D	iii) Estimation of ascorbic acid iv) Estimation of Saponification value of oil **Organic Preparation and its purity by TLC** i) Preparation of Hydrazobenzene from azobenzene. ii) Preparation of Phthalic anhydride from phthalic acid.	iii) Preparation of 2, 4 dinitrophenyl hydrazone of acetone. iv) To prepare picrate of Naphthalene.	v) To prepare picrate of Anthracene. Vi) preparation of p bromo acetanilide from acetanilide

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Signature of HOD

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Majalgaon, Dist.Beed.

BIODATA

Name of Institute: Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist-Beed(431131)

Full Name		Dr. ARCHANA ANKUSH KACHARE		
Name of Post		Assistant Professor		
Subject		Chemistry		
Specialisation		Organic Chemistry		
Caste Category Appointed From		SEBC		
UG/ PG Teacher		UG		
Address & Contact Details		**Mobile No.:** 8459255026 **Email:** archanakachare80@gmail.com		
Gender	Female	**Date of Birth :** 02/05/1989		
Mother tongue	Marathi	**Knowledge of Marathi:** yes	**Specially Abled:** No	

:: Caste Category of Candidate

Category : SEBC

Cast : Maratha

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph.D.	Dr. BAMU. Aurangabad	Nov-2016	Chemistry	-	-
NET	HRDG Examination unit New Delhi	Dec-2012	Chemistry	-	-
MSc	Dr. BAMU. Aurangabad	June-2012	Chemistry(Organic)	932/1200	77.66
BSc	Dr. BAMU. Aurangabad	June-2012	Chemistry, Biochemistry, Botany	2965/4000	74.12
HSC	Aurangabad	Feb-2007	Science(General group)	366/600	61
SSC	Aurangabad	June-2005	General	601/750	80.13

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist-Beed	Teaching	Assistant Professor	Permanent	3/01/2020-till date	Rs. 57700-182400	ACAD/AFFIL/SELF.COMM. YPS/2019-2020/10649-55 Date:06/03/2020

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor	API Score
International Multidisciplinary	Antifungal Screening of HOMO and Heterodinuclear Schiff Base Complexes of Zn (II), Fe (II), Cu (II), Ni (II), and Co(II) Derived from 2-Amino 3-Hydroxy Pyridine and 2-Hydroxyl 1-Napthaldehyde. Mahananda A. Raut[1] Ajay M. Patil [3] **Archana A. Kachare*** Volume-55, No.2 (2021).	ISSN-0025-0422.Journal of the Maharaja Sayajirao University of Baroda	2021	Co-Author	-	10
International	Antifungal Screening of Schiff Base Complexes	ISSN-	2022	First Author	-	10

Multidisciplinary	of Zn (II), Mn (II), Fe (III), Cu (II), Ni (II), and Co (III) Derived from (*E*)-1-Ethyl-4-hydroxy-3-(1-(2-Phalazine-1-yl) hudrazino ethyl quinolone-2(1*H*)-one and (E)-4-hydroxy-1-methyl-3-(1-(2-Phalazine-1-yl) hudrazino ethyl quinolon-2(1*H*)-one. **Dr. Archana A. Kachare[1]**, Dr. Ajay M. Patil[2], Dr. Prabhakar R Kute[3], Dr. Mahananda A. Raut* Volume-56, No.1 (2022).	0025-0422. Journal of the Maharaja Sayajirao University of Baroda -				

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/ Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author	API Score
Nil	Nil	Nil	Nil	Nil	Nil	Nil

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author	API Score
Nil	Nil	Nil	Nil	Nil	Nil	Nil

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status
Nil	Nil	Nil	Nil	Nil	Nil

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score
Nil	Nil	Nil	Nil	Nil	Nil	Nil

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
BSC F. Y. Organic chemistry	UG	offline	20	100%

PI Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
Nil	Nil	Nil	Nil

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	Nil
• 4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject content, course improvement etc.	Nil
API Score (Max Score:20)	Nil

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	API Score
	1) 23/05/2022 to 24/05/2022	100%	

1)Practical Internal Examiner for B.Sc.I year Chemistry Sunderrao Solanke Mahavidyalaya Majalgaon			

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counseling) *API Score (Max Score:20)*	Chairman of Vishakha samiti
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committees & responsibilities *API Score (Max Score:20)*	LGC Member
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) *API Score (Max Score:15)*	Nil
4. Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	Nil
5. Invited lectures or presentations for conferences/symposia	Nil
6. Design of new course & curriculum	Nil
7. Particulars of current research work at personal level	Nil
8. Co-curricular & extracurricular activities	Nil
9. Consultancy work carried out	Nil
10. Patents & IPR Details:	Nil
11. Any other information you wish to specify	Nil

Teaching Methods

Teaching Methods
Black Board Lecture Method
PPT, Printed Reading materials (3 topics),
Lab. chart
Lectures, Seminars, Tutorials, Practicals and Group Discussion

Teaching Aids

Sr. No	Short Description
01	ICT based teaching like PPT
02	Practice Models used for teaching
03	Audio-Visual based Teaching
04	Providing study material with the help of Whatsapp groups.
05	Organise guest lecture for specific topic for students

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.					
Tue.					
Wed.					B. Sc. II TRD
Thu.					B. Sc. II TRD
Fri.			B.Sc. I TRD		B. Sc. III TRD
Sat.			B.Sc. I TRD		B. Sc. III TRD

Sr. No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	TRD=Dr.T.R. Deshmukh	Paper I Inorganic Chemistry	02	16	18

Signature of Faculty

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Head

Department of Chemistry

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M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.					
Tue.					
Wed.					B. Sc. II TRD
Thu.					B. Sc. II TRD
Fri.					B. Sc. III TRD
Sat.				TRD	B. Sc. III TRD

Sr. No	Name of Faculty	Name of Paper	Theory	Practical	Total
6	TRD=Dr.T.R. Deshmukh	Paper X Inorganic Chemistry	01	16	17

Signature of Faculty

Sundarrao Solanke Mahavidyalaya, Majalgaon Dist.Beed. Department of Chemistry

Head

Department of Chemistry

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Department Of Chemistry

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan **2021-22** (First Term)

Subject: **Chemistry**

Name of Assistant Professor: **Dr. T. R. Deshmukh**

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	**B. Sc. Ist Year, Ist Semester, Chemistry Paper-I (Theory)**	**Atomic Structure:** Atomic orbitals, Quantum numbers, Heisenberg Uncertainty Principle, Shapes of s, p, d orbitals. Aufbau and Pauli exclusion principles. Hund's multiplicity rule.	Electronic configurations of the elements, Bohr's atomic model. (Qualitative aspect only) **II. Periodic Properties:** Atomic and Ionic radii, Ionization Energy,	Electron affinity and Electro negativity. Trends in periodic table and applications in predicting and explaining the chemical behavior.	**IV. P - Block Elements:** Comparative Study (Including diagonal relationship) of groups 13-17 elements. Interhalogen compounds and it's types.

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan **2021-22** (First Term)

Subject: **Chemistry**

Name of Assistant Professor: **Dr. T. R. Deshmukh**

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	**B. Sc. IInd Year, IIIrd Semester, Chemistry Paper-Lab Course II (Practical)**	**Gravimetric Estimation: (Any Three)** **i.** Estimation of Zinc gravimetrically as Zinc ammonium phosphate ($ZnNH_4PO_4$) **ii.** Estimation of Mn gravimetrically as Manganese Ammonium Phosphate ($MnNH_4PO_4$)	**iii.** Estimation of Nickel gravimetrically as Ni-DMG **iv.** Estimation of Barium gravimetrically as Ba-Chromate ($BaCrO_4$) **v.** Estimation of Aluminum as Aluminum Oxinate. **vi.** To determine the equilibrium constant for the reaction: $KI + I_2$-KI_3 **vii.** Determine the molecular mass of polymer from viscometry measurements. **viii.** To investigate the Kinetics of Iodination of acetone.	**Complexometric Titration: (Any Two)** **i.** Estimation of Zinc by EDTA solution using EBT indicator. **ii.** Estimation of Nickel by EDTA using Murexide indicator **iii.** Estimation of copper by EDTA using fast sulphon black F indication	**iv.** Estimation of Lead By EDTA using Xylenol Orange indicator.

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Annual Teaching Plan **2021-22** (First Term)

Subject: **Chemistry**

Name of Assistant Professor: **Dr. T. R. Deshmukh**

Sr. No.	Class, Subject & Paper No.	October	November	December	January
1.	**B. Sc. IIIrd Year, Vth Semester, Chemistry Paper-Lab Course V (Practical)**	**i. Inorganic Qualitative Analysis** (Semi-Micro Analysis) (Atleast five mixtures) Mixture No. 1 Mixture No. 2	Mixture No. 3 Mixture No. 4 Mixture No. 5 **ii.** Separation of calcium and Barium and estimation of Ca-volumetrically. **iii.** Separation of Cu and Ni from binary mixture solution and estimation of Cu-volumetrically. **iv.** Estimation of oxalic acid and H_2SO_4 in a given mixture Solution using NaOH and $KMnO_4$ solution.	**v.** Estimation of Fe by potassium dichromate using diphenylammine indicator. **vi.** Estimation of available chlorine in the given sample of bleaching powder. **vii.** Separation of calcium and Barium and estimation of Ba-gravimetically.	**viii.** Separation of Cu and Ni from binary mixture solution and estimation of Ni-gravimetrically

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Annual Teaching Plan **2021-22** (Second Term)

Subject: **Chemistry**

Name of Assistant Professor: **Dr. T. R. Deshmukh**

Sr. No.	Class, Subject & Paper No.	March	April	May
1.	**B. Sc. IInd Year, IVth Semester, Chemistry Paper-X (Theory)**	**V. Acids and Bases:** Arrhenius Theory, Bronsted-Lawry Theory,	The Lux-Flood Theory, Solvent System and Lewis Concept of Acids and Bases.	**Vi. Non- Aqueous Solvents:** Physical Properties of a solvent, Types of Solvents and their general Characteristics, Reactions in Non-Aqueous Solvents with reference to liquid NH_3 and liquid SO_2.

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan **2021-22** (Second Term)

Subject: **Chemistry**

Name of Assistant Professor: **Dr. T. R. Deshmukh**

Sr. No.	Class, Subject & Paper No.	March	April	May
1.	**B. Sc. IInd Year, IVth Semester, Chemistry Paper-Lab Course IV (Practical)**	**Organic Derivatives: Preparation, Crystallization and Physical Constant. (Any Three)** **i.** Acetyl Derivatives **a)** Aniline **b)** Salicylic Acid **ii.** Benzoyl Derivatives **a)** Aniline **b)** β-naphtol	**iii.** Hydrolysis Derivatives **a)** Ethyl Benzoate **b)** Aspirin **iv.** Bromo-Derivatives **a)** Phenol **b)** Cinnamic Acid **v.** Reduction Derivatives **a)** m-dinitrobenzene **vi.** Osazone Derivatives **a)** Sucrose **b)** Glucose	**Organic Estimations: (Any Two)** **i.** Estimation of nitro group by reduction. **ii.** Estimation of glucose. **iii.** Estimation of ester by hydrolysis. **iv.** Estimation of amides by hydrolysis.

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan **2021-22** (Second Term)

Subject: **Chemistry**

Name of Assistant Professor: **Dr. T. R. Deshmukh**

Sr. No.	Class, Subject & Paper No.	March	April	May
1.	**B. Sc. IIIrd Year, VIth Semester, Chemistry Paper-Lab Course VI (Practical)**	**Organic Estimations:** **i)** Estimation of carbonyl group by hydrazone formation method **ii)** Estimation of vitamin C in commercial soft drink / Glucon D	**iii)** Estimation of ascorbic acid **iv)** Estimation of Saponification value of oil **Organic Preparation and its purity by TLC:** **i)** Preparation of Hydrazobenzene from azobenzene. **ii)** Preparation of Phthalic anhydride from phthalic acid.	**iii)** Preparation of 2, 4 dinitrophenyl hydrazone of acetone. **iv)** To prepare picrate of Naphthalene **v)** To prepare picrate of Anthracene. **vi)** preparation of p-bromo acetanilide from acetanilide.

Dr. T.R. Deshmukh

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Majalgaon, Dist.Beed.

Curriculum vitae

Dr. Tejshri Raosaheb Deshmukh

Adress for Correspondence	**Permanant Adress**	
Dr. Tejshri Raosaheb Deshmukh **D/o Raosaheb B. Deshmukh** "Bhagyashree" Niwas, Dharur Road, Majalgaon- 431 131. Dist-Beed. Maharashtra. India. Phone:+91-9422744071	"Bhagyashree" Niwas, Dharur Road, Majalgaon- 431 131. Maharashtra. India. *E-mail*:deshmukhteju5@gmail.com Phone:+91-9420875316	

Academic Qualifications

- **Ph. D.** — **Dec 2014-1st Oct 2019**
  (Synthesis and bioevaluation of dimeric 1,2,3-triazoles)
  Department of Chemistry,
  Dr. Babasaheb Ambedkar Marathwada University,
  Aurangabad, MS, India.

- **B.Ed. (Sci. & Math Methods): (66.42%)** — **2014-15**
  College of Education, Kari, Dist- Beed,
  Dr. Babasaheb Ambedkar Marathwada University,
  Aurangabad, MS, India.

- **M. Sc. (Organic Chemistry): (77.1%) CGPA-7.71** — **2012-14**
  Department of Chemistry,
  Dr. Babasaheb Ambedkar Marathwada University,
  Aurangabad, MS, India.

- **B. Sc. (Chemistry, Botany, Zoology): (87.52 %)** — **2009-12**
  Distinction (University Topper in Biology Group)
  Majalgaon Arts, Sci & Comm, College, Majalgaon, Dist- Beed.
  Dr. Babasaheb Ambedkar Marathwada University,
  Aurangabad, MS, India.

- **Higher Secondary Certificate (HSC): (58%)** — **2009**
  (Chemistry, Mathematics, Physics, Biology, SL-I.T.)
  Mahatma Gandhi Mahavidyalaya, Ahemedpur. Dist-Latur,
  Latur divisional board, MS, India.

- **Secondery School Certificate (SSC): (82.61%)**, Distinction — **2007**
  Shri. Siddheshwar Vidyalaya, Majalgaon. Dist-Beed.
  Aurangabad divisional Board, MS, India.

Awards and Extra Qualification

- **University Fellowship:** for Ph.D. Research work during April-2015 to April-2017.
- **Merit Scholarship:** for being in top 2 ranks from Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- **"Late Shri Jagannathrao Nomulwar Prize":** for first rank in B.Sc. Examination (Biology Group) held in March/April-2012 by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- **National Programme on Technology Enhanced Learning (NPTEL)** by IIT, Madras
  1. **Speaking Effectively: (78%)** Silver **2019**
  2. **Better Spoken English: (71%)** Elite **2019**
  3. **Medicinal Chemistry: (57%)** **2019**
  4. **Organic Chemistry in Biology and Drug Development: (47%)** **2019**
- **MBA (Human Resource Management): CGPA-9.50** **2020-22**
  Yashwantrao Chavan Maharashtra Open University,
  Nashik. MS, India.
- **M.A. (English): CGPA-7.94** **2015-17**
  Yashwantrao Chavan Maharashtra Open University,
  Nashik. MS, India.
- **B.A. (60.00 %)** **May-2012**
  Yashwantrao Chavan Maharashtra Open University,
  Nashik. MS, India.

Research Experience

- **Ph. D. Research:** Registered from Dec-2014 to 01st Oct-2019 for research leading to Ph.D. Degree with the topic of research is ***" Synthesis and Bioevaluation of Dimeric Triazoles"*** under the able guidance of **Dr. B. B. Shingate**, Associate Professor, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, MS, India.
- **Predoctoral Research:** A project report on the ***"Polyphosphoric acid promoted one pot three component reaction of anilines, aldehydes and malanonitrile for synthesis of 2-amino-4-arylquinoline-3-carbonitriles"*** carried for the partial fulfillment of M.Sc. Organic Chemistry degree (2012) under the supervision of **Dr. M. S. Shingare,** Professor, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, MS, India.

Teaching Experience

- **2015-2019:** Practical, lectures and projects of M.Sc. (Organic Chemistry) were conducted in Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- **2019-2021:** Practical, lectures and projects of M.Sc. (Organic Chemistry) were conducted in Department of Chemistry, Shri. Muktanand College, Gangapur. Dist. Aurangabad.
- **2021 to till date:** Conducting B.Sc. lectures in Department of Chemistry, Sunderrao Solanke Mahavidyalaya, Majalgaon. Dist. Beed.

Technical Skills

- Multistep synthesis of organic molecules.
- Structural elucidation of compounds by IR, ^{1}H NMR, ^{13}C NMR and Mass spectroscopic analysis techniques.
- Well versed with the use of Chem draw.
- Computer (MS-CIT, CCIT, C++).

Doctoral Research Topic (2014-2019)

Ph. D. course Under the Supervision of **Dr. B. B. Shingate**, Dept. Of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad since **Dec 2014-1st Oct 2019**. Title of thesis: ***"Synthesis and Bioevaluation of Dimeric Triazoles"***

List of Publications (Cumulative IF: 34.142; Google Scholar Citations: 127)

1. "Exploring the antioxidant potential of bis-1,2,3-triazolyl-*N*-phenylacetamides", **Deshmukh, T. R.**; Khedkar, V. M.; A. P.; Sangshetti, J. N.; Shingate, B. B. ***Res. Chem. Intermed.*** **2022**. https://doi.org/10.1007/s11164-022-04915-2 **(Impact Factor: 3.134)**

2. "Copper catalyzed synthesis of aryloxy tethered symmetrical 1,2,3-triazoles as potential antifungal agents targeting 14 α-demethylase", **Deshmukh, T. R.**; Khedkar, V. M.; Jadhav, R. G.; Sarkate, A. P.; Sangshetti, J. N.; Tiwari, S. V.; Shingate, B. B. ***New J. Chem.*** **2021**, *45*, 13104. **(Impact Factor: 3.925)**

3. "Synthesis and Bioevaluation of α,α'-bis(1H-1,2,3-triazol-5-ylmethylene) ketones", **Deshmukh, T. R.**; Krishna, V. S.; Sriram, D.; Sangshetti, J. N.; Shingate, B. B. ***Chem. Pap.*** **2020**, *74*, 809-820. **(Impact Factor: 2.146)**

4. "Synthesis, bioevaluation and molecular docking study of new piperazine and amide linked dimeric 1,2,3-triazoles", **Deshmukh, T. R.**; Khare, S. P.; Krishna, V. S.; Sriram, D.; Sangshetti, J. N.; Khedkar, V. M.; Shingate, B. B. ***Synth. Commun.*** **2020**, *50*, 271-288. **(Impact Factor: 1.937)**
5. "New amide linked dimeric 1,2,3-triazoles bearing aryloxy scaffolds as a potent anticancer agents and EGFR tyrosine kinase phosphorylation inhibitors", **Deshmukh, T. R.**; Sarkate, A. P.; Lokwani, D. K.; Tiwari, S. V.; Azad, R.; Shingate, B. B. ***Bioorg. Med. Chem. Lett.*** **2019**, *19*, 126618-126625. **(Impact Factor: 2.940)**
6. "Design and Synthesis of New Aryloxy-linked Dimeric 1,2,3-Triazoles *via* Click Chemistry Approach: Biological Evaluation and Molecular Docking Study", **Deshmukh, T. R.**; Khare, S. P.; Krishna, V. S.; Sriram, D.; Sangshetti, J. N.; Bhusnure, O.; Khedkar, V. M.; Shingate, B. B. ***J. Heterocyclic. Chem.*** **2019**, *56*, 2144-2162. **(Impact Factor: 2.035)**
7. "Synthesis of 1,2,3-triazole incorporated monocarbonyl curcumin analogues as potent antitubercular, antifungal and antioxidant agents", **Deshmukh, T. R.**; Khare, S. P.; Krishna, V. S.; Sriram, D.; Sangshetti, J. N.; Shingate, B. B. ***Chem. Biol. Interface*** **2019**, *9*, 59-70.
8. "Design, Synthesis and Molecular Docking Studies of Novel Triazole-Chromene Conjugates as Antitubercular, Antioxidant and Antifungal Agents", Khare, S. P.; **Deshmukh, T. R.**; Sangshetti, J. N.; Krishna, V. S.; Sriram, D.; Khedkar, V. M.; Shingate, B. B. ***ChemistrySelect*** **2018**, *3*, 13113-13122. **(Impact Factor: 2.307)**
9. "New 1,2,3-triazole-linked tetrahydrobenzo[*b*]pyran derivatives: Facile synthesis, biological evaluation and molecular docking study", Khare, S. P.; **Deshmukh, T. R.**; Akolkar, S. V.; Sangshetti, J. N.; Khedkar, V. M.; Shingate, B. B. ***Res. Chem. Intermed.*** **2019**, *45*, 5159-5182. **(Impact Factor: 3.134)**
10. "Ultrasound assisted rapid synthesis, biological evaluation and molecular docking study of new 1,2,3-triazolyl pyrano[2,3-c]pyrazoles as antifungal and antioxidant agent", Khare, S. P.; **Deshmukh, T. R.**; Sangshetti, J. N.; Khedkar, V. M.; Shingate, B. B. ***Synth. Commun.*** **2019**, *19*, 2521-2537. **(Impact Factor: 1.937)**
11. "One-pot facile synthesis of novel 1,2,3-triazole-appended α-aminophosphonates", Danne, A. B.; Akolkar, S. V.; **Deshmukh, T. R.**; Siddiqui, M. M.; Shingate, B. B. ***J. Iran. Chem. Soc.*** **2019**, *16*, 953-961. **(Impact Factor: 2.271)**
12. "Synthesis and in vitro anticancer activities of new 1,4-disubstituted-1,2,3-triazoles derivatives through Click Approach", Nipate, A. S.; Jadhav, C. K.; Chate, A. V.; **Deshmukh, T. R.**; Sarkate, A. P.; Gill, C. H. ***ChemistrySelect*** **2021**, *6*, 5173-5179. **(Impact Factor: 2.307)**

13. "Silica supported dodecatungstophosporic acid (DTP/SiO_2): An Efficient and Recyclable Heterogeneous Catalyst for Rapid Synthesis of Quinoxalines", Hebade, M. J.; **Deshmukh, T. R.**; Dhumal, S. T. ***Synth. Commun.*** **2021,** *51*, 2510-2520. **(Impact Factor: 1.937)**

14. "A facile synthesis of quinoxalines by using SO42-/ZrO2-TiO2 as an efficient and recyclable heterogeneous catalyst", Shelke S. V.; Dhumal, S. T.; Karale, A. Y.; **Deshmukh, T. R.**; Patil, M. K. ***Synth. Commun.*** **2022,** 1-11. **(Impact Factor: 1.937)** https://doi.org/10.1080/00397911.2022.2039711

15. "DTP/SiO2 Assisted Synthesis of New Benzimidazole Thiazole Conjugates Targeting Antitubercular and Antioxidant Activities", Hebade, M. .; Dhumal, S. T.; Kamble, S. S.; **Deshmukh, T. R.**; Khedkar, V. M.; Hese, S. V.; Gacche, R. N.; Dawane, B. S. ***Polycycl. Aromat. Comp.*** **2022,** 1-22. https://doi.org/10.1080/10406638.2022.2056210 **(Impact Factor: 2.195)**

List of Achievements in Poster/ Seminar Presentations

1. **'Achieved IInd Rank'** in student seminar competition on the occasion of National Science Day-2019 organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(28th Feb-1st Mar, 2019)**

2. **'Achieved Ist Rank'** in poster presentation in the International Symposium on "Exploring New Horizons in Chemical Sciences" (ENHCS-2019) organized by Department of Chemistry, Deogiri College, Aurangabad. **(10-12th Jan, 2019)**

3. **'Achieved IInd Rank'** in poster presentation competition on the occasion of National Science Day-2018 organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(28th Feb-1st Mar, 2018)**

4. **'Achieved Ist Rank'** in poster presentation on research project entitled "Dimeric Triazoles: A New Therapeutic Agents" in University Level Avishkar-2017, organized by AVISHKAR CELL, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(23-25th Dec, 2017)**

List of Poster Presentations and Participations in Avishkar/ Conferences/ Seminars/ Webinars/ Workshops

1. Participated in National level webinar on "Chemical Sciences: An Emerging Trends in Nanotechnology & Polymer Chemistry" organized by Department of Chemistry, Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist-Beed. **(06th Dec, 2021)**

2. Participated in National level webinar on "Gender Equity: The Need of Era" organized by Women Development Cell, Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist-Beed. **(26th Nov, 2021)**
3. Participated in One Day National Online Workshop on "Laboratory Safety" organized by Department of Chemistry, Ramkrishna Paramhansa Mahavidyalaya, Osmanabad. **(24th Feb, 2021)**
4. Participated in Two Days Online Webinar on "Ideal Manuscript-Exploration of Scientific Manuscript Writing" organized by School of Science, RK University, Rajkot, India. **(21st and 22nd Dec, 2020)**
5. Participated in Two Days National Webinar on "Chemistry at the Interface of Biology in Response to COVID-19" organized by Department of Chemistry, Shri Muktanand College, Gangapur, Dist-Aurangabad. **(29 and 30th May, 2020)**
6. Participated in Webinar on "Virtual Assessment Programme on Research Methodology" organized by Department of English, Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya, Enathur, Kanchipuram, Tamilnadu, India. **(14th May, 2020)**
7. Participated in Online Awareness Programe on "COVID-19" organized by National Service Scheme (NSS), Shri Muktanand College, Gangapur, Dist-Aurangabad. **(13th May, 2020)**
8. Participated in Online Training Program on "SARS-COV-2: What You Need To Know" organized by Venture Center, Pune. **(16th April, 2020)**
9. Participated in one day workshop on "Scientific Writing & Publishing Scholarly Articles" jointly organized by Elsevier & KRC (University Library), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(30th Jan, 2019)**
10. Poster presentation in the International Symposium on "Exploring New Horizons in Chemical Sciences" (ENHCS-2019) organized by Department of Chemistry, Deogiri College, Aurangabad. **(10-12th Jan, 2019)**
11. Poster presentation in University Level Avishkar-2018, organized by AVISHKAR CELL, Dr. Babasaheb Ambedkar Marathwada University Campus, Aurangabad. **(3-5th Jan, 2019)**
12. Participated in one day awareness program of "e-Resources provides by Balani Group of Companies under e-Shodh Sindhu Consortium" jointly organized by Balani Group of Companies & Knowledge Resources Centre, University Library, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(26th Nov, 2018)**
13. Poster presentation on research project entitled "Dimeric Triazoles: A New Therapeutic Agents" in 12th Maharashtra State Inter University Research Convention, State Level Avishkar-2017, held at Mahatma Phule Krishi Vidyapeeth, Rahuri. **(15th Jan, 2018)**
14. Poster presentation on research project entitled "Dimeric Triazoles: A New Therapeutic Agents" in University Level Avishkar-2017, organized by AVISHKAR CELL, Dr. Babasaheb Ambedkar Marathwada University Campus, Aurangabad. **(23-25th Dec, 2017)**

15. Poster presentation in National Conference on "Frontiers in Chemical Sciences and Drug Development" organized by Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad Under UGC-SAP (DRS-II) Scheme. **(17-18th Mar, 2017)**
16. Participated in one day Intellectual Property Right Workshop on "Patents-Why, What, How?" organized by RUSA -Research Centre for Advanced Sensor Technology, Dr. Babasaheb Ambedkar Marathwada University Campus, Aurangabad, MS, India. **(30th Dec, 2016)**
17. Poster presentation on research project entitled "Stem Cells: A Unique Investment In Your Future Health" in University Level Avishkar-2016, organized by AVISHKAR CELL, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(27-28th Dec, 2016)**
18. Participated in the Training Programme on "Awareness of SCOPUS & Indian Citation Index" organized by Knowledge Resource Centre (University Library), held at Dr. Babasaheb Ambedkar Marathwada University Campus, Aurangabad, MS, India. **(22nd Dec, 2016)**
19. Participated in UGC, New Delhi sponsored National conference on "Newest Developments in Chemical Sciences for Civilized Society (NDCSCS-2016) organized by Dnyanopasak Shikshan Mandal's College of Arts, Commerce and Science, Parbhani. **(9-10 Dec, 2016)**
20. Participated in "one day seminar on trends in therapeutics by Professor Jaykumar Rajadas from Standard University, USA." organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(5th July, 2016)**
21. Participated in one day workshop on "LATEX for project, seminar, thesis typesetting" held at department of chemical technology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, MS, India. **(5th March, 2016).**
22. Participated in two days State Level Seminar on "Recent Development and Future Challenges in Chemical Sciences" organized by Maratha Vidya Prasarak Samaj's Arts, Commerce & Science College, Nandgaon, Dist-Nashik, MS, India. **(22-23rd Jan, 2016)**
23. Participated in "Author workshop" jointly organized by Knowledge resource centre (University library), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and Springer. **(4th Nov, 2015)**
24. Participated in "University-Industry Interaction Summit, 2015" held at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, MS, India. **(29-30th Oct, 2015)**
25. Participated in "One day user awareness programme under UGC-INFONET digital library consortium" jointly organized by Knowledge Resource Centre (University Library), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and INFLIBNET centre, Gandhinagar, Gujarat. **(9th Oct, 2015)**

26. Participated in "Training programme on awareness of Scifinder Database" organized by Knowledge resource centre (University library), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. **(July-2014)**
27. Participated in Science Academies Lecture Workshop on "Fundamental Concepts in Chemical Sciences" organized by Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, MS, India. **(21-24th March, 2014)**

Personal Details

Birth Date	:	10 January, 1992
Gender	:	Female
Marital status	:	Single
Nationality	:	Indian
Caste	:	Hindu-Maratha
Category	:	Open
Languages Known	:	Marathi, Hindi and English

Declaration

Here, I have declared that the information given above is original.

Dr. Tejshri Raosaheb Deshmukh

❖ **References:**

Dr. R. A. Mane,
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Dr. B. B. Shingate,
Associate Professor,
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Mobile No.: 9850298591

Teaching Methods
Black Board Lecture Method
PPT, Printed Reading materials (3 topics),
Lab. chart
Lectures, Seminars, Tutorials, Practicals and Group Discussion

Teaching Aids

Sr. No	Short Description
01	ICT based teaching like PPT
02	Practice Models used for teaching
03	Audio-Visual based Teaching
04	Providing study material with the help of Whatsapp groups.
05	Organise guest lecture for specific topic for students

Dr. T.R. Deshmukh

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (First Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.					
Tue.					
Wed.	B. Sc. II FSS				
Thu.	B. Sc. II FSS		B. Sc. I FSS		
Fri.	B. Sc. III FSS				
Sat.	B. Sc. III FSS				

Sr.No.	Name of Faculty	Name of Paper	Theory	Practical	Total
1	FSS=Mr. F. S. Sayyad	Paper I Inorganic Chemistry	01	16	17

Signature of Faculty

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist-Beed. Department of Chemistry

Head

Department of Chemistry

HEAD
Department Of Chemistry
Sunderrao Solanke Mahavidyalaya
Majalgaon, Dist.Beed.

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF CHEMISTRY

Time – Table Academic Year 2021-2022 (Second Term)

Class & Time	Practical (Lab. 1,2,3,4)	Theory			Practical (Lab. 1,2,3,4)
		B.Sc. III Hall No. 71	B.Sc. I Hall No. 73	B.Sc. II Hall No. 72	
Day	**7:00-10:00**	**10.50-11.40**	**11.40-12.30**	**1.20-2.10**	**3.00-6.00**
Mon.					
Tue.					
Wed.	B. Sc. II FSS				
Thu.	B. Sc. II FSS			FSS	
Fri.	B. Sc. III FSS				
Sat.	B. Sc. III FSS				

Sr. No	Name of Faculty	Name of Paper	Theory	Practical	Total
1	FSS=Mr. F. S. Sayyad	Paper X Inorganic Chemistry	01	16	17

Signature of Faculty

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist-Beed. Department of Chemistry

Head

Department of Chemistry

HEAD
Department Of Chemistry
Sunderrao Solanke Mahavidyalaya
Majalgaon, Dist.Beed.

M. S. P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Assistant Professor: **Mr. F. S. Sayyad**

Sr. No	Class Subject &Paper No	October	November	December
01	B. Sc. First Year Semester-I Inorganic Chemistry Paper-I	**S-Block Elements:** Comparative study, diagonal relationship, salient features of hydrides.	solvation and complexation tendencies.	including their functions in biosystems.

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Department of Chemistry

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (Second Term) Name of Assistant Professor: **Mr. F. S. Sayyad**

Sr. No	Class Subject & Paper No	March	April	May	May/June
01	**B. Sc. Second Year (Fourth Semester) Inorganic Chemistry Paper X**	**1) Chemistry of Elements of First Transition Series:** General Characteristic features of d-block elements. Properties of the elements of the first transition series: Ionic Size	, Atomic Size, Metallic properties, Ionization potential, magnetic properties, Oxidation State.	**2) Co-ordination Compounds:** Werner's Co-ordination Theory and its experimental verification effective atomic Number concept,	Chelates, nomenclature of co-ordination compounds, isomerism in co-ordination compounds, valence bond theory of transition metal complexes.

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Assistant Professor: **Mr. F. S. Sayyad**

Sr. No	Class Subject &Paper No	October	November	December	January
01	**B Sc II IIIrdSem Chemistry Paper Lab Course II (Practical)**	**Gravimetric Estimation: (Any Three)** i.Estimation of Zinc gravimetrically as Zinc ammonium phosphate (ZnNH4PO4) ii.Estimation of Mn gravimetrically as Manganese Ammonium Phosphate (MnNH4PO4)	iii.Estimation of Nickel gravimetrically as Ni-DMG iv.Estimation of Barium gravimetrically as Ba-Chromate (BaCrO4) v.Estimation of Aluminum as Aluminum Oxinate. vi.To determine the equilibrium constant for the reaction: KI + I2-KI3 vii.Determine the molecular mass of polymer from viscometry measurements. viii. To investigate the Kinetics of Iodination of acetone.	**Complexometric Titration: (Any Two)** i. Estimation of Zinc by EDTA solution using EBT indicator. ii.Estimation of Nickel by EDTA using Murexide indicator iii.Estimation of copper by EDTA using fast sulphon black F indication	iv.Estimation of Lead By EDTA using Xylenol Orange indicator.

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Department of Chemistry

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (First Term) Name of Assistant Professor: **Mr. F. S. Sayyad**

Sr No	Class Subject &Paper No	October	November	December	January
01	**B. Sc. III VthSem Chemistry Paper Lab Course V (Practical)**	**1.Inorganic Qualitative Analysis** (Semi-Micro Analysis) (Atleast five mixtures) Mixture No. 1 Mixture No. 2	Mixture No. 3 Mixture No. 4 Mixture No. 5 2. Separation of calcium and Barium and estimation of Ca-volumetrically . 3. Separation of Cu and Ni from binary mixture solution and estimation of Cu-volumetrically . 4. Estimation of oxalic acid and H_2SO_4 in a given mixture Solution using NaOH and $KMnO_4$ solution.	5. Estimation of Fe by potassium dichromate using diphenyl ammine indicator. 6. Estimation of available chlorine in the given sample of bleaching powder. 7. Separation of calcium and Barium and estimation of Ba-gravimetically.	8. Separation of Cu and Ni from binary mixture solution and estimation of Ni-gravimetrically

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (Second Term) Name of Assistant Professor: **Mr. F. S. Sayyad**

Sr. No	Class Subject & Paper No	March	April	May
01	**B. Sc. III VIth Sem Chemistry Paper Lab Course VI (Practical)**	**Organic Estimation** i) Estimation of Carbonyl group by hydrazone formation method ii) Estimation of vitamin C in commercial soft drink / Glucon D	iii) Estimation of ascorbic acid iv) Estimation of Saponification value of oil **Organic Preparation and its purity by TLC** i) Preparation of Hydrazobenzene from azobenzene. ii) Preparation of Phthalic anhydride from phthalic acid.	iii) Preparation of 2, 4 dinitrophenylhydrazone of acetone. iv) To prepare picrate of Naphthalene. v) To prepare picrate of Anthracene. Vi) preparation of p – bromo acetanilide from acetanilide

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Sunderrao Solanke Mahavidyalaya, Majalgaon Dist.Beed. Department of Chemistry

M. S. P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan 2021-22

Subject: Chemistry (Second Term) Name of Assistant Professor: **Mr. F. S. Sayyad**

Sr. No.	Class Subject &Paper No	March	April	May
01	**B. Sc. II IVthSem Chemistry Paper Lab Course IV (Practical)**	**Organic Derivatives:- Preparation, Crystallization and Physical Constant. (Any Three)** i.Acetyl Derivatives a) Aniline b) Salicylic Acid ii.Benzoyl Derivatives a) Aniline b) B-naphtol	iii.Hydrolysis Derivatives a) Ethyl Benzoate b) Aspirin iv.Bromo-Derivatives a) Phenol b) Cinnamic Acid v.Reduction Derivatives a) M-dinitrobenzene vi.Osazone Derivatives a) Sucrose b) Glucose	**Organic Estimations: (Any Two)** i.Estimation of nitro group by reduction. ii.Estimation of glucose. iii. Estimation of ester by hydrolysis. iv.Estimation of amides by hydrolysis.

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Department Of Chemistry
Sunderrao Solanke Mahavidyalaya
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Sunderrao Solanke Mahavidyalaya Majalgaon Dist-Beed. Department of Chemistry

Resume

SAYYAD FARUKH SUJAT

At.Kasari, Post.Jod-Hingani Tq.Dharur Dist.
Beed Maharashtra - 431128
Contact No : 8888960193
Email ID - : farukhsayyad93@gmail.com

PROFFESIONAL INFORMATION

EDUCATIONAL QUALIFICATION :-

Exam Passed	Board/University	Year	Percentage
SSC	Aurangabad	2010	82.73
HSC	Aurangabad	2012	57.33
BSC	BAMU	2016	70.05
MSC	BAMU	2018	72.00
MS-CIT	MSBTE	2015	73.00
MH-SET	SPPU	2020	50.00
PET	BAMU	2020	63.75

SPECIALISATION :-

MSC In Organic Chemistry

ACHIEVEMENT :-

Got Science Talent Search Certificate Conducted by Balbhim College , Beed

PERSONAL DETAILS

Name	:	Sayyad Farukh Sujat
Date of Birth	:	14/06/1994
Gender	:	Male
Marital Status	:	Unmarried
Nationality	:	Indian
Contact No	:	8888960193
Languages Known	:	Marathi, Hindi and English (Read, Write & Speak)
Hobbies	:	Reading Book & News Paper.
Permanent Address	:	At.Kasari, Post.Jod-Hingani Tq.Dharur Dist. Beed Maharashtra - 431128

DECLARATION

I hereby declare that the above information is true to the best of my knowledge.

Place :-

Date :- / /2020

(Sayyad Farukh Sujat)

Teaching Methods
Black Board Lecture Method
PPT, Printed Reading materials (3 topics),
Lab. chart
Lectures, Seminars, Tutorials, Practicals and Group Discussion

Teaching Aids

Sr. No	Short Description
01	ICT based teaching like PPT
02	Practice Models used for teaching
03	Audio-Visual based Teaching
04	Providing study material with the help of Whatsapp groups.
05	Organise guest lecture for specific topic for students

Sayyad

Mr. F. S. Sayyad.

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Department of Botany

Time table- 2021-2022

Day / Time	7:30 am to 10:00 pm	10:00 am to 10:50pm	10:50 am to 11:40pm	11:40 am to 12:30pm	12:30pm to 1:20pm	1:20 pm to 2:10pm	2:10 am to 3:00pm	3:00 am to 5:30pm
Mon								
Tue								B. Sc. S. Y. Pra IBS
Wen	B. Sc. T. Y. Pra IBS							
Thu	B. Sc. T. Y. Pra IBS			B.SC. II Theory IBS	B. Sc. III Theory IBS			B. Sc. T. Y. Pra IBS
Fri	B. Sc. S. Y. Pra IBS			----//----	----//----			
Sat	B. Sc. S. Y. Pra IBS			----//----	----//----			

Name of the Teacher

1. IBS- Dr. I. B. Salunkhe

Theory		Practical		Total
06	+	18	=	24
		Total	=	24

B Salunkhe
Head
Department of Botany
Mahatma Gandhi College Majalgaon

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- I. B. Salunkhe

Class/Month	November	December	January	February
B.Sc.-II (Sem-III) Practical Paper No- XI Taxonomy of Angiosperms	Study of locally available plants of the following families : 1. Annonaceae 2. Malvaceae	Study of locally available plants of the following families : 3. Leguminosae a) Fabaceae (Papilionaceae) b) Caesalpiniaceae c) Mimosaceae	Study of locally available plants of the following families : 4. Apocynaceae 5. Solanaceae 6. Acanthaceae 7. Lamiaceae (Labiatae)	Study of locally available plants of the following families : 8. Nyctaginaceae 9. Liliaceae 10. Poaceae (Gramineae

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed
Department of BOTANY

Head
Department Of Botany
Sunderrao Solanke Mahavidyala
Beed

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	November	December	January	February
B.Sc.-II (Sem-III) Theory Paper No.-IX Taxonomy of Angiosperms	Salient features, origin and evolution of Angiosperms 2. Bentham and Hooker's system of classification upto series level, its merits and demerits 3. Taxonomy in relation to anatomy, embryology, palynology, ecology and cytology	4. Concept of Binomial Nomenclature and its advantages 5. Concept of genus, species and epithet. 6. Herbaria and Botanical Gardens.	Study of the following families: systematic position , salient features, floral formula, floral diagram, common examples and their economic importance i. Annonaceae ii. Malvaceae iii. Leguminosae Fabaceae (Papilionaceae) Caesalpiniaceae Mimosaceae iv. Apocynaceae	Study of the following families: systematic position , salient features, floral formula, floral diagram, common examples and their economic importance v. Solanaceae vi. Acanthaceae vii. Lamiaceae (Labiatae) viii. Nyctaginaceae ix. Liliaceae x. Poaceae (Gramineae

BSalunkhe
Head
Department of Botany
Mahatma Gandhi College Majalgaon

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	April	May	June	July
B.Sc.-III(Sem-VI) Practical Paper No-XXIV (A) Diversity of Angiosperm-II	Study of following families: 1. Oleaceae 2. Asclepiadaceae 3. Convolvulaceae 4. Scrophulariaceae	Study of following families: 5. Verbenaceae 6. Amaranthaceae 7. Euphorbiaceae 8. Orchidaceae 9. Liliaceae . Commelinaceae	2. Mounting of pollen grains (acetolysis method) and measurement of pollen size. 3. Study of different types of stomata and epidermal structures (Trichome) 4. Identification of plants up to species by using flora (Flora of Bombay Presidency/ Flora of Marathwada)	5. Students should undertake excursion to ecologically different areas for plant study and submission of at least 10 wild plants at the time of examination.

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Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	April	May	June	July
B.Sc.III(Sem-V) Theory Paper No-XXII (A) Diversity of Angiosperm-II	Plant identification: keys, herbaria and botanical gardens Origin of angiosperms: origin and evolution,	Bennettitalean, Ranalian and Caytonial theory Binomial nomenclature: Principles and rules Modern trends in taxonomy: Cytotaxonomy, chemotaxonomy, and numerical taxonomy	1.Phytotaxonomy: Study of Engler&Plantle ,Hutchinson,Takthajan system of classification 2.Study of diversity of families: a. Asclepiadaceae b. Scrophulariaceae c. Oleaceae d. Convolvulaceae e. Verbenaceae	1.Phytotaxonomy: Study of Engler&Plantle ,Hutchinson,Takthajan system of classification 2.Study of diversity of families: f. Amaranthaceae g. Euphorbiaceae h. Orchidaceae i. Liliaceae j Commelinaceae

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed
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Majalgaon College Majalgaon

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Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	April	May	June	July
B.Sc.-II(Sem-IV) Practical Paper No- XV Gymnosperms and Utilization of plants	Gymnosperms: a) Cycas i. Habit, young leaf, bulbils, male cone, microsporophyll, megasporophyll, pollen grains, mature seed. ii. Study through permanent slides- Normal root (T.S.). Stem (T.S.), Ovule (L.S.) iii. Study through hand section-Coralloid root (T.S.), Rachis (T.S.), Leaflet (T.S.)	b) Pinus i. Habit, long and dwarf shoot, scale leaves, foliage leaves, male cone, female cone, pollengrains (W.M.), winged seed. ii. Study through hand sections and permanent slides Root (T.S.), Stem (T.S.), Needle (T.S.) iii. Study through permanent slide - T.L.S. & R.L.S. of stem, L.S. of male cone, L.S. of female cone Palaeobotany: a) Types of fossils (Specimens) b) Lygynopteris (Specimen / Permanent slide)	Palaeobotany: a) Types of fossils (Specimens) b) Lygynopteris (Specimen / Permanent slide) Utilization of plants : a) Food plants – Study of the morphology, structure,andhistochemical tests of food storing tissue in Jowar& Wheat	b) Histochemical test of lignin and cellulose c) Vegetable oils – hand section of Groundnut & Sunflower Seed and staining of oil droplets by Sudan III d) Study of the sources of Timber, Gum, Medicinal plants, Cosmotics and Perfumes e) Study of Black pepper, Clove, Cinnamon, Cumin, Coriander f) Field notebook, specimen collection, and tour report.

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Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	April	May	June	July
B.Sc.-II(Sem-IV) Theory Paper No- XIII Gymnosperms and Utilization of plants	Gymnosperms: 1. Salient features, classification as per Sporne 1965, economic importance 2. Geological time scale, fossilization, types of fossils, Lyginopteris, fossil fuels 3. Contributions of Prof. BirbalSahani	4. Study of morphology, anatomy, reproduction (excluding developmental stages) and graphical representation of life cycle of the following types: a) Cycadales – Cycas b) Coniferales – Pinus)	Utilization of Plants: 1. Domestication of plants and their centers of origin 2. History, origin, cultivation, harvesting, improved varieties and economic importance of the following plants: (i. Food plants – Wheat, Jowar ii. Sugar – Sugarcane iii. Fibers - Cotton, Jute iv. Vegetable oils – Groundnut, Sunflower v. Beverages – Tea, Coffee	3. Botanical name, family name and economic importance of the following plants: (05) i. Medicinal plants – Aloe vera, Withaniasomnifera, Curcuma longa, Vitexnegundo ii. Timber and Gum – Teak, Neem, Babul, Sisham iii. Cosmetics and Perfumes – Rose, Mogara, Tuberose iv. Spices – Clove, Black pepper, Cumin, Coriander, Cinnamon

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Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	November	December	January	February
B.Sc.-III(Sem-V) Practical Paper No-XX(A) Diversity of Angiosperms-I	1. Study of herbarium 2. Study of analytical characters 3. Preparation of indented and bracketed keys	4. Study of following families: 1. Magnoliaceae 2. Nymphaeceae 3. Papaveraceae 4. Brassicaceae	5. Capparidaceae 6. Rutaceae, 7. Rhamnaceae 8. Combretaceae	9. Lythraceae 10. Cucurbitaceae 11. Apiaceae, 5. Mounting of pollen grains (acetolysis method)

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Year 2021-22

Name of Lecturer- Dr. I. B. Salunkhe

Class/Month	November	December	January	February
B.Sc.-III(Sem-V) Theory Paper No-XVIII (A) Diversity of Angiosperm -I	1. Biodiversity Definition, concept, origin and evolution 2. Types of biodiversity: Species, genetic, ecological, cropland and agricultural diversity; biodiversity in India; endemism and hot spots; threatened species, threats to biodiversity	3. Conservation of biodiversity: Major causes for loss of biodiversity, listing of threatened biodiversity; threatened categories – extinct, endangered, vulnerable, rare and indeterminate. Conservation measures: – ex-situ, and in-situ; biodiversity conservation in India.	Phytotaxonomy: Classification of Angiosperms with special reference to Linnaeus, A. P. de Candole, Bentham and Hooker. Study of diversity following families with reference to the system of classification of Bentham and Hooker 1. Magnoliaceae 2. Nymphaeaceae 3. Papveraceae . 4. Brassicaceae 5. Capparidaceae	Phytotaxonomy: Classification of Angiosperms with special reference to Linnaeus, A. P. de Candole, Bentham and Hooker. Study of diversity following families with reference to the system of classification of Bentham and Hooker 6. Rutaceae 7. Rhamnaceae 8. Combretaceae 9. Lythraceae 10.Cucurbitaceae 11. Apiaceae

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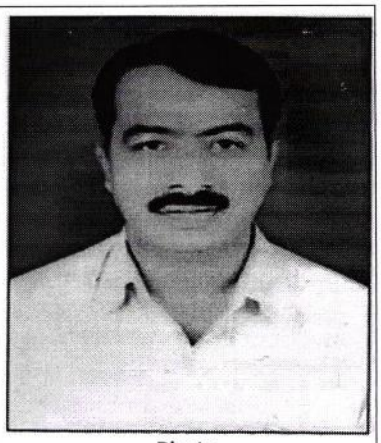
Majalgaon College Majalgaon

Biodata 2021-2022

Name of Institute: Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed. 431131 (M.S.)

Full Name		Dr. Indrarao Bhaurao Salunkhe	
Name of Post		Professor	
Subject		Botany	
Specialisation		Angiosperm, Taxonomy, Floriculture, Ecology & Ethno Botany	
Caste Category Appointed From		OBC (Kunbi), 10/07/2007 Till Today	
UG/ PG Teacher		**UG Teacher**	
Address & Contact Details Department of Botany, Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed. 431131 (M.S.)		**Mobile No.: 9623267814 Email: ibsalunkhe8@gmail.com**	
Gender	Male	**Date of Birth : 17/12/1967**	
Mother tongue	Marathi	**Knowledge of Marathi: Yes**	**Specially Abled: -**



Photo

:: Caste Category of Candidate

Category : OBC

Caste : Kunbi (Maratha)

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph.D	Pune University	14/10/1995	"Contribution to the Flora & Vegetation Studies of Southern Satpuda Ranges with Reference to Yawal-Wildlife Sanctuary"	-	-
M.Sc	Pune University	M/A 1991	Botany (Angispern)	1139	56.95%
B.Sc	Pune University	M/A 1989	Botany (Bot/Chem/Zool)	1141	60.05%
HSC	Div. Board Pune	M/A 1986	Chem/Phy/Bio/Geo	286	47.67%
SSC	Div. Board Pune	M/A 1983	Math/Sci/Soc	342	56.00%

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
Dr. Indrarao Bhaurao Salunkhe	Permanent	Professor	Lecturer	10/07/2007 Till This Date	144200-218200 Acadamic Lavel - 14 With Effect from 25/07/2022	04/08/2022

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor
An International Journal of Emerging technologies & innovative research (JETIR) Valume – 8, Issue - 9	Preliminary Survey on Timber yielding plants of Yawal-Pal wildlife sanctuary and its adjacent area in Southern Satpuda Ranges from Jalgaon District. Page No.295-298	ISSN : 2349-5162	Sep-2021	Principal Author	Peer Review, Impact Factor 7.95
International	Ethnobotanical	ISSN :	May-2022	Principal	Peer Review,

Journal of scientific research in Science & Technology Valume – 9, Issue - 9	Report on some wild edible fruits of Beed District of Maharashtra. Page No.96-104	2395-602X		Author	Impact Factor 7.214
International Journal of scientific research in Science & Technology Valume – 9, Issue - 9	Soyabean Response to biological & chemical Fertilizers Page No.158-162	ISSN : 2395-602X	May-2022	Principal Author	Peer Review, Impact Factor 7.214
International Journal of scientific research in Science & Technology Valume – 9, Issue - 9	Comparative, Quantitative HPTLC Analysis of Solasodine from in Vivo & in Vitro leaf sample Of Solanum virginianum L. Page No. 192-196	ISSN : 2395-602X	May-2022	Principal Author	Peer Review, Impact Factor 7.214
International Journal of all search education and Scientific methods (IJARESM), Valume – 10, Issue-4	A Review on Bio Active Metabolites & Health benefits of Briphatpilu (Salvadora persica L.) : A Medicinally Important Plant. Page No.2833-2838	ISSN : 2455-6211	April – 2022	Principal Author	Peer Review, Impact Factor 7.429

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedin Publishe
Beneficial Effectof Medicinal Plants in Aquaculture	International Conference	International Conference on Aquaculture for rural development	Department of Zoology Dadapatil RajaleASC College, Adinath Nagar, Tq.Pathardi	Souvenir Published

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author
Book Chapter	Advance in Plant Science Valume - V	Bhumi Publishing Nigave Khalasa, Kolhapur 416207 Maharashtra, India	ISBN : 978-93-91768-67-6	Jan-2022	Principal Author

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Semester-I

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B.Sc.F.Y /II/V(Th.)	U.G.	L/T	03	100%
B.Sc.F.Y /III(Pr.)	U.G.	P	06	100%
B.Sc.S.Y /VII/XI(Th.)	U.G.	L/T	03	100%
B.Sc.S.Y./XI(Pr.)	U.G.	P	03	100%
B.Sc.T.Y/XVIII(A)(Th.)	U.G.	L/S	03	100%
B.Sc.T.Y/XXII(A)(Pr.)	U.G.	P	03	100%
B.Sc.	U.G.	C	05	100%

Semester-II

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B.Sc.F.Y /V(Th.)	U.G.	L/T	03	100%
B.Sc.F.Y /III(Pr.)	U.G.	P	06	100%
B.Sc.S.Y /XI(Th.)	U.G.	L/T	03	100%
B.Sc.S.Y./XV(Pr.)	U.G.	L/S	03	100%
B.Sc.T.Y/XVIII(A)(Th.)	U.G.	P	03	100%
B.Sc.T.Y/XXIV(A)(Pr.)	U.G.	C	03	100%
B.Sc.	U.G.	C	05	100%
API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)				

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
B.Sc.F.Y/I&V(Th.)	12	10	Printed Reading Materials (6 Topics)
B.Sc.F.Y/III+VI (Pr.)	03	02	Chart, Slide, Museum Specimens
B.Sc.S.Y/VI&XI(Th.)	10	06	Printed Reading Materials (4 Topics) NRC
B.Sc.S.Y/IX & XII(Pr.)	10	06	Chart, Slide, Museum Specimens
B.Sc.T.Y/XVIII & XXA(Th.)	14	08	Printed Reading Materials (7 Topics) NRC Laboratory Manual Internet Material
B.Sc.T.Y/XX + XV(Pr.)	04	05	Chart, Slide, Museum Specimens Research Paper
API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)			
4. Use of Participatory & Innovative Teaching-Learning methodologies, updatingof subject content, course improvement etc.			ITC Based Teaching Remedial Classes Group Discussion Multimedia, Software's Project Given to the Student

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	
Invigilation & Evaluation of Answer Scripts	Univ. Exam. Nov/Dec 2022	100%	
Internal Assessment (Test, Tutorials, eminars etc.)	Paper Setting & Evaliation	100%	
Member of Internal Flying Squad	Univ.Exam.Nov/Dec 2022	100%	
Paper Setter and as a Exminer University Practical Examination	Univ.Exam. Nov/Dec 2022	100%	
Total Score (Max.25)			

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counseling) *API Score (Max Score:20)*	a) Plantation at College Campus With the Help of NSS Student 12 July-2021 b) Field Visit at Kesapuri Camp for Plant Collection 25 Nov-2019 API Score- 20
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committiees & responsibilities *API Score (Max Score:20)*	a) Chairman of Garden Committee b) Chairman of Green Audit Committee c) Chairman of Green Club d) Member Comparative Examination Study center committee API Score- 20
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) *API Score (Max Score:15)*	a) Participation in 03 National Conference API Score- 20
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	Nil
Invited lectures or presentations for conferences/symposia	Nil
Design of new course & curriculum	Nil
Particulars of current research work at personal level	Flora of Sunderrao Solanke Mahavidyalaya on Going, Etnobotanical Study of Beed District
Co-curricular & extra curricular activities	Nil
Consultancy work carried out	Nil
Patents & IPR Details:	Nil
Any other information you wish to specify	Nil

Teaching Methods used for effective teaching

1. Lecture method
2. Practical methods
3. Experimental methods
4. Question and answer
5. Group Discussion
6. Seminar
7. Project based learning

Teaching aids used for effective teaching

1. Books
2. Green board
3. Smart board
4. PPT
5. LCD projector
6. Videos
7. Pictures
8. Dramas
9. Charts, models, slides, museum specimen

Dr. I. B. Salunkhe
Department of Botany

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Department of Botany

Time table- 2021-2022

Day / Time	7:30 am to 10:00 pm	10:00 am to 10:50pm	10:50 am to 11:40pm	11:40 am to 12:30pm	12:30pm to 1:20pm	1:20 pm to 2:10pm	2:10 am to 3:00pm	3:00 am to 5:30pm
Mon	B. Sc. F. Y. Pra MSW			B.SC. II Theory MSW	B. Sc. III Theory MSW			
Tue	B. Sc. F. Y. Pra MSW			----//----	----//----			
Wen	B. Sc. T. Y. Pra MSW			----//----	----//----			B. Sc. T. Y. Pra MSW
Thu	B. Sc. T. Y. Pra MSW							
Fri	B. Sc. S. Y. Pra MSW							
Sat	B. Sc. S. Y. Pra MSW							

Name of the Teacher

1. MSW- Dr. M. S. Wankhade

Theory		**Practical**		**Total**
06	+	21	=	27
		Total	=	27

Dr. M. S. Wankhade

Head
Department of Botany
Vinayakrao Patil College Majalgaon

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	October	November	December	January
B.Sc.-I (Sem-I) Theory Paper No.-I Diversity of Cryptogams-I	General character and reproduction of 1. Virus 2. Bacteria 3. Mycoplasm 4. Lichen General character of Algae and classification	General characters, classification according to F.E. Fritsch (1935) up to the class level, economic importance. Systematic position, occurrence, thallus structure, and graphic life cycle of i) Cyanophyceae – *Nostoc* ii) Chlorophyceae – *Chara* iii) Xanthophyceae – *Botrydium*	Systematic position, occurrence, thallus structure, and graphic life cycle of iv.Phaeophyceae – Sargassum v.Rhodophyceae - Batrachospermum General characters, classification according to Alexopoulous and Mims (1979) up to the class level, economic importance i)Oomycetes – *Albugo* ii)Zygomycetes – *Mucor* iii)Ascomycetes – *Eurotium* iv)Basidiomycetes – *Agaricus*	Systematic position, occurrence, thallus structure, and graphic life cycle of V)Deuteromycetes – *Cercospora* Revision of the syllabus Examination on the syllabus

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Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	October	November	December	January
B.Sc.-I (Sem-I) Practical Paper No- III Diversity of Cryptogams-I	1. Study of simple and compound microscope 2. Virus: Tobacco Mosaic Virus	Practical base on *Nostoc* *Chara* *Botrydium*	Practical based on *Sorgassum* *Batrachospermum* **Fungi** *Albugo* *Mucor* *Eurotium*	Practical based on *Agaricus* *Cercospora*

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SunderraoSolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	October	November	December	January
B.Sc.-II(Sem-III) Practical Paper No-VIII Plant Ecology	1.Study of morphological and anatomical adaptations in hydrophytes 2.Study of morphological and anatomical adaptations in xerophytes . 3.Study of morphological adaptations in halophytes - Pneumatophore, Stilt roots	4.Study of morphological and anatomical adaptations in epiphytes 6.Study of Vegetation by Quadrate method. 7.Estimation of IVI of grassland ecosystem on the basic of relative frequency, density and abundane.	8.Determination of water holding capacity of different soils. 9.Detrmination of percentage leaf area injury of different infected leaf samples. 10. Study of meteorological instruments- Rain gauge, Hygrometer, Barometer 11.Estimationn of salinity of different water samples.	7. Determination of pH of different soil by pH paper/ pH meter

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Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	October	November	December	January
B.Sc.-III(Sem-V) Theory Paper No-XV Cell Biology & Molecular Biology	Prokaryotic cell and Eukaryotic cell, 1. Golgi complex, 2. Lysosomes 3. Endoplasmic reticulum 4. Nucleus: Ultra structure, , Functions of nucleus.	Cell division: a) Cell cycle -G1 phase, S phase, G2 phase and M phase b) Mitosis – definition,process and significance. c) Meiosis-definition, process and significance. Nucleic acids: a. DNA: Definition, structure, chemical composition Watson and Crick's model, Z - DNA, B - DNA, functions of DNA	b. Replications of DNA – conservative, semi conservative and dispersive. c. RNA: Structure, types and functions 1) Chromosome: Definition, morphology-size, shape, number, Ultra structure – chromatid, chromonema, chromomere, centromere, kinetochore, secondary constriction, satellite, telomere, heterochromatin, euchromatin, Nucleosome model , chemical composition, Functions of chromosome, Giant chromosomes.	Chromosomal aberrations a) Structural-deletion, duplication, inversion and translocation b) Numerical: – euploidy and aneuploidy Examination Revision on the syllabus

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Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	March	April	May	June
B.Sc.-I (Sem-I) Theory Paper No.-IV Diversity of Cryptogams-II	General characters of bryophytes, classification as per G. M. Smith, Systematic position, occurrence, thallus structure, reproduction -vegetative, asexual, and sexual, graphic life cycle and alternation of generations of a)Hepaticopsida – Marchantia b)Bryopsida – Funaria	General characters of Pteridophytes, classification as per G. M. Smith, Systematic position, occurrence, external and internal structure of sporophyte and gametophyte, reproduction, graphic life cycle and alternation of generations of a) Psilopsida – *Psilotum* b) Lycopsida – *Lycopodium* c) *Selaginella*\ Unit test on the syllabus	General characters of Pteridophytes, classification as per G. M. Smith, Systematic position, occurrence, external and internal structure of sporophyte and gametophyte, reproduction, graphic life cycle and alternation of generations of c) Sphenopsida – Equisetum	d) Pteropsida – Marsilea. Unit test on the syllabus

Sunderrao Solanke Mahavidyalaya Majalgaon Dist-Beed Department of BOTANY

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Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	October	November	December	January
B.Sc.-III(Sem-V) Practical Paper No- XVII Cell Biology & Molecular Biology	1.Study of the cell structure from onion leaf or *Tradescantia* leaf 2.Study of electron micrographs of viruses, bacteria and cyanobacteria 3.Study of electron micrographs of eukaryotic cell and different cell organelles	3.Preparation of cytological Fixative and Stain. 4.Study of the cell structure from onion leaf or *Tradescantia* leaf Preparation of idiogram from the given micrograph of karyotype	3. Preparation of slides for the study of Mitosis. 4. preparation of slides for the study of Mitosis 5.Observation of giant chromosome in *Chironomous* larvae	6.Preparation of wool models of Mitosis, Meiosis and cell structure, chromosome , DNA and RNA

Dr. Mahendra S. Wankhade

Sunderrao Solanke Mahavidyalaya Majalgaon Dist. Beed
Department of BOTANY

HOD, Dr. I. B. Salunkhe

Head
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Sunderrao Solanke Mahavidyala
Beed

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

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Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	March	April	May	June
B.Sc.-I (Sem-II) Practical Paper No- VI Diversity of Cryptogams-II	Practical base on *Marchantia* *Funaria*	Practical based on *Psilotum* *Lycopodium* *Selaginella*	Practical based on *Equisetum* *Marsilea*	Pre-practical examination

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Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	March	April	May	June
B.Sc.-II(Sem-IV) Practical Paper No-XII Plant physiology	1.Osmosis by egg membrane and potato osmoscope 2.Plasmolysis in *Tradescantia* leaves 3.Effect of different conc. of organic solvents on membrane permeability 4.Determination of water potential of any tuber	5.Detection of mineral elements in plant ash 6.Digestion of starch by amylase 7.Detection of enzyme activity : oxidase, peroxidase, catalase and dehydrogenase 8.Separation of chloroplast pigments by paper chromatography 9.Demonstration of Hill reaction	10.Effect of different intensities of light on photosynthesis 11.Effect of different colors of light on photosynthesis 12.Fermentation by Kuhnes fermentation vessel 13.Isolation of starch 14.Isolation of pectin 15.Estimation of total and reducing sugars in fruit juice by Fehling solution	16.Separation of amino acids by paper chromatography 17.Effect of IAA and Gibberellins on seed Germination. Pre-practical examination on the paper

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist-Beed
Department of BOTANY

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Sunderrao Solanke Mahavidyala
Beed

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

Class/Month	March	April	May	June
B.Sc.-III(Sem-VI) Theory Paper No-XXI Genetics & Molecular Biology	i. Introduction -G.J. Mendel ii. Mendelian principles – Law of Dominance , law of segregation, law of independent assortment, back cross and test cross i. Allelic interaction ii. Non allelic and non epistatic iii. Non allelic and epistatic: a) Complementary genes (9:7) b)Supplementary genes(9:3:4) c)Dominant epistatic genes (12:3:1) d)Duplicate genes (15:1)	Chromosomal theory of sex determination.Mechanism of sex determination in man (xx -xy), Drosophila (xx and xy),birds (zz-zw), grasshopper (xx-xo) and genic balance theory in Drosophila,Sex determination in plants – *Melandrium* X, XY and Y linked inheritance: i) Colourblindness and hemophilia in man ii) Holandric genes iii) White eye colour in Drosophila, iv) Gynandromorphs,	Fine structure of gene,One gene one enzyme hypothesis, Genes and related diseases – phenylketonuria, and alkaptonuria, Detection of genetic diseases – amniocentesis Genetic counseling,Concept of genetic engineering and recombinant DNA technology Restriction endonucleases, their properties and uses Cloning vectors -plasmids and phage vectors	Techniques of genetic engineering -isolation of desired gene, gene cloning, transfer of gene into plants Applications of genetic engineering Theory examination on paper

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed
Department of BOTANY

Head
Department Of Botany
Sunderrao Solanke Mahavidyala
Beed

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- M. S. Wankhade

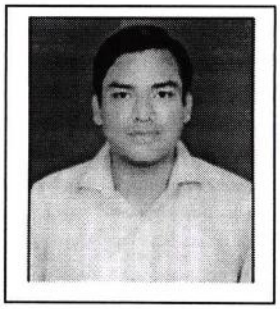
Class/Month	March	April	May	June
B.Sc.-III(Sem-VI) Practical Paper No-XXIII Genetics & Molecular Biology	Quiz	Working out laws of inheritance by using seed mixtures, Problems based on gene interaction	Problems based on gene interaction, Problems based on sex linked inheritance	Problems based on sex linked inheritance, Pre-practical examination

Dr. Mahendra S. Wankhade

Sunderrao Mahavidyalaya, Majalgaon Dist. Beed
Department of BOTANY

HOD, Dr. I. B. Salunkhe

Head
Department Of Botany
Sunderrao Solanke Mahavidyala
Majalgaon Dist. Beed



Bio-Data 2021-2022

Name	:-	Wankhade Mahendra Shankarrao
Date of Birth	:-	11/06/1984
Designation	:-	Assistant Professor
Official Address	:-	Dept. of Botany Sunderrao Solanke Mahavidyalaya, Majalgaon Dist-Beed
Date of Appointment	:-	22/10/2008
Permanent Address	:-	Plot No. 1/B, Rekha Colony, V. M.V. Road, Amravati, Maharashtra, Pin-444604
Language Known	:-	Marathi, Hindi, English
Educational Qualification	:-	M.Sc., NET, Ph.D.

Examination	**University/ Board**	**Month & Year of Passing**	**Subjects Spl. / General**		**Marks**		**% of Marks**	**Class / Div. / Grade awarded**
			Prin	**Sub**	**Obtained**	**Out of**		
S.S.C.	Div. Board Amravati	March 2000	M/H/E	Math/Sci/ Soc	487	700	64.93 %	First Class
H.S.C	Div. Board Amravati	Febuary 2002	M / E	Chem/Phy/ Bio/Math	302	600	50.33 %	Second Division
B. Sc.	S.G.B. Amravati University	June 2005	Eng / Mar	Chem/Zool / Botany	856	1550	55.22 %	Second Division
M.Sc.	S.G.B. Amravati University	July 2007	Botany	--	627	1000	62.7 %	First Class
NET	CSIR-HRDC	May 2008	Life Science	--	--	--	--	--
Ph.D.	Swami Ramand Teerth Marathwada University, Nanded	June 2016	Botany	--	--	--	--	Awarded

Subject of Ph.D. :- Digitiztion and Chemoprofiling (Flavonoid) of Selected Trees Belonging to Family Leguminosae from Kinwat and Mahur Forest Ranges of Nanded District in Maharashtra

Teaching Experience :-

Name of the Employer	Types of Service	Designation	Nature of Post	From To	Approval Date
Sunderrao Solanke Mahavidyalaya, Majalgaon	Under Graduate	Assistant Professor	Permanent	22/10/2008 to till this Date	02/01/2009

Participation in Orientation/Refresher Courses:- *08*

Resource Person : *3 Talks*

PG Teacher Recognition:

Recognized PG Teacher of Dr. Babasaheb Ambedkar Marathwada Universsity Aurangabad since 15-02-2022

Ph.D. Guide Recognition:

Recognized Ph.D. Guide of Dr.Babasaheb Ambedkar Marathwada Universsity Aurangabad since 04-04-2022

Participation in Inter-National, National, State, Regional Level Seminars / Conference / Workshops / Training

International	National	State	Regional	workshop	One day Orientation
01	12	03	04	10	08

Paper Presentation & Publications in Seminars / Conference / Workshops / Journals / Books:

Particulars	Inter-National	National	Regional	Total
Paper Presented in Conference	01	03	00	04
Paper Published in Conference	00	02	00	02
Paper Published in Journal	14	00	00	14
Chapter Published in Book	00	00	00	00

University Affairs

Work Related Examination:

- Assistant Superintendent
- CAP Supervisor
- Paper Assessment (University Level)
- Paper Assessment (College Level)
- Invigilation
- University Practical Examination
- Paper Setting

❖ *College Affairs*

The faculty has been working in various committees in the college. It has a very vital role in all these committees.

Dr. M. S. Wankhade

Academic Year	Name of the Committee	Position Held
2021-22	➢ Time Table Committee for Science Practical	Chairman
	➢ Student Counseling Committee	Chairman
	➢ IQAC Committee	Member
2020-21	➢ IQAC	Coordinator
	➢ College Development committee	Member
	➢ Time Table Committee for Science Practical	Chairman
	➢ Academic Planning Committee	Member
2019-20	➢ IQAC	Coordinator
	➢ College Development committee	Member
2018-19	➢ IQAC	Coordinator

	➢ College Development committee	Member
	➢ Time Table Committee for Science Practical	Chairman
	➢ Prospect Committee	Member
	➢ Competitive Exam., Study Center Committee	Member
	➢ Cultural Committee	Member
	➢ Science Association Committee	Member
	➢ Green Audit Committee	Member
2017-18	➢ Time Table Committee for Science Practical	Chairman
	➢ Prospect Committee	Member
	➢ Competitive Exam., Study Center Committee	Member
2016-17	➢ Garden Committee	Chairman
	➢ ISO Committee	Member
	➢ Cultural Committee	Member
	➢ Competitive Examination Committee	Member
2015-16	➢ Garden Committee	Chairman
	➢ Science Association Committee	Member
	➢ ISO Committee	Member
2012-13	➢ N.S.S. Committee (P.O.)	Chairman
	➢ Admission Committee	Member
	➢ Garden Committee	Member
	➢ Science Association Committee	Member
	➢ Cultural Association Committee	Member
2011-12	➢ N.S.S. Committee (P.O.)	Chairman
	➢ Garden Committee	Member

	➢ Admission Committee	Member
	➢ Science Association Committee	Member
2010-11	➢ N.S.S. Committee (P.O.)	Chairman
	➢ Student counseling Committee	Member
	➢ Garden Committee	Member
	➢ Career Guidance and placement Cell	Member
	➢ Feedback Committee	Member
	➢ House Keeping Committee	Member
2009-10	➢ Admission Committee	Member
	➢ Time Table Committee	Member
	➢ Cultural Association Committee	Member
	➢ Science Association Committee	Member
	➢ Garden Committee	Member
	➢ Feedback Committee	Member
2008-09	➢ Annual Report Committee	Member
	➢ Cultural Committee	Member
	➢ Garden Committee	Member
	➢ N.S.S. Committee	Member

Teaching Methods used for effective teaching

1. Lecture method
2. Practical methods
3. Experimental methods
4. Question and answer
5. Group Discussion
6. Seminar
7. Project based learning

Teaching aids used for effective teaching

1. Books
2. Green board
3. Smart board
4. PPT
5. LCD projector
6. Videos
7. Pictures
8. Charts, models, slides, museum specimen

Dr. M. S. Wankhade

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Department of Botany

Time table- 2021-2022

Day / Time	7:30 am to 10:00 pm	10:00 am to 10:50pm	10:50 am to 11:40pm	11:40 am to 12:30pm	12:30pm to 1:20pm	1:20 pm to 2:10pm	2:10 am to 3:00pm	3:00 am to 5:30pm
Mon	B. Sc. F. Y. Pra RUS						B. Sc. I Theory RUS	
Tue	B. Sc. F. Y. Pra RUS						----//----	
Wen							----//----	
Thu								
Fri								B. Sc. F. Y. RUS
Sat								

Name of the Teacher

1. RUS- Dr. R. U. Shete

(Dr. Rohit Umesh Shete).

Theory		**Practical**		**Total**
03	+	09	=	12
		Total	=	12

Head
Department of Botany
Majalgaon College Majalgaon

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. R. U. Shete

Class/Month	October	November	December	January
B.Sc.-I (Sem-I) Theory Paper No.-I Diversity of Cryptogams-I	General character and reproduction of 1. Virus 2. Bacteria 3. Mycoplasm 4. Lichen General character of Algae and classification	General characters, classification according to F.E. Fritsch (1935) up to the class level, economic importance. Systematic position, occurrence, thallus structure, and graphic life cycle of i) Cyanophyceae – *Nostoc* ii) Chlorophyceae – *Chara* iii) Xanthophyceae – *Botrydium*	Systematic position, occurrence, thallus structure, and graphic life cycle of iv.Phaeophyceae – Sargassum v.Rhodophyceae - Batrachospermum General characters, classification according to Alexopoulous and Mims (1979) up to the class level, economic importance i)Oomycetes – *Albugo* ii)Zygomycetes – *Mucor* iii)Ascomycetes – *Eurotium* iv)Basidiomycetes – *Agaricus*	Systematic position, occurrence, thallus structure, and graphic life cycle of V)Deuteromycetes – *Cercospora* Revision of the syllabus Examination on the syllabus

Dr. R.U. Shete.

Head
Department of Botany
Sunderrao Solanke Mahavidyalaya

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. R. U. Shete

Class/Month	October	November	December	January
B.Sc.-I (Sem-I) Practical Paper No- III Diversity of Cryptogams-I	1. Study of simple and compound microscope 2. Virus: Tobacco Mosaic Virus	Practical base on *Nostoc* *Chara* *Botrydium*	Practical based on *Sorgassum* *Batrachospermum* **Fungi** *Albugo* *Mucor* *Eurotium*	Practical based on *Agaricus* *Cercospora*

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. R.U. Shete

Class/Month	March	April	May	June
B.Sc.-I (Sem-I) Theory Paper No.-IV Diversity of Cryptogams-II	General characters of bryophytes, classification as per G. M. Smith, Systematic position, occurrence, thallus structure, reproduction -vegetative, asexual, and sexual, graphic life cycle and alternation of generations of a)Hepaticopsida – Marchantia b)Bryopsida – Funaria	General characters of Pteridophytes, classification as per G. M. Smith, Systematic position, occurrence, external and internal structure of sporophyte and gametophyte, reproduction, graphic life cycle and alternation of generations of a) Psilopsida – *Psilotum* b) Lycopsida – *Lycopodium* c) *Selaginella*\ Unit test on the syllabus	General characters of Pteridophytes, classification as per G. M. Smith, Systematic position, occurrence, external and internal structure of sporophyte and gametophyte, reproduction, graphic life cycle and alternation of generations of c) Sphenopsida – Equisetum	d) Pteropsida – Marsilea. Unit test on the syllabus

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Dr. R. U. Shete

Class/Month	March	April	May	June
B.Sc.-I (Sem-II) Practical Paper No- VI Diversity of Cryptogams-II	Practical base on *Marchantia* *Funaria*	Practical based on *Psilotum* *Lycopodium* *Selaginella*	Practical based on *Equisetum* *Marsilea*	Pre-practical examination

Head
Department Of Botany
Sunderrao Solanke Mahavidyala

CURRICULUM VITAE

Name in Full : **Dr. Shete Rohit Umesh**
Father's Name : **Mr. Shete Umesh Manik**
Date of Birth : 20/05/1991

Educational Qualification : M.Sc. (Botany), Ph.D

Present Position : Working as Contributory Teacher in Botany at Department of Botany, Sundarrao Solanke Mahavidyalaya Majalgaon.

Contact Address : At post Brahmagaon, Tq. Majalgaon (431131), Dist Beed.

Cell: 9730717835.

Email id : rohitshete225@gmail.com

Nationality : Indian

Category : OBC

Cast : Lingayat Wani

Language Known : Marathi, Hindi, English

Educational Qualification :

Degree/ certificate	Board/ University	Year of Passing	Subjects	Percentage	Class Obtained
Ph. D.	Dr. B.A.M.U. Aurangabad.	2017	Botany	--	--
M.Sc.	Dr. B.A.M.U. Aurangabad.	2014	Botany	68.70	I
B.Sc.	Dr. B.A.M.U. Aurangabad.	2012	Botany, Zoology, Computer science	78.40	I
H.S.C.	Aurangabad Divisional Board	2009	Physics, Chemistry, Biology, Mathematics	44.33	III
S.S.C.	Aurangabad Divisional Board	2007	English, Marathi, Hindi, Science, Mathematics	69.23	I

TEACHING EXPERIENCE

POST GRADUATION LEVEL:

Worked as a Contributory Teacher in Botany at Department of Botany, Dr. Babasaheb Ambedkar Marathawada University, Aurangabad during the period of **11-01-2019.**

GRADUATION LEVEL:

Worked as a Contributory Teacher in Botany at Department of Botany, Dagdojirao Deshmukh Art, Sci and Comm College, Waluj, Aurangabad during the period of **2017** to **2019** and Sundarrao Solanke Mahavidyalaya majalagon during the period **2019** to till date.

RESEARCH EXPERIENCE

PARTICIPATED IN TISSUE CULTURE WORKSHOP

- Chh. Shivaji College, Chikhli, Buldana (Feb-2014)
- Vedprakash Patil Pharmacy College, Georai Tanda, Aurangabad (Dec-2014)
- Dept. Of Botany, Dr. BAMU, Aurangabad (Feb-2015)
- Vasant College, Kaij, Beed (Nov 2017)
- Govt. college Aurangabad (Dec 2016)

PARTICIPATED IN OTHER WORKSHOP

- Two days state level workshop on hands on practical training in HPTLC Art, Sci and Comm college vidyanagri Baramati, Dist Pune (Feb 2016)
- One day workshop on Latex for Project, Seminar, Thesis Typesetting Dept of chemical technology Dr. BAMU Aurangabad (March 2016)
- One day workshop on plant nomenclature Dept of Botany Dr. BAMU Aurangabad (Feb 2017)

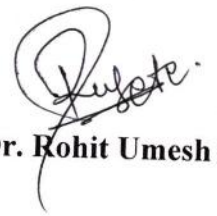
PARTICIPATION AND PUBLICATION IN SEMINARS AND CONFERENCES:

1. National conference on current scenario of biodiversity in India, Dept. Botany Dr.B.A.M.U. Aurangabad, (Jan- 2013).
2. Conference on Sci and technology for Human development organised by ISCA Aurangabad (Dec 2014)
3. National conference on Recent Trends in Plant Science Dept of Botany Dr. B.A.M.U. Aurangabad (march 2017)
4. National conference on Contribution of Biological Research for Sustainable Development Art, commerce and Science college Kille Dharur (Feb 2019)
5. One day seminar on Recent Trends in Biotechnology Dept of Microbiology Sub campus Osmanabad (Sept 2014)
6. National level seminar on Integration of Environment for Sustainable Future and Human Health KPG Art, Comm and Sci College Igatpuri, Nashik (Jan 2015)
7. National Seminar on Recent Trends in Life Science for Sustainable Development Vasant Art, Sci and Comm College kaij (Dec2017)

ARTICLES IN NATIONAL / INTERNATIONAL RESEARCH JOURNALS:

- *In vitro* multiplication of Ceropegia bulbosa Var. bulbosa Roxb. International Journal of Recent Trends in Science And Technology, July 2014: 383-385.
- In Vitro Callus Induction in *Solanum virginianum* L. International Journal of Science and Research, 5(7) July 2016: 1989-1991.
- High Frequency Regeneration in Important Medicinal Plant *Uraria picta* Jacq. DC, International Journal of Science and Research, 5(7), July 2016: 1986-1988.
- *In vitro* multiplication of *Solanum virginianum* L. International Journal of Advanced Research in Biological Sciences, 2017: 157-160.

It is hereby declared that the above furnished information is true as per my best of knowledge.



Dr. Rohit Umesh Shete

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Department of Botany

Time table- 2021-2022

Day / Time	7:30 am to 10:00 pm	10:00 am to 10:50pm	10:50 am to 11:40pm	11:40 am to 12:30pm	12:30pm to 1:20pm	1:20 pm to 2:10pm	2:10 am to 3:00pm	3:00 am to 5:30pm
Mon								B. Sc. S. Y. Pra VRK
Tue								
Wen								
Thu							B. Sc. I Theory VRK	B. Sc. T. Y. Pra VRK
Fri							----//----	
Sat							----//----	B. Sc. F. Y. VRK

Name of the Teacher

1. VRK- Dr. Varsha. R. Kale

Theory		Practical		Total
03	+	09	=	12
		Total	=	12

Head
Department of Botany
Vasantrao Naik College Majalgaon

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Miss. V. R. Kale

Class/Month	October	November	December	January
B.Sc.-I (Sem-I) Theory Paper No.-I Diversity of Cryptogams-I	General character and reproduction of 1. Virus 2. Bacteria 3. Mycoplasm 4. Lichen General character of Algae and classification	General characters, classification according to F.E. Fritsch (1935) up to the class level, economic importance. Systematic position, occurrence, thallus structure, and graphic life cycle of i) Cyanophyceae – *Nostoc* ii) Chlorophyceae – *Chara* iii) Xanthophyceae – *Botrydium*	Systematic position, occurrence, thallus structure, and graphic life cycle of iv.Phaeophyceae – Sargassum v.Rhodophyceae - Batrachospermum General characters, classification according to Alexopoulous and Mims (1979) up to the class level, economic importance i)Oomycetes – *Albugo* ii)Zygomycetes – *Mucor* iii)Ascomycetes – *Eurotium* iv)Basidiomycetes – *Agaricus*	Systematic position, occurrence, thallus structure, and graphic life cycle of V)Deuteromycetes – *Cercospora* Revision of the syllabus Examination on the syllabus

Sunderrao Mahavidyalaya, Majalgaon Dist-Beed
Department of BOTANY

Head
Department Of Botany
Sunderrao Solanke Mahavidyala
Majalgaon - Beed

M.S.P. Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Miss. V. R. Kale

Class/Month	October	November	December	January
B.Sc.-I (Sem-I) Practical Paper No- III Diversity of Cryptogams-I	1. Study of simple and compound microscope 2. Virus: Tobacco Mosaic Virus	Practical base on *Nostoc* *Chara* *Botrydium*	Practical based on *Sorgassum* *Batrachospermum* **Fungi** *Albugo* *Mucor* *Eurotium*	Practical based on *Agaricus* *Cercospora*

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Miss. V. R. Kale

Class/Month	March	April	May	June
B.Sc.-I (Sem-I) Theory Paper No.-IV Diversity of Cryptogams-II	General characters of bryophytes, classification as per G. M. Smith, Systematic position, occurrence, thallus structure, reproduction -vegetative, asexual, and sexual, graphic life cycle and alternation of generations of a)Hepaticopsida – Marchantia b)Bryopsida – Funaria	General characters of Pteridophytes, classification as per G. M. Smith, Systematic position, occurrence, external and internal structure of sporophyte and gametophyte, reproduction, graphic life cycle and alternation of generations of a) Psilopsida – *Psilotum* b) Lycopsida – *Lycopodium* c) *Selaginella*\ Unit test on the syllabus	General characters of Pteridophytes, classification as per G. M. Smith, Systematic position, occurrence, external and internal structure of sporophyte and gametophyte, reproduction, graphic life cycle and alternation of generations of c) Sphenopsida – Equisetum	d) Pteropsida – Marsilea. Unit test on the syllabus

M.S.P. Mandal's

Sunderrao SolankeMahavidyalaya, Majalgaon

Annual Teaching Plan

Year 2021-22

Name of Lecturer- Miss. V. R. Kale

Class/Month	March	April	May	June
B.Sc.-I (Sem-II) Practical Paper No- VI Diversity of Cryptogams-II	Practical base on *Marchantia* *Funaria*	Practical based on *Psilotum* *Lycopodium* *Selaginella*	Practical based on *Equisetum* *Marsilea*	Pre-practical examination

Sunderrao Solanke Mahavidyalaya Majalgaon Dist-Beed Department of BOTANY

Head
Department Of Botany
Sunderrao Solanke Mahavidyala

Biodata

Name of Institute: Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed. 431131 (M.S.)

Full Name		Dr. Varsha Ramkisan Kale		Photo
Name of Post		Assistant Professor		
Subject		Botany		
Specialisation		Cytogenetics		
Caste Category Appointed From		OPEN		
UG/ PG Teacher		**UG Teacher**		
Address & Contact Details Department of Botany, Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed. 431131 (M.S.)		**Mobile No.: 9604954589 Email: Varshakale8600@gmail.com**		
Gender	Male	**Date of Birth : 12/09/1991**		
Mother tongue	Marathi	**Knowledge of Marathi: Yes**	**Specially Abled: -**	

:: Caste Category of Candidate

Category : OPEN

Caste : Maratha

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	% or Grade Point
Ph.D	**BAMU Aurangabad**	**13/09/2021**	**"Effect of various fertilisers on the growth and yield of Soyabean and Jowar"**	**-**
M.Sc	**BAMU Aurangabad**	**M/A 1991**	**Botany (Cytogenetics)**	**79.50%**
B.Sc	**BAMU University**	**M/A 1989**	**Botany (Bot/Comp./Zool)**	**82.70%**
HSC	**Div. Board Pune**	**M/A 1986**	**Chem/Phy/Bio/Geo**	**50.83%**
SSC	**Div. Board Pune**	**M/A 1983**	**Math/Sci/Soc**	**68.46%**

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Approval date
Dr. Varsha Ramkisan Kale	**CHB**	**AssitProfessor**	**Lecturer**	**04/06/2014 Till This Date**	**-**

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impa Factor
National Research Journal	**The Comparativr study on the effect of Organic and Inorganic fertilizers on the growth of Leguminous crop.**		**Sep-2019**		**Peer Revi Impact Fact**
International	**Ethnobotanical**	**ISSN :**	**May-2022**	**Principal**	**Peer Reviev**

Journal of the Gujarat research society. Issue - 9	A Sudy on the effect of organic manures and chemical fertilisers on the yield of soybean			Author	Impact Factor 7.214	

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score
-	-	-	-	-	-	-

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Semester-I

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B.Sc.F.Y /I/IV(Th.)	U.G.	L/T	03	100%
B.Sc.F.Y /III(Pr.)	U.G.	P	06	100%
B.Sc.S.Y./XI(Pr.)	U.G.	P	03	100%
B.Sc.	U.G.	C	05	100%

Semester-II

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B.Sc.F.Y /VI(Th.)	U.G.	L/T	03	100%
B.Sc.F.Y /II(Pr.)	U.G.	P	06	100%
B.Sc.S.Y /XI(Th.)	U.G.	L/T	03	100%
B.Sc.	U.G.	C	05	100%
API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)				50
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)				10

M.S.P. Mandal's - Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed

Department of Zoology

DEPARTMENTAL WORKLOAD

Class: **B. Sc. I, II & III Year**

2021-2022

Day / Time	7:30 to 8:20	8:20 to 9:10	9:10 to 10:00	11:40 to 12:30	12:30 to 1:20	1:20 to 2:10	3:00 to 3:50	3:50 to 4:40	4:40 to 5:30
Monday		T.Y. RTP		T.Y. RTP					
Tuesday				T.Y. RTP					
Wednesday		T.Y. RTP		T.Y. RTP					
Thursday									
Friday								F.Y. RTP	
Saturday		F.Y. RTP						F.Y. RTP	

	Theory	Practical	Total
RTP – Dr. R.T. Pawar	03	18	21

Name of the teacher

Signature of Head of Dept.

Head
Department Of Zoology
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist - Beed.

Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed

Annual Teaching Plan 2021-2022

Subject: **Zoology**

Associate Professor: **Dr. R. T. Pawar**

		I Semester - Protozoa to Annelida				**II Semester Arthropoda to Echinodermata & Protochordata**					
Sr. No.	Paper	October	November	December	January	February	March	April	May	June	July
2.	**B.Sc. I & II Semester Practical Based on theory paper**	**1.** Study of slides from Ciliates, Opalinates, and Flagellates 2. Study of museum specimen and slides from Porifera to Annelida. 3.Dissection: Dissection of Leech for Digestive, Excretory & Reproductive systems.	Dissection of Earthworm for Nervous System & Reproductive system 4. Mounting- Sponge spicules, Gemmule, Obelia colony, Jaws of Leech. Spermatica, testes nerve ring of Earthworm, Parapodia of Nereis.	Study of cell organelles by using Models, Charts, Slides & Electron micrographs. 6. Squash preparation of Onion root tip to study Mitosis. 7Preparation of polytene chromosome in chironomous larva/fruit flies.	Microtechnique : - Fixation, dehydration, Block preparation, Microtomy and Staining of Vertebrate tissue. 9. Study of Microscopy: - Simple, Compound, & Phase Contrast Microscope	**Oct/Nov University Practical Exam**	1.Study of museum specimen & slides of relevant Invertebrates & Protochordata.	2.Dissections : Dissection of Prawn for Nervous system Dissection of Cockroach for Digestive and Nervous Systems. Dissection of Pila for Nervous system. Dissection of Sea Star for Water Vascular System.	3. Mounting of any five of the following. Mouthparts of Cockroach, Mosquito, House fly, Bed bug and Honeybee. Salivary glands of cockroach. Redula of Pila, Pedicillaria of Star fish.	4. Observation of common mutants of drosophila 5.Determination of human blood groups A, B, AB, and O, Rh factor. 6. Major and minor problems in genetics **(Annual Practical Exam)**	**(March/ April Annual Practical Exam)**

3.	**B.Sc. III & IV Semester Genetics II and Animal Physiology**	---	----	----	----	**I, III & V Semester University Examination & Winter Vacation**	1. **Digestion**: - Brief Introduction to digestive system. Buccal digestion - salivary secretion and digestion. Gastric digestion - gastric secretion and digestion. Intestinal digestion - Pancreatic secretion, bile juices and digestion in Small intestine, Digestion and absorption in large intestine.	**2. Respiration** Respiratory organs. Breathing mechanism. Respiratory pigments: - Properties and function of respiratory pigments. External respiration. Internal respiration. Transport of gases. **3. Circulation** Working of mammalian heart. Blood and its composition. Mechanism of blood clotting. **Test. I**	4. **Excretion** :- Structure of kidney. Structure of uriniferous tubules. Urine formation: - Ultra filtration selective, re-absorption and tubular secretion. Counter current multiplier system. **5. Nerve Physiology** :- Structure of nerve cells and neuron. Neurotransmitters . Synapses: - Ultra structure and function. **Test. II**	**6. Muscles** Physiology Ultra structure of smooth muscle, striated muscles, and cardiac muscles. Muscle contraction Simple twitch and fatigue **7. Reprod-uction** :- Structure of gonads, Gameto-genesis. Role of sex hormones in Reproduction Reproductive cycles – oestrous and menstrual cycle	**(The IV semester Two Test & Semester exam)**
4.	**B.Sc. III & IV Semester Practical based on theory papers**	1.Preparation of paper model of DNA and study of DNA structure 2. Study of protein synthesis with the help of charts/models .	3. Estimation of DNA from animal tissue with the help of Diphenyl amine method. 4. Study of preparation of Normal Karyotype of human. 5. Problems on sex linked inheritance.	6. Karyotypic study of Down's syndrome, Turner's syndrome, Klinefelter's syndrome with the help of photograph. 7. Detection of Barr body from epithelial	8. Problems based on Hardy – Weinberg's law 9. Study of gene frequency and mutants of man Attached and free ear lobe. Colour of eye. Rolling of tongue. Blood group frequency.	**Oct/Nov University Practical Exam**	**1. To study** the digestive enzymes from cockroach/Human Saliva. **2.** Total count of RBC /WBC from given blood sample. 3. Preparation of Heamatin crystals from blood sample.	**4. Hb% from** given blood sample. **5. Effect** of isotonic, hypotonic, and hypertonic solutions on blood cell (RBCs) **6. Detection** of nitrogenous west product	**8. Estimation** of O_2 consumed by fish - by Winkle's method. 9. Typographic reading of skeletal muscle properties , heart beating in Toad / Rat. (Demo only)	10. Histolo-gical study of following. Kidney Testis Ovaries Pancreas Intestine **(Annual Practical Exam)**	**(March/ April Annual Practical Exam)**

				cell.				**7. Detection** of nitrogenous west product in fish/frog			
5.	**B.Sc. V & VI Semester Fishery Science - I**	**CAPTURE FISHERIES IN INDIA** 1. **Introduction** Definition and history General characters and classification Concept of blue revolution Importance of fishes. 2. Freshwater fisheries. Status of freshwater fisheries, past, present and future Freshwater capture	fisheries, cat fishes, rout. Effect of aquatic pollution on fisheries. 3. Revering and reservoir fisheries. Major river systems of India Important fisheries of Indian rivers system Major reservoirs of Maharashtra Reservoir fisheries and its management .	Exploitation of reservoir fisheries 4. Brackish water fisheries Principle fisheries of brackish water, milkfish, mullet, tilapia. Fisheries of the chilka, pulicat and Kolleru Lake **Class test I**	5. Marine water fisheries. Oil-sardine Mackeal Ribbon fish fisheries. Bombay-duck Pomfret-fishery 6. Application of remote sensing technique in pelagic fisheries.	**I, III & V Semester University Examination And Winter Vacation**	**FISH CULTURE AND FISH TECHNOLOGY** 1. Introduction a) Types of freshwater ponds-perennial and seasonal. b) Different types of ponds-nursery, rearing and stoking ponds. c) Design, construction and maintenance of nursery, rearing and stocking ponds. d) Productivity of ponds	e) principles of fish collection f) Fish culture methods g) Culture – cat fisheries h) Sewage fed fisheries 2. Fish crop production (fish diseases) Protozoan, fungal, bacterial, viral worms diseases 3. Breeding of fishes a) Natural spawning of carps	c) Artificial breeding by hypophysation d) Common carp breeding 4. Fish preservation and processing a) Fish processing methods b) Fish –spoilage c) Value added products d) Sanitation and HACCP **Class test I**	5. Crafts and gears a) Different types of gears b) Different types of crafts c) Preservation of gears **Class test II**	**Two test in each Semester and Semester exam** **VI-Seminar**
6.	**B.Sc. V & VI Semester Practical based on theory Papers**	1. Study of freshwater fishes. Major carps Other carps. Cat fishes Clupoides	2. Study of brackish water fishes. *Hilsa hilsa, Chanos chanos (milkfish), Latis calcarifer, Tilapia* 3. Study of marine ware fishes.	Oil sardine Mackerel Ribbon -fish Bombay-duck Pomfret Sole Polynemus 4. Visit to Local Maharashtra Fish Seed Production Centre	4. Water analysis Alkalinity, DO, CO_2, chloronity, Salinity	**Oct/Nov University Practical Exam**	1. Primary productivity of ponds (plankton studies).	2 identification, classification and culturaable significance of following. Catla, rohu, mrigal, catfishes, exotic canoj	3 Collection and identification of fish parasites and worms. 4 Removal of fish pituitary gland and preparation of pituitary extract 5 Identification of crafts and gears. Gill net,	Rampanni, Satpalti, Machwa, Catamaran. 6. A visit to fish farm and fish processing centre is compulsory. Identification of crafts and gears. Gill net,	**(March/ April Annual Practical Exam)**

Head
Department of Zoology
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist - Beed

BIO-DATA

1.	**Name**	:	**PAWAR RAJKUMAR TUKARAM**
2.	**(a) Date of Birth**	:	26.01.1979
	(b) Place of Birth	:	Nandurga Tanda (M.S.)
3.	**(a) Nationality & Domicile**	:	Indian, Maharashtra
	(b) Gender	:	Male
	(c) Marital Status	:	Married
4.	**Languages Known**	:	Marathi, Hindi, English
5.	**Caste/Category**	:	**VJNT (Banjara)**
6.	**(a) Postal Address (Residence)**	:	Dr. R.T. Pawar, Shikshak Colony, New BhatwadgaonVasahat, Majalgaon, Dist. Beed -431131, Maharashtra.
	(b) Mobile	:	09028700713
	(c) E-mail ID	:	drrajpawar@rediffmail.com drrajtpawar@gmail.com
7.	**(a) Institution Where Working**	:	M.S.P. Mandal's- Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed- 431 131 (Maharashtra) [NAAC Re-accredited (A Grade), ISO 9001-2015] Affiliated To Dr. B.A.M. University, Aurangabad
	(b) Department (Subject)	:	Zoology
	(c) Current Designation	:	Associate Professor & Head

8. **Particulars of Educational Qualifications** :

Degree	University	Year	% of Marks	Subject
Ph.D.	Dr. B.A.M. University, Aurangabad	Awarded in July 2007		Zoology
M. Sc. Zoology	Dr. B.A.M. University, Aurangabad	2003	70.2%	Endocrinology, Fishery Science
B.Sc.	Dr. B.A.M. University, Aurangabad	2001	71.32%	Chemistry, Ind. Chem., & Zoology
MS-CIT	MSBTE	2019	89	---

9. Teaching Experience:

Designation	From	To	Period engaged for the class i.e. I, II & III year	Subject Taught	Nature of appointment Permanent/ Temporary/ Contributory	Whether appointment is approved or not (attach copy of approval)	Name of the Institute/ University
UNDER GRADUATE							
Lecturer	13 July 2007	11 Dec. 2009	02 Years	Zoology	Permanent	Approved	Arts, comm. & Sci. College, Kille-Dharur, Dist Beed
Transfer due to M.S.P. Mandal's Office Order dated on 11.12.2009/ Letter No. Out.No.M.S.P.M/2009-10/2316 dt. 10.12.2009							
Assistant Professor (GP- 6000/-)	12 Dec. 2009	12 July 2011	02 Years	Zoology	Permanent	Approved	M.S.P. Mandal's-Sunderrao Solanke Mahavidyalaya Dist. Beed.
Assistant Professor (GP- 7000/-)	13 July 2011	12 July 2016	05 Years	Zoology	Permanent	Approved	M.S.P. Mandal's-Sunderrao Solanke Mahavidyalaya Dist. Beed.
Assistant Professor (GP- 8000/-)	13 July 2016	23 July 2019	03 Years 10 Days	Zoology	Permanent	Approved	M.S.P. Mandal's-Sunderrao Solanke Mahavidyalaya Dist. Beed.
Associate Professor	24 July 2019	24 July 2022	03 Years 01 Days	Zoology	Permanent	Approved	M.S.P. Mandal's-Sunderrao Solanke Mahavidyalaya Dist. Beed.
Professor	25 July 2022	Till date		Zoology	Permanent	Approved	M.S.P. Mandal's-Sunderrao Solanke Mahavidyalaya Dist. Beed.

10. Approval as a Teacher : Dr. B.A.M. University, Aurangabad

1. Letter No. ACAD/AFFIL/SEL.COMTT./SRR/2012-13/49655-58,Dt.06.02.2013
2. Letter No. ACAD/AFFIL/CAR.ADV./PPG/2013-14/34032,Dt.11.09.2013
3. Letter No. ACAD/AFFL/PPG/2019-20/1474-78 dt. 05.08.2019
4. **Letter No. ACAD/AFFL/CARR.ADV/YPS/2022-2023/8871-76 dt. 29.07.2022**

11. Total Teaching Experience : 15 Years

(a) At Graduate Level : 15 Years

(b) At Post Graduate Level : 01 Year

12. (a) Total Research Experience : 18 Years

(b) Fields of Research : Parasitology, Fishery Science, Limnology

13. Orientation and Refresher Courses Attended:

Course	University Where Attended	Period
1. 83rd Orientation	Academic Staff College, Rani Durgavati Vishwavidyalaya, Jabalpur (M.P.) (UGC Sponsored)	07.05.2012 to 02.06.2012
2. Refresher	UGC Academic Staff College, Gujarat University, Ahmedabad (UGC Sponsored)	04.03.2013 to 24.03.2013
3. Refresher	Academic Staff College, Rani Durgavati Vishwavidyalaya, Jabalpur (M.P.) (UGC Sponsored)	02.06.2014 to 21.06.2014
4. One Week Short term Course on E-Learning and Effective Teaching	UGC HRDC, Academic Staff College, Rani Durgavati Vishwavidyalaya, Jabalpur (M.P.) (UGC Sponsored)	09.01.2017 to 14.01.2017
5. Short term Course on Workshop of MOOC and E-content development	UGC HRDC- Dr. B.A.M. University, Aurangabad	21.01.2019 to 27.01.2019
6. One Week Intensive Innovative Professional Development Programme	Dept. of Zoology, Deogiri College, Aurangabad	15th June to 20 June 2013
7. Workshop on "Training of Teachers (ToT) for Students Induction Programme (SIP)	University Grants Commission, Western Regional Office, Pune (Ministry of HRD, Government of India)	06th to 08th June, 2019

14. Online Faculty Development Programmes/Workshops Participation:

Course	University Where Attended	Period
1. Online International Faculty Development Program on how to publish research paper in top tiers International Journals	Institute of Management Studies Ghaziabad	26th to 30th May 2020
2. Short Term Course on Applied Zoology,	IQAC & Department of Zoology, Nutan Mahavidyalaya, Selu.	15th to 20th May 2020
3. Online Training Programme on Educational	Department of English, Department of Fishery Science and Department of	11th to 13th May 2020

Video Creation: E- Content Development (EVC)2020	Geology of Toshniwal Arts, Commerce and Science College, Sengaon, Dist. Hingoli	
4. One Week National Online Faculty Development Program on ICT Tools for Effective Teaching Learning	School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded	27th April to 2nd May 2020
5. One Week Online Faculty Development Program on Moodle: Learning Management System	Dr. G.Y. Pathrikar College of Computer Science and Information Technology, MGM University, Aurangabad in Association with Spoken Tutorial Project IIT, Bombay	7th to 12th May 2020
6. One Week Online Faculty Development Program on Modern Teaching, Evaluation and Research Methods	Vinayakrao Patil Mahavidyalaya, Vaijapur, Dist. Aurangabad (Under UGC Scheme STRIDE Component- I, Research Capacity, Building)	2nd to 7th June 2020
7. Faculty Development Program (Online): An Approach for Technical Skill Enhancement (FDPTSE-2020)	Internal Quality Assurance Cell (IQAC), Toshniwal Arts, Commerce and Science College, Sengaon, Dist. Hingoli, Maharashtra, India	05th to 10th May, 2020

15. Recognitions:

(a) As Post-Graduate Teacher : Dr. B.A.M. University, Aurangabad.

(b) As Research Guide : Dr. B.A.M. University, Aurangabad.

16. Awards :

1. Certificate of Honour - Appreciation as an IQAC Coordinator by M.S.P. Mandal's Aurangabad in the Occasion great achievement of College in IIIrd Cycle reaccreditation i.e. 'A' Grade
2. AZI- Fellowship Association Zoologists of India (FAZI)
3. Research Excellence Award-2020 for the Innovative work First report of a xanthic phenotype of the silver carp, *Hypothalamichthyes molitrix* (Valenciennes, 1844) (Teleostei: Cyprinidae) from Maharashtra Fish Seed Production Centre, India, International Journal of Aquaculture, 7(15): 101-105 (doi: 10.5376/ija.2017.07.0015) by Institute of Scholar, Bangalore, India

4. Best Researcher Award-In the International Scientist Awards on Engineering, Science and Medicine, held on 06 & 07-Mar-2021, Goa, India, Organized by VDGOOD Professional Association.
5. Fellowship (FABRF) awarded by Asian Biological Research Foundation, Prayagraj, (U.P.), India, (ABRF) in International Web Conference on Recent Advances in Freshwater Aquaculture (RAFA-2021), 21-22 January 2021.
6. Best Staff Award awarded by Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed on the occasion of Golden Jubilee year 2020-2021 dated 14 April 2021

17. Online Researcher ID/Citation:

1. **Research Gate ID** : https://www.researchgate.net/profile/Dr_Rajkumar_Pawar
   Citation: 26 RG Score@3.92 Reads 7,567 Date: 11/10/2020
2. **Google Scholar** : https://scholar.google.co.in/citations?user=bxf6FLYAAAAJ&hl=e
   Citation: 59 h- Index-05 i10 index-02
3. **Web of Science Researcher ID** : F-5663-2011
   https://publons.com/researcher/2780135/dr-rajkumar-t-pawar/
4. **Academia.Edu -**
   https://independent.academia.edu/RajkumarPawar2/Analytics/activity/documents

18. Publication of Research Papers : Total 32 **(Annexure: I) (Page)**

(a)	Published	:	33
(b)	Accepted for publication	:	01
(c)	Communicated for publication	:	01

19. Seminars, Conferences, Symposia , Workshops participated/Paper Presented (University, State, National & International) : 44 (Annexure: II) (Page)

Paper Presented

International	:	04
National	:	20
State	:	01

Participated/Attended

International	:	00
National	:	07

State : 03

University/Regional

Workshops : 24

20. Online FDP/Webinar/Workshop/Quiz Competition attended/ participated: 68 **(Annexure: III) (Page)**

Webinars

International : 08

National : 17

State : 02

Workshop : 03

Faculty Development Programme : 03

Quiz Competition : 37

21. Book Published (International Publishers) : 02

1. Classification and identification of freshwater Fishes (Daya Publishing House A division of Astral International (P) Ltd. New Delhi 110002) (ISBN: 9789351243168 Hardbound & ISBN: 9789351305507 International) (www.astralint.com)

2. Rajkumar Pawar (Author), 2015, Limnological Studies of Majalgaon Reservoir of Marathwada, Maharashtra State, published by German National Library, Green publishing GmbH Nymphenburger Strab86 80636, Munich, GRIN Verlag, https://www.grin.com/document/940763 Catalog Number, V940763, ISBN (eBook)-9783346272386, ISBN (Book)-9783346272393

3. Effects of Drugs on Bivalve Molluscs published by Harshwardhan Publication Pvt.Ltd. Limbaganesh, Dist. Beed (Maharashtra) Pin-431126, vidyawarta@gmail.com ISBN 978-93-85882-65-4, June- 2021.

22. Book Published as Conference Proceedings, Special Issue, Edited : 05

1. Guest Editor for Volume 3, Issue 12 (2011), International Journal of Recent Research in Science and Technology http://updatepublishing.com/journal/index.php/rrst/issue/view/82
2. Editor in Chief for Bioinfo Aquatic Ecosystem Vol. I, II & III
3. Executive Editor for Conference proceedings- National Conference on "Population growth: Environmental degradation problems and prospects" Pages-1-250
4. Executive Editor for International Conference Special Issue-22- Published in International Journal for Innovative Research in Multidisciplinary Field (Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 & Impact Factor: 6.719) ISSN: 2455-0620 Special Issue - 22, Publication Date: 31/01/2021 pp-295
5. Co-Editor for International Conference Special Issue-23- Published in International Journal for Innovative Research in Multidisciplinary Field (Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 & Impact Factor: 6.719) ISSN: 2455-0620 Special Issue - 23, Publication Date: March – 2021 pp-281.

23. Research Projects Completed- 01

Sr. No.	Title of the Project scheme	Funding Agency	Year of Commence-ment	Year of Completion	Worked as Chief Investigator /Co-Investigator
1.	Limnological Studies of Majalgaon Reservoir From Marathwada Region, Maharashtra	UGC, WRO-Pune	2013	2015	Chief Investigator

24. Worked as Chief in Editor for Scientific Journal (2011-2016):

1. Bioinfo Aquatic Ecosystem (ISSN: 2277-369X & E-ISSN: 2277-3703). http://www.bioinfo.in/journals.php
2. Bioinfo Marine Biology (ISSN:). http://www.bioinfo.in/journals.php

25. (a) Member of Editorial / Associate Editor/ Advisory Boards of Scientific Research Journals :

1. Bioinfo Fishery Science (ISSN:). http://www.bioinfo.in/journals.php
2. International Multidisciplinary Research Journal (ISSN: 2231-6302). http://www.bioinfo.in/journals.php
3. Technical Editor for Asian Journal of Animal Scienceshttp://scialert.net/eboard.php?issn=1819-1878
4. Technical editor for Journal of fisheries and Aquatic Sciences
5. Technical editor for Asian Journal of Biological Sciences

6. Technical editor for Asian journal of Animal Sciences
7. Technical editor for International journal of Zoological Research
8. Technical editor for Research Journal of Parasitology
9. National Teachers Organization in Life Sciences (NTOILS) as a Member of Organization for the session 2020-21
10. Membership of Institute For Engineering Research and Publication from 04-10-2020 to 31-12-2020, Membership ID-PM14358269
11. Member of National Advisory Committee for the National Webinar on Use of Modern Technology in Daily Teaching: the Need of the Hour.
12. Membership of Asian Council of Science Editors Membership No: 91.13207 http://theacse.com Date: March 21, 2021

(b) Editor for Research Journals:

1 Recent Research in Science and Technology (Guest Editor) (ISSN: 2076-5061) (http://recent-science.com/index.php/rrst/issue/view/267).

2 Bioinfo Aquatic Ecosystem (ISSN: 2277-369X & E-ISSN: 2277-3703). http://www.bioinfo.in/journals.php

26. Convener, Co-convener, Organizing Secretary, Organizing Committee member, Advisory Board for Conferences:

A) International Conference

1. Convener- International (Web) Conference on Recent Advances in Freshwater Aquaculture (RAFA-2021) Organized by Department of Zoology M.S.P. Mandal's - Sunderrao Solanke Mahavidyalaya Majalgaon, Dist. Beed (M.S.) India (Golden Jubilee Year, 2020-2021), In Joint Collaboration with Nepal Aquaculture Society, Kathmandu, Nepal (NEAQUAS), Asian Biological Research Foundation (ABRF), Prayagraj, (U.P.), India and Glocal Environment & Social Association (GESA), New Delhi on 21-22 January 2021.
2. Organizing Committee member and Advisory Board - A Two-Day International (Web) Conference on New Vistas in Aquatic & Terrestrial Biology and Environment during Current Pandemic (ATBE-2021) Organized by Department of Zoology R.S.S.P. Mandal's Nanasaheb Y. N. Chavan Arts, Science and Commerce College Chalisgaon, Dist. Jalgaon (M.S.) India. In Joint Collaboration with Nepal Aquaculture Society (NEAQUAS) Kathmandu, Nepal, Glocal Environment and Social Association (GESA), New Delhi and M.S.P. Mandal's Sunderrao Solanke Mahavidyalaya Majalgaon, Dist. Beed on March 26-27, 2021

B) National Conference:

1. Organizing Secretary- National Conference on **"Population growth Environmental degradation: problems and prospects" organized by Sunderrao Solanke Mahavidyalaya, Majalgaon**
2. Co-convener for National Conference on Revised Accreditation Framework Impact on Rural colleges

27. Organizing Online Webinars/Quiz

1. Online Covid-19 Pandemic Awareness Quiz Programme organized by Department of Zoology, Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed

28. Life Member of Scientific Bodies / Institutes:

1. Bioinfo Aquatic Ecosystem
2. Science Advisory Board
3. World Academy of Science, Engineering and Technology (WASET)
4. International Society of Zoological Sciences (ISZS)
5. Association Zoologist of India
6. Life member for Asian Biological Research Foundation (ABRF), Pragyaraj (U.P.), India.

29. Fellow of Societies:

1. Fellowship of Association Zoologists, India (F.A.Z.I.)
2. Fellowship (FABRF) awarded by Asian Biological Research Foundation, Prayagraj, (U.P.), India, (ABRF) in International Web Conference on Recent Advances in Freshwater Aquaculture (RAFA-2021), 21-22 January 2021.

30. Examiner at under Graduate Level:

1. Shri Siddheshware Mahavidyalaya Majalgaon
2. Shri Kalikadevi Arts, Science and Commerce College, Shirur-Kasar Dist. Beed.
3. M.S.P. Mandal's –Arts, Commerce and Science College, Kille-Dharur Dist. Beed.
4. Twaritapuri Arts and Science College, Talwada Tq. Gevroi Dist. Beed

31. Other Activities:

1. JCS At Kallamb in YCMOU examination

2. Custodian for the Assessment of First Year CAP
3. Competitive Exam Classes Taken Under Counseling Career Guidance and Placement Cell
4. Chief- Superintendent (CS) for University Theory Examination
5. Election duty –Losabha 2019
6. Academic Counselor for Bachelor of Science Degree (BSCG) at IGNOU, University

32. Worked in various committees of Dr. B.A.M. University Aurangabad (Committees)

1. Local Subject Expert for selection under Career Advancement Scheme (CAS) at Shri Siddheshwar College, Majalgaon, Dist. Beed.
2. LIC Affiliation committee 2019-20, Member of Affiliation Committee at KSPMS Library & Information Science
3. Theory Examination University flying squad M/A 2018
4. Theory Examination University flying squad M/A 2019
5. Paper Settings of B.Sc. Ist Year Zoology (Zoology II Paper Code 2288) of theory Examination October-2020 to be held in March/April 2021.
6. Paper Settings of B.Sc. Ist Year Zoology (Zoology II Paper Code 2288) of theory Examination October-2021 to be held in Feb/March 2022.
7. Worked as BOS Zoology subcommittee member for CBCS syllabus of B.Sc. Ist semester

33. Worked in various committees of College: (15 Committees)

Sr. No.	Name of the Committees
1	IQAC Coordinator, Sunderrao Solanke Mahavidyalaya
2	Chairman of Counseling and Career Guidance and Placement Cell
3	Chairman of Practical Examination Time table Committee
4	Member of Academic Calendar Committees
5	Member of Research Committee
6	Member of Admission Committee
7	Member of National Institute Ranking Framework Committee
8	Member of discipline Committee
9	Member of Placement Cell Committee
10	Member of ISO Committee
11	Member of Science Association Committee
12	Member of 80+20 Pattern Committee
13	Subject Expert for C.H.B. Interview In College
14	Member of Academic Planning & Monitoring Committee
15	Member of IQAC

34. Contribution to Educational Innovation and Design of New Courses & Curricula

1. Participation in one Day Workshop on New Curriculum designed by Dr. B.A.M. University
2. Guest Lecturer delivered on "Recent Trends & Scope in Zoology" at Late Ramesh Warpudkar ACS, College, Sonpeth, Dist. Parbhani Affiliated to S.R.T.M. University Nanded.
3. Guest lecturer delivered on "Induced breeding of fishes" at M.S.P. Mandal's- Muktanand College, Gangapur, Dist. Aurangabad
4. Worked as BOS Zoology subcommittee member for CBCS syllabus of B.Sc. Ist semester

35. Participation in Scientific / Educational Activities National /Abroad

National

1. Session Chairman at National Conference on Current Trends in Life Sciences for Rural Empowerment organized by Dept. of Botany & Zoology, Rajarshi Shahu A.C. & S. College, Pathri Tq. Phulambri
2. Session Chairman at National seminar on Biodiversity and it`s conservation organized by Dept. of Zoology, D S Garad College Mohol, Dist. Solapur, 16th October 2018
3. Worked as a Co-Chairperson of technical session during the successful organization of A TwoDay International (Web) Conference Organized by Department of Zoology R. S. S. P. Mandal's Nanasaheb Y. N. Chavan Arts, Science & Commerce College, Chalisgaon, Dist. Jalgaon (M.S.) India in Joint Collaboration with Nepal Aquaculture Society, Nepal, Glocal Environment and Social Association (GESA), New Delhi and M.S.P. Mandal's Sunderrao Solanke Mahavidyalaya Majalgaon, Dist. Beed on March 27, 2021.

36. E- Content Development

B. Sc Zoology –Course Code 602 Fishery Science

1. Fishery Science I

2. Fishery Science II

37. **Teaching Methods used for effective teaching**

1. Lecture method
2. Practical methods
3. Experimental methods
4. Question and answer
5. Group Discussion
6. Seminar
7. Project based learning

38. Teaching aids used for effective teaching

1. Books
2. Green board
3. Smart board
4. PPT
5. LCD projector
6. Videos
7. Pictures
8. Dramas
9. Charts, models, slides, museum specimen

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Dr. R.T. Pawar

M.S.P. Mandal's - Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed

Department of Zoology

DEPARTMENTAL WORKLOAD

Class: **B. Sc. I, II & III Year**

2021-2022

Day / Time	7:30 to 8:20	8:20 to 9:10	9:10 to 10:00	11:40 to 12:30	12:30 to 1:20	1:20 to 2:10	3:00 to 3:50	3:50 to 4:40	4:40 to 5:30
Monday					S.Y. PAD			T.Y. PAD	
Tuesday					S.Y. PAD			T.Y. PAD	
Wednesday					S.Y. PAD			T.Y.. PAD	
Thursday				T.Y. PAD				T.Y.. PAD	
Friday				T.Y. PAD				F.Y. PAD	
Saturday				T.Y. PAD					

	Theory	Practical	Total
PAD- Dr. P.A. Deshpande	06	15	21

Name of the teacher

Signature of Head of Dept.

Head
Department of Zoology
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist - Beed.

MSP Mandal's

SunderroSolankeMahavidyalaya ,Majalgaon

Annual Teaching Plan-2021-22

Subject-Zoology (First Term) Name of ProfessorDr.Deshpande P.A

Sr.no	Class Subject $ Paper NO	November	December	January	February
	B.sc II B.Sc. III Semester Course Code - ZOL- 302 PAPER X G E N E T I C S – II+ G E N E T I C S – II (Practical)	1) Genes and its expression :- 08 1.1 Definition, concept and function of gene. 1.2 Transcription of gene: - Initiation, elongation and termination. 1.3 Genetic code:- Concept of codon, properties of genetic code 1.4 Translation of gene: - Initiation, elongation and termination. Population Genetics :- 05 2.1- Gene Pool., Gene Frequency. 2.2- Herdy-weinberg's Law. 2.3- Application of Herdy-weinberg's Law Preparation of paper model of DNA and study of DNA structure 01 2. Study of protein synthesis with the help of charts/models. 02 3. Estimation of DNA from animal tissue with the help of Diphenyl amine method. 02 4. Study of preparation of Normal Karyotype of human.	3) Human Genetics: - 12 3.1 Human chromosomes. 3.2 Sex linked inheritance- X and Y Linked. 3.3 Dizygotic and monozygotic twins. 3.4 Inborn errors in metabolism: - PKU, Albinism. 3.5 Genetic disorders: - Down's syndrome, Turners' syndrome Klinefelter's syndrome. 3.6 Use of human genetics in medical science: - Disease diagnosis Gene therapy and DNA finger printing. -. Karyotypic study of Down's syndrome, Turner's syndrome, Klinefelter's syndrome with the help of photograph. 02 6. Detection of Barr body from epithelial cell. 01 7. Problems on sex linked inheritance	syndrome Klinefelter's syndrome. 3.6 Use of human genetics in medical science: - Disease diagnosis Gene therapy and DNA finger printing. 4) Microbial Genetics Microbial Genetics: - 05 4.1 Transformation. 4.2 Conjugation. 4.3 Transd. Problems based on Hardy – Weinberg's law 02 9. Study of gene frequency and mutants of man ; 02 ¾ Attached and free ear lobe. ¾ Colour of eye. ¾ Rolling of tongue. ¾ Blood group frequction	Genetic Engineering: - 10 5.1 Introduction: - Definition, Concept and significance. 5.2 Restriction enzymes: - Concept and types. 5.3 Cloning vectors: - Plasmid, cosmid, phase. 5.4 Construction of r-DNA. 5.5 Application of r-DNA technology.

Deshpande. P.A.

MSP Mandal's

SunderroSolankeMahavidyalaya ,Majalgaon

Annual Teaching Plan-2021-22

Subject-Zoology (First Term) Name of Professor Dr.DeshpandeP.A

Sr.no	Class Subject $ Paper NO	November	December	January	February
	B. Sc. First Semester Course Code - ZOL-101 Zoology Paper – I PROTOZOA TO ANNELIDAPROTOZOA TO ANNELIDA (PRACTICAL)	1 1. Introduction to animal kingdom 03 Definition of Zoology, Outline classification Protozoa, Parazoa, Metazoa and Major PhylaProtozoa : - General characters 09 Plasmodium vivax: - Structure of sporozoite, Life cycle; pathogenecity, Control, Prevention and Treatment of Malaria. Entamoeba histolytica: Structure, Life cycle and Control. Euglena: Morphology and Repro1. Study of slides from Ciliates, Opalinates, and	.-. Porifera : - General characters 08 Sycon (Scypha): - Morphology, Different types of cells in sycon, canal system in Porifera.Coelenterata: - General characters 06 Obelia: - Morphology of Obelia colony, Development of Hydra, Polymorphism in co1. Study of slides from Ciliates, Opalinates, and Flagellates(any five) 01 2. Study of museum specimen and slides from Porifera to Annelida. (Three from each phyla) 02 [Note, Identification, Classification, Sketch & any 3 to 4 points related to (One point) habitat (one or two point) structure & (one point from) Biological importance.]elenterates	Helminths : - General characters 12 Fasciola hepatica: - Structure, Life cycle, Pathogenecity& Control Measures Taenia solium: - Structure of scolex, Mature and gravid proglottids, Life cycle, pathogenecity, and control measures. Ascaris lumbricoides: - Structure of male & female, Life cycle, Pathogenecity& control measures	.. Annelida: - General characters 07 Leech: - Morphology, Digestive, Excretory & Reproductive syste¾ Dissection of Leech for Digestive, Excretory & Reproductive systemms.

MSP Mandal's

SunderroSolankeMahavidyalaya ,Majalgaon

Annual Teaching Plan-2021-22

Subject-Zoology (secondTerm) Name of Professor Dr.DeshpandeP.A

Sr.no	Class Subject $ Paper NO	November	December	January	February
	B. Sc. Second Semester Course Code – ZOL- 201 Zoology Paper – V ARTHROPODA TO ECHINODERMATA AND PROTOCHORDATA ARTHROPODA TO ECHINODERMATA AND PROTOCHORDATA (PRACTICAL) ----------	Arthropoda: - General characters 15 Prawn: - Structure, Digestive, Nervous, & Reproductive systems. Cockroach: External Characters, Digestive, Respiratory and Reproductive systemsStudy of museum specimen & slides of relevant Invertebrates & 03 Protochordata. (At least 3 form each phylum). 2. Dissections: 09 ¾ Dissection of Prawn for Nervous system	2. Mollusca: - General characters 06 Pila: - External Characters, Respiratory, Circulatory, Nervous and Reproductive systems 3. Echinodermata : - General characters 10 Asterias (Sea Star): - Morphology of oral & aboral view, Water vascular system, Reproductive system incStudy of museum specimen & slides of relevant Invertebrates & 03 Dissection of Cockroach for Digestive and Nervous Systems. ¾ Dissection of Pila for Nervous system. ¾ Dissection of Sea Star for Water Vascular Systemludingdevelopme	General characters and Classification of Protochordata 14 Amphioxus: - External features, Digestive, Circulatory, Reproductive systems including deMounting of any five of the following. 03 ¾ Mouthparts of Cockroach, Mosquito,.	. Hemichordata: - General characters and affinities Herdmania: - General characters and morphology Mounting of any five of the following. 03 ¾ Mouthparts of Cockroach, Mosquito, House fly, Bed bug and Honeybee. ¾ Salivary glands of cockroach. ¾ Redula of Pila, Pedicillaria of Star fish

Dr. Deshpande P. A.

MSP Mandal's

SunderroSolankeMahavidyalaya ,Majalgaon

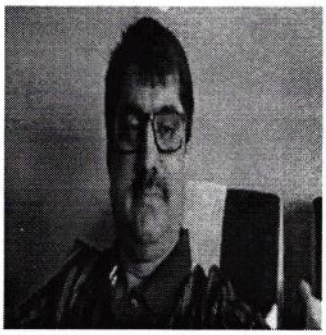
Annual Teaching Plan-2021-22

Subject-Zoology (SecondTerm) Name of Professor Dr.DeshpandeP.A

Sr.no	Class Subject $ Paper NO	November	December	January	February
	B.Sc. IV Semester Course Code - ZOL- 401 PAPER XIII ANIMAL PHYSIOLOGY (Special Emphasis on Mammals)	1) Digestion :- 07 ¾ Brief Introduction to digestive system. ¾ Buccal digestion - salivary secretion and digestion. ¾ Gastric digestion - gastric secretion and digestion. ¾ Intestinal digestion - Pancreatic secretion, bile juices and digestion in Small intestine, Digestion and absorption in large intestine	2) Respiration :- 09 ¾ Respiratory organs. ¾ Breathing mechanism. ¾ Respiratory pigments: - Properties and function of respiratory pigments. ¾ External respiration. ¾ Internal respiration. ¾ Transport of gases	3) Circulation :- 05 ¾ Working of mammalian heart. ¾ Blood and its composition. ¾ Mechanism of blood clotting. 4) Excretion :- 05 ¾ Structure of kidney. ¾ Structure of uriniferous tubules. ¾ Urine formation: - Ultra filtration selective, re-absorption and tubular secretion. ¾ Counter current multiplier system.	) Muscles Physiology :- 05 ¾ Ultra structure of smooth muscle, striated muscles, and cardiac muscles. ¾ Muscle contraction. ¾ Simple twitch and fatigue 7) Reproduction :- 08 ¾ Structure of gonads, Gametogenesis. ¾ Role of sex hormones in Reproduction. 27 ¾ Reproductive cycles – oestrous and menstrual cycle

Biodata Format

Name of Institute:

Full Name		DR. DESHPANDE PRAVIN ARVINDRAO	
Name of Post		Professor	
Subject		ZOOLOGY	
Specialisation		Fishery	
Caste Category Appointed From		Open-22/07/2006	
UG/ PG Teacher		**UG/ PG Teacher**	
Address & Contact Details		**Mobile No.:** **Email:** **dr.padeshpandepa@gmail.com**	
Gender	male	**Date of Birth : 30-06-1971**	
Mother tongue	Marathi	**Knowledge of Marathi:**	**Specially Abled:**

:: Caste Category of Candidate

Category : Open

Caste : Hindu Brahmin

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
B.Sc.	Dr.B.A.M.U. Aurangabad	M /A 1992	50.49	II	Chemistry, Botany, Zoology
M.Sc.	Dr.B.A.M.U. Aurangabad	M /A 1994	56.30	II	Zoology
Ph.D.	Effect of some drugs on Reproduction & Neurosecretion on Bivalve Molluscs from Manjra River	12/06/2003	Dr. B. A. M. U. Aurangabad	Ph.D.	Effect of some drugs on Reproduction & Neurosecretion on Bivalve Molluscs from Manjra River

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
Deogiri Collage Aurangabad	Permanent	Assistant Prof	Permanent	22/07/2006TO 12/10/2006	9925-13500	10-102006
V.P. Collge, Vaijapur	Permanent	Assistant Prof		29-06-2010 TO29-06 - 2010	9925-13500	
Muktanand College, Gangapur	Permanent	Associate Professor		29-06-2010To27-06-2019		

Sunderrao Solanke Mahavidyalaya, Majalgaon	Permanent	Professor	Permanent	28-062019TO Till date	144200-218200	

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor
International	THE EFFECT OF CHANGING ENVIROMENTAL PRAMETERS ON RESPIRATION OF BIVLAVE FROM GODVARI RIVER MAJALGOAN, (M.S.), INDIA Trends in Fisheries Volume 10, Issue 1, (2021) p); 2319–47	Trends in Fisheries Volume 10 ISSN: 2319–474X	2021	Principal Author	
International	HEAVY METAL INDUCED PROTEIN ALTERATIONS IN THE FRESHWATER BIVALVES FROM NAGAPUR DAM DIST BEED, (M. S.) INDIA	Trends in in Life science Volume 10 Issue 2 (2021) ISSN: 2319–4731 (p); 2319–5037	2021	Principal Author	
International	INFLUENCE OF HEAVY METALS UPON EFFICIENCY OF HYDROLYSIS OF GLYCOGEN IN DIFFERENT SPECIES OF FRESHWATER BIVALVES	Trends in in Life science Volume 10 Issue 2 (2021) ISSN:	2021	Principal Author	

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author	API Score

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author
National	Effects of Drugs on Bivalve Molluscs	Harshwardan publication 97-93-9061888-	97-93-9061888-	2021	Principal Author

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as	API Score
Effect of pesticide on freshwater Bivalve from Godavari.	B.A.M.U.Aurangabad	2019	2021	2021	Ongoing	

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B.SC.T.Y401.402	UG Level	online		98%
B.SC.S.Y302,304	UG Level	online		97%
B.SC.F.Y101,102	UG Level	online	512	95%

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
B.SC.F.Y101,102 B.SC.S.Y302,304 B.SC.T.Y401.402		Kotapal, E.L.Jordan & P.S.Varm Dr.S.S.lalP.K.G	Online Books

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	
4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject content, course improvement etc.	
API Score (Max Score:20)	

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)	API Score
University Examination J.C.S	University		
Paper Setting 20-21	Paper Setting 20-21		
University Examination Nov. 2020-21	Collage		
Test, Project Evaluation	Collage		

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counseling) *API Score (Max Score:20)*	-----
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative	B .O .S. Member

committees & responsibilities ***API Score (Max Score:20)***	
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	**membership of associations** **INDIAN ASSOCIATION OF AQVATIC BIOLOSTS (IAAB)** **Asian Biological Research Foundation**
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) **API Score**	
Invited lectures or presentations for conferences/symposia	
Design of new course & curriculum	**Design of new course B.SC.F.Y.B.A.M.U Aurangabad**

Teaching Methods Used in Zoology

Zoology Course / Paper	Teaching Mode
B.sc FY 1-TH	Group Discussion and lecture method
B.sc SY 4th	Group Discussion and lecture method
B.sc FY Practical	Practical Method
B.sc SY Practical	Practical Method

Teaching Aids Used in Zoology

Sr.No	Short Description
01	ITC Based teaching like power point presentation multimedia software etc.
02	Use modules and charge in teaching learning process.

Prof. Dr. Deshpande. P. M.

M.S.P. Mandal's - Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed

Department of Zoology

DEPARTMENTAL WORKLOAD

Class: **B. Sc. I, II & III Year**

2021-2022

Day / Time	7:30 to 8:20	8:20 to 9:10	9:10 to 10:00	11:40 to 12:30	12:30 to 1:20	1:20 to 2:10	3:00 to 3:50	3:50 to 4:40	4:40 to 5:30
Monday									
Tuesday		S.Y. SAS						S.Y. SAS	
Wednesday									
Thursday		S.Y. SAS			S.Y. SAS	F.Y. SAS			
Friday					S.Y. SAS	F.Y. SAS			
Saturday					S.Y. SAS	F.Y. SAS			

	Theory	Practical	Total
SAS- Dr. S.A. Shaikh	06	09	12

Name of the teacher

Signature of Head of Dept.

Head
Department Of Zoology
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist - Beed.

Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed

Subject: **Zoology** Annual Teaching Plan 2021-2022 Assistant Professor:

Dr.Shaikh Soni. A

		III Semester - (VERTEBRATE ZOOLOGY)			**II Semester (ARTHROPODA TO ECHINODERMATA AND PROTOCHORDATA)**						
Sr. No.	Paper II	July	August	September	October	November	December	January	February	March	April
1.	**B.Sc. III Semester VERTEBRATE ZOOLOGY**	1. Agnatha:- Out line classification, general characters and affinities of Cyclostomata 2. Pisces : - Out line classification and general characters.	*Scoliodon*: - External characters, Digestive system, Respiratory system, Blood Vascular System and Nervous System. 3. Amphibia: - Out line classification and general characters. Development of frog: - Fertilization Cleavage Blastula Gastulation and formation of germinal layers. Neotony in Amphibia Parental care in amphibia.	4. Reptilia: - Out line classification and general characters. *Calotes*:- External features, Respiratory system and Blood vascular system. Poisonous and non- poisonous snakes. 5. Aves: - Out line classification and general characters. *Columba livia*: - External features, Respiratory system, Embryology of chick.- Cleavage Blastula Gastulation and formation of germinal layers and	Flight adaptation in birds. Migration in Birds. 6. Mammalia: - Out line classification and general characters. *Ratus ratus:* - External features, Blood Vascular System, Urino-genital System and Adaptive radiation in mammals. Placentation in Mammals. **Class Test - I**	**I, III & V Semester University Examination & Vacation**	1. Arthropoda: - General characters Prawn: - Structure, Digestive, Nervous, & Reproductive systems. Cockroach: External Characters. Digestive, Respiratory and Reproductive systems.	2. Mollusca: - General characters Pila: - External Characters, Respiratory, Circulatory, Nervous and Reproductive systems 3. Echinodermata: - General characters Asterias (Sea Star): - Morphology of oral & aboral view, Water vascular system, Reproductive system including development.	4. General characters and Classification of Protochordata Amphioxus: - External features, Digestive, Circulatory, Reproductive systems including development. Hemichordata: - General characters and affinities Herdmania: - General characters and morphology **Class Test - I**	**(Annual Practical Exam)**	----------

				extra embryonic membranes.							
2.	**B.Sc. III Semester Practical Based on theory paper**	1. Museum study of vertebrates. (At least 20). 2. Dissection of Scoliodon / Labeo Afferent and efferent, Cranial Nerves. Brain	3. Dissection of Rat/ Frog ; Urinogenital system, Arterial system, Venous System, Brain of Rat.	4. Mounting of Placoid, Cycloid and Ctenoid scales of fish 5. Study of Embryological development of chick according to hours of incubation. 6. Visit to Zoological museum/Zoo Park is compulsory and Submission of report	7. Write a report on common birds/mammals in your locality, scientific names and economic importance.	**I, III & V Semester University Examination & Vacation**	**B.Sc. IV Semester Practical based on theory Papers** 1. Preparation of solutions of given percentage, normality and molarity. 2. Study of analytical instrument principle and applications. pH meter, Colorimeter, Centrifuge Electrophoresis	3. Factors affecting enzymes activity temperature and pH 4. Detection of amino acid by paper chromatography 5. Qualitative test for organic compound. Carbohydrate. Protein. Fats.	6. Quantitative estimation of protein from animal tissue using Lawry's method. 7. Study of permanent histological slides of endocrine glands. T.S. of Pituitary gland, T.S. of Thyroid gland, T.S. of Adrenal Gland, T.S. of Islets of langarhance. T.S. of Testis T.S. of Ovaries	**(Annual Practical Exam)**	

BIODATA

1. PERSONAL DETAIL

Name : **Dr.Shaikh Soni Ansuddin**

Qualification : M.Sc, Ph.D, B.ed

Subject : Zoology

Gender : Female

Marital status : Married

Language known : Marathi, Hindi, English

Date of Birth : 23rd April 1990

Area of Specialization : Molecular biology, Helminthology and Fishery Science

Category : Open

Caste : Muslim (Minority)

Contact No : 8484087371

Email : mahinsalima@gmail.com

Address : Swami Vivekanand Nagar, MajalgaonTq. Majalgaon-431131 Dist., Beed (M.S)

2. EDUCATIONAL QUALIFICATION

Degree	**University/ Board**	**Passing Year**	**Obtained Marks/%**	**Subject**

Ph.D	Dr. B.A.M. University, Aurangabad	Awarded at 7th September 2018		Biochemical and Histological studies of fresh water fish *Rasboradaniconius*exposed to LF-EM Field
M.Sc (Zoology)	Dr. B.A.M. University, Aurangabad	June-2014	78.8 %	Helminthology and Molecular Biology
B.Ed	Dr. B.A.M. University, Aurangabad	April/May-2021	86.4%	Science and Mathematics
B.Sc	Dr. B.A.M. University, Aurangabad	June - 2012	72.22 %	CHEM, BOT, ZOOLOGY
H.S.C	PUNE	June - 2008	53.33 %	ENG, SANS, PHY, CHEM, BIO, SOCIO
S.S.C	PUNE	June - 2006	64.93 %	MAR, HIN, ENG, SCI, SOC.SCI, MATH

3. WORK EXPERIENCE

Name of College	Subject	Designation	Nature of Post	From - To
S.S.M.	zoology	Ass. Prof.	C.H.B	01/07/2018-

Majalgaon				28/02/2019
S.S.M. Majalgaon	zoology	Ass. Prof.	C.H.B	2019-2020
S.S.M. Majalgaon	zoology	Ass. Prof.	C.H.B	2020-2021
S.S.M. Majalgaon	zoology	Ass. Prof.	C.H.B	2021- till Up to date

4. WORK EXPERIENCE (AS EXTERNAL TEACHER)

Name of College	Subject	Designation	Nature of Post	From - To
Jijamata College of Nursing Majalgaon	Biochemistry, Nutrition and Microbiology	Ass. Prof	External Teacher	2019-2020
Jijamata College of Nursing Majalgaon	Biochemistry, Nutrition and Microbiology	Ass. Prof	External Teacher	2020-2021
Physiotherapy college	Biochemistry	Ass. Prof	External Teacher	01-07-2022- till up to date…

5. SPORTS

Sr. No	Sports Name	Level	Year

01.	Volleyball	Inter Zone	2008-2009
02.	Volleyball	State level	2007-2008
03.	Chess	Taluka level	2005-2006

6. LIST OF PUBLISHED RESEARCH CHAPTER IN BOOK

Sr. No	Title of Paper	International/National	Book
01.	Low frequency electromagnetic field (LF-EMF) induced behavioural changes in fresh water fish *rasboradaniconius*(Hamilton-1822)	International **(ISBN 81-7019-558-2)**	Role of animal sciences in national development Vol-I in Nanotechnology in Aquaculture) TTP, Publisher, New Delhi

7. LIST OF PUBLISHEDRESEARCH PAPERS IN JOURNAL

Sr. No	Title of Paper	International/National	Journal

02.	Effect of Low frequency electromagnetic field on glycogen content in vital organs of the fresh water fish *rasboradaniconius* (Hamilton-1822)	National **(ISSN: 2321-9653)** **(IC Value: 45.98)** **(SJ Impact Factor :6.887)**	International journal for research in applied science and engineering technology (IJRASET)
03.	Diversity And Distribution Of Mollusca From Ratnagiri Coast (Ms) India Of Arabian Sea	International **(ISSN: 2319–474X)**	Trends In Fisheries Research An International Peer-Reviewed Journal
04.	Diversity, distribution and population density of fresh water zooplankton from shivana-takli reservoir of kannadtaluka, Maharashtra state	International **(e-ISSN 2394-7780)**	International Journal Of Advance And Innovative Research
05.	Biochemical efficacy of *Irciniafusca*marine sponge of Ratnagiri Coast (MS) India	International **(ISSN:2320-7817)**	International journal of life sciences

06.	Inter university best seminar competition **(oral presentation)**	State level	Govt. Vidarbha institute of Science and Humanities, Amravati

8. MEMBERSHIP

Organization	**Position Held**	**Years**	**Joining**
Indian Science Congress Associaton Kolkata	Life Member	08	2014

9. FELLOWSHIP/AWARD

Name of fellowship	**Position Held**	**Funding Agency**	**Date of Award**
Maulana Azad National Fellowship	Senior Research Fellow	University Grand commission, New Delhi	April-2014

10.RESEARCH ACTIVITIES/ PUBLICATIONS/ PARTICIPATION

Sr.	**Name of conference/**	**Level**	**Date**	**Venue**

No	workshop/symposia/seminar			
01.	The Indian Science Congress 101**(Active Participation)**	International	Feb-2014	Jammu University, Jammu and Kashmir
02.	The Indian Science Congress 103 **(Active Participation)**	International	Jan-2016	University of Mysore, Mysuru
03.	The Indian Science Congress 104 **(oral presentation)**	International	Jan-2017	S.V University, Tirupati
04.	Workshop on Intellectual Property Rights (IPR)	National	Aug-2016	Dr. B.A.M. University, Aurangabad
05.	National conference on 'Harmony with Nature in context of Biosciences and Environmental Health' **(oral presentation)**	National	Nov-2015	Dr. B.A.M. University, Aurangabad
06.	National conference on 'Harmony with Nature in context of conservation and climate change **(Active Participation)**	National	0ct-2016	VinobaBhave University, Hazaribag (Jharkhand)

07.	National conference on 'Harmony with Nature in context of Environmental issues and challenges' **(oral presentation)**	National	Dec-2017	Kakatiya university Warangal, Telangana
08.	Teaching, Research and Innovative approaches in life sciences **(Active Participation)**	International (Symposia)	Feb-2018	B.N. Sarda Science college (Sangmner)Ahmadnagar
09.	Present scenario of biodiversity and conservation	National	Oct-2018	Santdnyaneshwarmahavidyalaya, soegaon,dt.aurangabad
10.	Human resource enrichment workshop	State level	Dec-2018	Deogiri college Aurangabad
11.	Recent trends in life sciences	national	Jan-2019	Poona college of Arts,Science and Commerce

11.ACTIVE PARTICIPATION IN CONFERENCE/ SEMINAR/ WEBINAR /SYMPOSIA / WORKSHOP DURING PANDEMIC (ONLINE)

Sr. No	Name of conference/ workshop/symposia/seminar	Level	Date	Venue

1.	The art of synthesizing organic compounds: A researchers perspective.	Inter-national Webinar	04-06-2020	Sir Syed college Taliparamba
2.	Product development and consumer psychology- the key drivers	National Webinar	14 May 2020	Maharashtra college of Arts Science and Commerce
3.	Mobile application development and campus to corporate	National Webinar	1-2 June 2020	Dayanand college of commerce, Latur
4.	Digital Humanities	National Webinar	30 May 2020	Smt. VimalbaiUttamraoPatil Arts and Late. Dr.BhaskarSadashivDesale science college, Sakri
5.	Magnetic nanocarriers for enhanced enzyme activity	Webinar	30 May 2020	Prathyusha engineering college
6.	Future of 2D animation in India	Webinar	27 May 2020	SST college of arts and commerce Ulhasnagar-4
7.	Awareness programme on use of online E- resources	Webinar	6 june 2020	SonopantDandekar arts V.S. apte

				commerce and MH Mehta science college palghar
8.	Herbal Rejuvention in an epidemic	Webinar	6 june 2020	Gurunanak college of Arts, science and commerce
9.	Practical aspects of Remote sensing and GIS	Online training programme	5-7-2020	Geologist association of maharashtra
10.	E- Learning and tools for effective teaching and learning	workshop	29 may 2020	Jnanvikasmandals degree college, Airoli
11.	Impact of covid- 19 pandemic on higher education and economy	Webinar	3-4 june 2020	LalBahadurShastri girls college of management
12.	Traditional indian food habits, Life style and immunity in reference to covid -19 pandemic	Webinar	23-24 may 2020	DeenDayalUpadhya Gorakhpur university
13.	Relevance of Scientific Values in Fighting the Pandemic Covid 19	Webinar	05 June 2020	S.S Khanna Girls College Prayagraj
14.	Transfusing the Originallity In Research -Avoiding Plaglarism	Webinar	06-Nov-	MMH College Ghaziabad

	With Tools and Technologies		2020	
15.	Faculty Development Program OpenFOAM	Online Traning Program	1-7 June 2020	Shri Ville ParleMandales Institute of Tech
16.	The Various Aspects of Covid -19	Webina	20	MUPTA
17.	Case Discussion Methodology for Bussiness Administration In Rural Management	Webinar	18-22 May 2020	Mahatma Gandhi National Council of Rural Manage
18.	Covid-19 Pandemic :Issues, challenges and opprtunities in International Trade	Webinar	29 May 2020	ShriAsaramjiBhandwaldarArts,Comme,SciCollege, Deogaon
19.	Moodle :Online Teaching Management Tool	Webinar	06 July 2020	Dr BAMU University A.bad
20.	Research Purposal Writing	Webinar	09 June 2020	CMR Teachnical Campus
21.	Organic Food and Healthy Life Style	Wenbinar	10 June 2020	JayarajAnnapackiam College For Women
22.	Refrigerants Progression-	Webinar	1-6	QIS College Of

	Environmental Concerns		June 2020	Engineering And Technology
23.	Teaching Skills & School Internships Program :Invention and Challenges	Webinar	25-30 May 2020	SahdevChandravansiB.ed College
24.	Job Structure :Major Skills Required by MBA Fresher	Webinar	10 June 2020	SantHirdaram Institute Of Management
25.	Recent Advances In Electrical Engineering (RAEE -2020)	Webinar	3-7 June 2020	VEMU Institute Of Technology Chittor (A.P)
26.	UGC Net /Set Exam General Paper 1 Compulsory	Webinar	11 May 2020	Maharashtra College Of Arts , Science and Commerce
27.	E -Learning And MOOC's In Higher Education and New Roles of Teacher	National webinar	18 May 2020	Sri GVG Visalakshi College For Women
28.	Product Development And Consumer Psychology - The Key Drivers	National Webinar	14 May 2020	Maharashtra College of Arts , Science , commerce
29.	Faculty Development Program "Machine Learning And	Online Traning	18 -23 May 2020	Sagar Group of Institutes

	Applications (Active Particapation)	Program		
30.	Faculty Development Program	Online TraningProg		AUXILIUM College (Autonomous)
31.	Introduction to Social Media Marketing	1-4-5-11-13-16 June 2020	National Webinar	S.S.T College Ulhas Nagar
32.	ICT Tools For Effective Teaching And Learning	Online Training Programe	6 June 2020	ChintamaniMahvividyalayaGhugus
33.	Role Of Teachnoology In The Era of Covid -19 For Education	International Virtual Conferance	07-08 June 2020	USERC
34.	Issues And Challenges of Covid -19 :With referance to Regional Development Planning Strategies	International Webinar	07-08 June 2020	M.D.P.G College Pratapgrah (U.P)
35.	Writing a Winning Resume	Webinar	29 May 2020	ManibenNanawatiWomens College
36.	Changing Scenrio after Corona Pandemic	National Webinar	06 June 2020	Kamala Nehru Mahavidyalaya Nagpur
37.	Sustainable Development After	Internatio	01 Feb	Deva Nagri

	Covid -19 :Environmental Issues and Challenges	nal Conferenc e	2020	College Meerut .
38.	New Teaching Strategies : Post Covid -19 Pandemic	Natinal e-Conferanc e	09 June 2020	DAV College Amritsar .

12.EXTRA CO-CURRICULAR ACTIVITIES/SPORTS/COMPUTER COURSE

Sr. No.	Type of Activities	Date
01.	7 day tally training event (Active participation)	Feb-2019
02.	Employment development programme	Oct-2017
03.	National science day- 2016 (Science and technology exhibition)	Feb-2016
04.	Chatrapatishivajimaharajadyasan Kendra-2016 (Essay writing)	Oct-2016
05.	National science day- 2015 (Science and technology exhibition)	Feb-2015
06.	University level Science talent search examination-2012 (participated and pas)	Jan-2012
07.	University level NSS program 2009-2012	Dec-2012
08.	University level NSS program-2008	Oct-2008
09.	University level (Inter-collegiate) Volleyball competition 2008-09	Oct-2008
10.	Fule-Ambedkarjanmotstav- 2008 (Chess competition)	Dec-2008
11.	Fule-Ambedkarjanmotstav- 2008 (Rangoli competition)	Dec-2008
12.	Fule-Ambedkarjanmotstav- 2008 (painting competition)	Dec-2008

13.	Fule-Ambedkarjanmotstav- 2008 (best handwriting competition)	Dec-2008
14.	Shivjanmotsav-2007 (open-general knowledge competition)	Oct-2007
15.	College level Gola-fek competition (1st prize)	Jan-2007
16.	College level Thali-fek competition (1st prize)	Jan-2007
17.	College level Bhala-fek competition (1st prize)	Jan-2007
18.	College level Running competition (1st prize)	Jan-2007
19.	College level 100 meters Running competition (1st prize)	Jan-2007
20.	College level sanchalan (1st prize)	Jan-2007
21.	State level Volleyball Competition 2007-08	Oct-2007
22.	MS-CIT	Aug-2011
23.	Typing-Hindi	May-2011
24.	Typing-English	May-2011
25.	Typing-Marathi	May-2011
26.	Typing-Marathi	Nov-2010
27.	Typing-English	Nov-2010

It is hereby declared that the above furnished information is true as per my best of knowledge.

Place: Majalgaon

Date: / /2022

Dr. SHAIKH SONI ANSUDDIN

M.S.P. Mandal's - Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist. Beed

Department of Zoology

DEPARTMENTAL WORKLOAD

Class: **B. Sc. I, II & III Year**

2021-2022

Day / Time	7:30 to 8:20	8:20 to 9:10	9:10 to 10:00	11:40 to 12:30	12:30 to 1:20	1:20 to 2:10	3:00 to 3:50	3:50 to 4:40	4:40 to 5:30
Monday						F.Y. SRM			
Tuesday						F.Y. SRM		T.Y. SRM	
Wednesday						F.Y. SRM			
Thursday								S.Y. SRM	
Friday									
Saturday								F.Y. SRM	

	Theory	Practical	Total
SRM-Mr. S.R. Munde	03	09	12

Name of the teacher

Signature of Head of Dept.

Head
Department Of Zoology
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist - Beed.

Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed

Subject: **Zoology** Annual Teaching Plan 2021-2022

Ass. Professor: **Mr.S.R.Munde**

		II Semester Genetics-II							
Sr. No.	Paper	September	October	November	December	January	February	March	April
4.	**B.Sc. III & IV Semester Practical based on theory papers**			**University Practical Exam**			Elements of heredity & variation Definition of genetics and variation Mendel's laws of heredity in short Gene interaction Definition - modifications in Mendelian phenotypic ratio like, Epitasis Supplementary gene Complementary gene Multiple Alleles Coat Colour in rabbit. ABO Blood group in man, Rh factor Cytoplasmic	Sex Determination Chromosome theory in sex determination Genic balance theory of sex determination Triploid intersexes and Gynandromorphs in Drosophila. Sex linked inheritance: X linked and Y linked Mutation Brief introduction Gene mutation: -	**Annual Practical Exam**

5.	**B.Sc IV semester**						contraction. > Simple twitch and fatigue 7) Reproduction :- 08 > Structure of gonads, Gametogenesis. Role of sex hormones in Reproduction. Reproductive cycles - estrous and menstrual structure of smooth muscle, striated muscles, and cardiac muscles. • Muscle contraction. > Simple twitch and fatigue 7) Reproduction :- 08 >	Introduction to digestive system. 07 • Buccal digestion - salivary secretion and digestion. > Gastric digestion - gastric secretion and digestion. > Intestinal digestion - Pancreatic secretion, bile juices and digestion in Small	**II, IV & VI Semester University Examination**

Assistant Professor
Sunderrao Solanke Mahavidyalaya,
Majalgaon Dist.Beed.(MS)

Head
Department Of Zoology
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist - Beed.

SAURABH RAMRAJ MUNDE

+919373438180
Saurabhmunde99@gmail.com

Education

Secondary School Certificate (SSC)
Shri. Siddeshwar Vidyalaya , Majalgaon,Beed
Aurangbad Board.

Completed March - 2013
81.80%
Division I

Higher Secondary Certificate (HSC)
Dr. M.E.Bhore Jr. College , Jamkhed ,
Ahmadnagar .
(Pune Division).

Completed February 2015
74.77%
Division I

Bachelor Of Science (Chemistry, Botany, Zoology)
Balbhim Arts , Science and Commerce College Beed .
Dr.Babasaheb Ambedkar Marthwada University ,
Aurangabad.

Competed June 2019
72.24%

Master Of Science (ZOOLOGY)
Department of Zoology,
Dr. Babasaheb Ambedkar Marathwada University
Aurangbad.

Completed October 2021
A+ Grade

MH-STATE ELIGIBILITY TEST, Life Science.
Savitribai Phule Pune University,
State Eligibility Test for Assistant Professor,

September 2021
Maharashtra.

Pursuing Ph.D
Prof. Ramakrishna More
Arts, Science and commerce College , Akurdi, Pune.

Present position
Working as Contributory Teacher in Zoology at
Department of Zoology Sundarrao Solanke
Mahavidyalaya Majalgaon,Beed.

Certificate and projects

- Selected for State level Science Exhibition, Organised by Internal Quality Assurance Cell (IQAC) INSPIRE AWARD
- First rank in UG-Category in University Level Avishkar - 2018 Dr.Babasaheb Ambedkar Marathwada University Aurangbad.
- Participated in Inter-University (State Level) Research Convention Avishkar 2018 at Gondwana University, Gadchiroli.
  15 Jan to 18 Jan 2019.
- Second Prize in PG-Category University Level Avishkar - 2019 at Dr. Babasaheb Ambedkar Marathwada University Aurangbad.
- Participated in Maharashtra State Inter-University Research Convention Avishkar 2019-20 at University of Mumbai.
- Second prize in 6th State Level Poster Presentation On Recent Trends In Science and Technology, Organised by Milliya Arts, Science and Management Science College Beed.
- Completed Soft Skill Training Program of Maitree Institute of management. 2019
- Attend National e-Workshop on 'Scientific writing and presentation Skills, Organised by Dayanand Science College, Latur.

Languages

- Marathi
- Hindi
- English

Personal Interests

- Volunteering
- Scientific temper

Personal Details

Birthday: November 26 1997
Marital Status: Single
Gender: Male
Nationality: India
Category: NT-D

Address: Krushnakunj Niwas, infront of navle washing center, Beed-parali highway
Wadwani, Beed.

Declaration

I, SAURABH RAMRAJ MUNDE, hereby declare that the information contained herein is true and correct to the best of my knowledge and belief.

BEED, Maharashtra

SAURABH RAMRAJ
MUNDE

M. S. P. Mandal's

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON
DEPARTMENT OF PHYSICS
Time – Table Academic Year 2021-2022 (First Term)

Prof. S.K. Yyawahare

Class & Time	Theory			Practical
	B.Sc. II	B.Sc. III	B.Sc. I	
Day	11.40 – 12.30	12.30 – 1.20	2.10 – 3.00	7-30 –10.00
Mon.		SKV PAPER-XV		B.Sc. I SKV
Tue.		SKV PAPER-XV		B.Sc. I SKV
Wed.		SKV PAPER-XV		B. Sc. II SKV
Thu.	SKV PAPER-VIII		SKV PAPER-II	B. Sc. II SKV
Fri.	SKV PAPER-VIII		SKV PAPER-II	B. Sc. III SKV
Sat.	SKV PAPER-VIII		SKV PAPER-II	B. Sc. III SKV

Total No. of Periods:

First Year - **Practical - 09**
- **Theory – 18**

Total periods of week-27

Head
Department of Physics

Head
Department Of Physics,
Sunderrao Solanke Mahavidyalaya,
Majalgaon Dist - Beed

M. S. P. Mandal's

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON
DEPARTMENT OF PHYSICS
Time – Table Academic Year 2021-2022 (Second Term)

Dr S.K. Yawahare

Class & Time	Theory			Practical
	B.Sc. II	B.Sc. III	B.Sc. I	
Day	11.40 – 12.30	12.30 – 1.20	2.10 – 3.00	7-30 –10.00
Mon.		SKV PAPER-XX		B.Sc. I SKV
Tue.		SKV PAPER-XX		B.Sc. I SKV
Wed.		SKV PAPER-XX		B. Sc. II SKV
Thu.	SKV PAPER-XI		SKV PAPER-V	B. Sc. II SKV
Fri.	SKV PAPER-XI		SKV PAPER-V	B. Sc. III SKV
Sat.	SKV PAPER-XI		SKV PAPER-V	B. Sc. III SKV

Total No. of Periods:

First Year - Practical - 09
- Theory – 18

Total periods of week-27

Head
Department of Physics

Head
Department Of Physics,
Sunderrao Solanke Mahavidyalaya.
Majalgaon Dist - Beed.

SUNDERRAO SOLANKE MAHAVIDYALAY, MAJALGAON, DIST: BEED

NAME: **-DR. S. K. VYAWAHARE** SUB: **-PHYSICS** YEAR:**ANNUAL PLANE 2021-2022**

Sr	Subject /Paper	October	November	December	January
1	B. Sc. F. Y. Semester I Paper 101 Theory	**Mechanics:** - Compound Pendulum- expression of time period, Interchangeability of centre of suspension and oscillation, Kater's Pendulum. Newton's law of Gravitation (Statement only) ,	Gravitational Field , Gravitational Potential, Gravitational Potential of mass, Gravitational potential and field due to spherical shell and solid sphere (at a point, outside , inside and on the surface).	Elasticity: - 10 periods Introduction , Moduli of Elasticity (Elastic constants), Twisting couple on a cylinder, Bending of Beam – Bending moment,	cantilever loaded at free end – (a) When weight of beam is ineffective, (b) When weight of beam is effective, Depression of Beam loaded at centre
2	B. Sc. F. Y. Semester I Paper 103 Practical	1. Determination of acceleration due to gravity by Kater's pendulum. 2. Y by bending of a beam loaded at center	1. Determination of Y by Cantilever (Oscillation method	1. η by Maxwell's needle. 5. M.I. by bifilar suspension	1. Determination of Y and η of the material of a flat spiral spring.
3	B. Sc. S. Y. Semester III Paper 201 Theory	**Differentiation and ordinary differential equation:** Limit of function, partial differentiation, successive differentiation, total differentiation, exact differentiation, chain rule. Ordinary differential equation, order and degree of differential equation, solution of first order differential equation	, and solution of second order linear differential equation with constant coefficient a) Homogeneous equations, b) Inhomogeneous equation, Special case of exponential right hand to find P.I	Statistical basis and classical statistics: Introduction, probability, principle of equal a priori probability, probability and frequency, some basis rules of probability theory, permutation and combination, macrostates and microstates,	phase space, thermodynamic probability, division of compartments into cells, Maxwell-Boltzmann energy distribution law, evaluation of gi, α and β, M.B. distribution function for ideal gas, M.B. Speed distribution law.
5	B. Sc. S. Y. Semester III Paper 203 & 204 Paper-IX & X Practical	1. 'h' by Photo cell 2. e/m by Thomson's tube method	. 3. Determination of absolute value of BH and BV using Earth Inductor 4. Stefan's constant by using thermo couple	1 Thermal conductivity of rubber tube. 2. Study of temperature dependence of total radiation.	3. To draw the histogram of theoretical Gaussian curve. 4. Comparison of capacities by Desauty's method

6	B. Sc. T. Y. Semester V Paper 301 Theory	1. **Classical Mechanics**Mechanics of Particle, Mechanics of system of particles Constraints, Classification of Constraints, Virtual Work, D'Alembert's principle,	Lagrange's equation, Simple application of Lagrangian formulation –Simple Pendulum, Particle in space, Linear Harmonic Oscillator, Atwood's Machine .	Origin of Quantum theory [12] Introduction, Failure of Classical mechanics, Black body Radiation (Distribution of Energy), Plank's Quantum theory-Plank's Quantum postulates, linear	momentum of photon in terms of wave vector, Plank's radiation law-Wein's law and Rayleigh's law, Einstein's equation: Quantum theory of photoelectric effect, Quantum effect.
8	B. Sc. T. Y. Semester V Paper 303 &304 Paper-XVII& XVIII Practical	Measurement of the focal length of a given convex lens using laser Measurement of the focal length of a given convex lens using laser	Measurement of the focal length of a given convex lens using laser	1 Beam divergence of a diode laser 2. Determination of the diameter of a thin wire using laser	1 Beam divergence of a diode laser 2. Determination of the diameter of a thin wire using laser

Head
Department Of Physics,
Sundarrao Solanke Mahavidyalaya,
Majalgaon Dist. Beed.

SUNDERRAO SOLANKE MAHAVIDYALAY, MAJALGAON, DIST: BEED

NAME: -**DR. S. K. VYAWAHARE** SUB: -**PHYSICS** YEAR:**ANNUAL PLANE 2021-2022**

Sr	Subject /Paper	March	April	May	June
1	B. Sc. F. Y. Semester II Paper 102 Theory	1) Thermal Conductivity: - 10 periods Transference of heat, Coefficient of thermal conductivity, Rectilinear flow of heat along a metal bar,	Methods of radial flow of heat-(i)spherical shell method and (ii)Flow of heat along the wall of a cylindrical tube, comparison of conductivities of different metals.	Methods of radial flow of heat-(i)spherical shell method and (ii)Flow of heat along the wall of a cylindrical tube, comparison of conductivities of different metals.	Transport phenomena–Introduction, Mean free path, sphere of influence, and expression for mean free path, variation of mean free path with temperature and pressure, transport phenomena, viscosity, Thermal conductivity (their interrelationship, dependence on temperature and pressure).
2	B. Sc. F. Y. Semester II Paper 106 Practical	Y by Searle's apparatus. 2. M.I. of fly wheel.	3. Thermal conductivity of bad conductor by Lee's disc method.	5. Field along axis of circular coil. 6. I-H curve.	4. Study of CRO 7. Calibration of spectrometer. 8. Dispersive power of prism
3	B. Sc. S. Y. Semester IV Paper 205 Theory	**Semiconductor :** Introduction, Construction, Working and Characteristics of semiconductor diode Zener diode, Zener diode characteristics, Transistor (PNP and NPN), Transistors characteristics (CE, CB and CC), Construction, Working and Characteristics of FET	**Transistor Biasing and Amplifiers :** Transistor biasing, Selection of operating point, bias stability, transistor biasing circuits - fixed bias or base bias, collector Single stage transistor amplifier	, frequency response of RC coupled amplifier, Noise in amplifiers, feedback in amplifiers, Op-Amp characteristics, inverting & non-inverting	**Oscillators and Multivibrators:** Two port network representation of a transistor, Hybrid parameters or h – parameters, Positive feedback,
5	B. Sc. S. Y. Semester IV Paper 207& 208 Paper-IX & X Practical	1. I.V. Characteristics of solar cell. 2. Calibration of bridge wire using Carry-Foster's bridge.	3. Full wave rectifier with $\prod$ filter. 4. Viscosity of liquid using Searle's viscometer.	1 Transistor characteristics in CE configuration. 2. Transistor characteristics in CB configuration	3. Study of CE amplifier 4. Hartly Oscillator using transistor. 5 Wien Bridge Oscillator using transistor/ Op-Amp 6 Op-Amp as adder/substractor

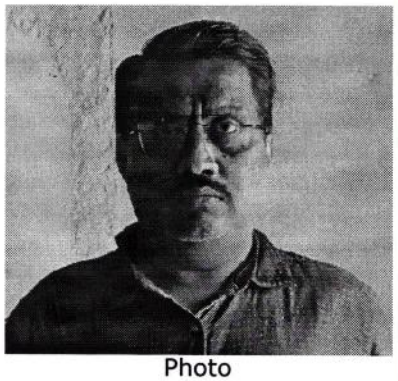
6	B. Sc. T. Y. Semester VI Paper 305 Theory	**1. The Atom model** Introduction, Thomson atom model, the Rutherford nuclear atom model, drawbacks of Rutherford atomic model, the Bohr's atom model	Bohr's theory of origin of spectral lines, diagrammatic representation of the series spectrum of the H-atom in the light of Bohr's theory.	**2. Vector Atom Model** Introduction-vector atom model, Quantum numbers associated with the vector atom model, L-S coupling, j-j coupling, The Pauli's exclusion principle,	Selection rules, Intensity Rules, Interval Rule, Normal Zeeman effect, Anomalous Zeeman effect, Stark effect and its experimental study.
8	B. Sc. T. Y. Semester VI Paper 307 & 308 Paper-XVII & XVIII Practical	1. Thermal conductivity by Forb's method 2. Rydberg constant	1. Thermal conductivity by Forb's method 2. Rydberg constant	1. Transistorized Regulated power supply using Zener diode. 2. Bridge Rectifie	1. λ by grating (normal incidence)

Head
Department Of Physics,
Sunderrao Solanke Mahavidyalaya,
Majalgaon Dist. Beed.

Biodata Format

Name of Institute:

Full Name		Dr. Sanjay Kautukrao Vyawahare	
Name of Post		Professor	
Subject		Physics	
Specialisation		Material Science, Spectroscopy	
Caste Category Appointed From		18-10-2003	
UG/ PG Teacher		**UG and PG**	
Address & Contact Details **77, Shradha colony, Mukundawadi, CIDCO, Aurangabad.**		**Mobile No.: 09422556007** **Email: skvyawahare41@gmail.com**	
Gender	Male	**Date of Birth : 26th May 1969**	
Mother tongue	Marathi	**Knowledge of Marathi: Yes**	**Specially Abled: English**



Photo

:: Caste Category of Candidate

Category : OBC

Caste : Maratha(Kunbi)

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph. D.	**Dr. B. A. M. U . Aurangabad**	**2003**	**Material Science**	**--**	**--**
M. Sc.	**Dr. B. A. M. U. Aurangabad**	**1991**	**Physics**	**560**	**B+**
B.Sc.	**Dr. B. A. M. U. Aurangabad**	**1989**	**Physics, Maths, Electroncs,**	**570**	**B+**
HSC	**Aurangabad**	**1986**	**Physics, Maths, Chemistry, Techinical**	**570**	**B+**
SSC	**Aurangabad**	**1984**	**General +Techinical**	**757**	**A+**

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
Marathawdasikshin Prasarak Mandal, Aurangabad	**Perminant**	**Professor**	**Perminant**	**2003- till this date**	**141400-**	**01-10-2019**

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author
1	Structural and Magnetic properties of $Mn_{1+x}Si_xFe_{1-x}Cr_{1-x}O_4$ System pp. 545-549	Indian Journal of pure and applied Physics. Vol. 43, July 2005	**2005**	**Sole**
2	Effect of Si on structural and magnetic properties of Mn-Ferrite pp. 68-72	Journal of Pure and applied sciences, (Vol. -1, June 2006)	**2006**	**Sole**
3	Structural and magnetic properties of Pb4+ substituted in Li-ferrites PP 1-5	INDIAN J. PHYS. Vol. 82 (1), January (2008)	**2008**	**Co-Author**
4	Electrical and Dielectric properties of silicon substituted in Mn ferrite PP 40-48	Journal of pure and Applied sciences Dec 2011	**2011**	**Sole**
5	Revisit: Eaton's ReagentCatalyzed Synthesis of Mono and Bis-Chalone Derivatives PP 526-529	Letter of Organic Chemistry, (2012)	**2012**	**Co-Author**
6	CsF/[bmim][BF4]/Silica: An Efficient	International Journal of	**2012**	**Co-**

	System for Michael Reactions PP 60-63	Chemtech Applications (2012)		**Author**
7	AN EFFICIENT SYNTHESIS OF 4-ARYL-SUBSTITUTED 3,4- DIHYDROPYRIMIDIN-2(1*H*)-ONES USING NANOCOMPOSITE FERRITE CATALYST PP 481-484	European Chemistry Bulletin. 2013,	**2013**	**Co-Author**
8	Cloud Computing (Principal and Working) PP 46-49	International Journal of Multidisciplinary Research, Vol. Issue 12 (XI), March 2013,	**2013**	**Sole**
9	Fe0.2Al1.8Zn1O4 Composite: An Efficient Catalyst for the Synthesis of 1, 4-Dihydropyridine Derivatives PP 416-423 (ISSN: 2249-0205)	American Chemical Science Journal *4(4): 2014* SCIENCEDOMAIN international *www.sciencedomain.org*	**2014**	**Co-Author**
10	"Short Review on research Methods" page 96-98	Journal of Basic and Applied Science Special issue February, 2014,	**2014**	**Sole**
11	Synthesis and Characterization of some copper Based composite. (Page 189-190)	International Journal of Advanced Research in Basic and Applied Science (Dec 2014)	**2014**	**Co-Author**
12	Synthesis and Characterization of Ni-Zn ferrites by Sol-Gel method. (page 07-11)	Journal of Basic and Applied Science (2014)	**2014**	**Sole**
13	Physical Characteristic of composites Cu1-xZnxFe2O4 prepare by Sol-Gel method. Page 234-236	Journal of advances in applied science and technology Dec 2014	**2014**	**Co-Author**
14	Structural and Electrical Properties of Nickel Ferrites Nanoparticles: Influence of Mixed Fuel Approach	International Journal of Advance Research in Basic and Applied Science	**Yes Guide**	16-17
15	**Effect of γ-radiation on structural, morphological, magnetic and dielectric properties of Zn–Cr substituted nickel ferrite nanoparticles**	Journal of Materials Science: Materials in Electronics https://doi.org/10.1007/s10854-018-0252-1	**Yes Guide**	17-18
16	**Effect of Simultaneous Dopping of Zinc and Chromium on the Structure and Magnetic properties NiFe2O4 Nanoparticals**	International Journal of Chemical and Physical SciencesVol. 7, IJCPS March-2018	**Yes Guide**	17-18
17	Effect of Zn2+–Cr3+ substitution on structural, morphological, magnetic and electrical properties of NiFe2O4 ferrite nanoparticles	INTERNATIONAL JOURNAL OF CURRENT ENGINEERING AND SCIENTIFIC RESEARCH (IJCESR)	**Yes Guide**	18-19
18	SYNTHESIS AND OPTICAL ANALYSIS OF EU3+ AND DY3+ ACTIVATED MGPBAL10O17 PHOSPHOR FOR SOLID STATE LIGHTING	Journal of Materials Science: Materials in Electronics https://doi.org/10.1007/s10854-018-0252-1	**Yes Guide**	18-19
19	Effect of γ-radiation on structural, morphological, magnetic and dielectric properties of Zn–Cr substituted nickel ferrite nanoparticles	Journal of Emerging Technologies and Innovative Research (JETIR)	Yes Guide	18-19
20	Influence of Gamma Irradiation on the Structural Properties of Cobalt Ferrite	IOSR Journal of Engineering	Yes Guide	18-19

	Nanoparticles.			
21	Synthesis and Gamma Radition Effect on the Structural Properties of Cobalt Ferrite Nanoparticals	INTERNATIONAL JOURNAL OF CURRENT ENGINEERING AND SCIENTIFIC RESEARCH (IJCESR)	Yes Guide	18-19
22	Magnetic Characterization Of Nano-Structured Cd-Substituted Cobalt Nanoferrite	Our Heritage (UGC Care Listed) Vol-68,	Four	19-20
23	Photoluminescence Study Of Ce3+ Activated Blue Emitting Lisio3:Ce3+ Lamp Phosphors	Our Heritage (UGC Care Listed) Vol-68,	Four	19-20

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?
Application of computers in Physics Education	**Regional**	regional level one day seminar on "Modern Trends in Physics" arranged by Swa. SavarkarMahavidyalya Beed on 9/2/2010.		
Dielectric study of Nickel-Lead ferrites by adding Zn2+ ions	**State level**	State level seminar on advanced study in Solid state Physics and Crystallography Arranged by Balbhim College Beed, (15-16 March 2008)		
"Student Involvement in Quality Enhancement in Higher Education"	**National**	National conference On "Best Practices and Involvement in Quality Enhancement" arranged by Shri Shivaji College, Parbhani. 5^{th} -6^{th} Oct. 2012		
The Necessity of Technological aids in Modern Education.	**national**	Souvenir		

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author
International	Bioactive Heterocycles: Synthesis and Biological Evaluation	NOVA Publisher's	(ISBN : 978-1-62257-451-3)	**2013**	**Co-author**
Book International	Sound Waves	Lambert Publication	ISBN : 978-3 -330-34398-6	16-17	Principal Author
Book International	Quantum Mechanics	Lambert Publication	ISBN : 978-620 -2-67766-0	19-20	Principal Author

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status
VISHNU B. RAUT	**Ph. D.**	DEC 2014		**Science and Tech.**	**Awarded**

Vishwanath K. Mande	**Ph. D.**	DEC 2014	Jan 2014	**Science and Tech.**	**Awarded**
Deepak Anil Magar	**Ph. D.**	Octomber-2021	On Going	**Science and Tech.**	
Priyanka Gopal Patil	**Ph. D.**	Octomber-2021	On Going	**Science and Tech.**	
KRISHNA JAGANNATH LANGADE	**Ph. D.**	Octomber-2021	On Going	**Science and Tech.**	

:: Patents:

Sr. No	Title Of Patent Project	Patent Number	Sponsored Agency if any	Date of Award	International National
01	Synthesis & Study of Trivalent Cerium activated Ca2Pb3(PO4)3Cl novel blue emitting phosphor for solid state lighting	2021106831	Australia	24 August 2021	International

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
B. Sc. F. Y.	**UG**	**PPT/Video/Board**	**3**	**87**
B. Sc. S. Y.	**UG**	**PPT/Video/Board**	**3**	**90**
B. Sc. T. Y.	**UG**	**PPT/Video/Board**	**3**	**91**
B. Sc. T. Y.	**UG**	**Demostration**	**15**	**70**

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	
4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject content, course improvement etc.	
API Score (Max Score:20)	

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)
Paper Setting	chairman	100
Paper assessment	Examiner and moderator	100

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement &counseling) ***API Score (Max Score:20)***	Study visits, Career counselling
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committiees& responsibilities ***API Score (Max Score:20)***	
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	Worked as Convener toorganized a Webinar on **'Research and Research Methodology'** on 31 December 2021
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	
Invited lectures or presentations for conferences/symposia	
Design of new course & curriculum	
Particulars of current research work at personal level	
Co-curricular &extra curricular activities	
Consultancy work carried out	
Patents & IPR Details:	**Given in Table**

Teaching Methods used for effective teaching

1. Lecture method
2. Practical methods
3. Experimental methods
4. Question and answer
5. Group Discussion

Teaching aids used for effective teaching

1. Books
2. Green board
3. Smart board
4. PPT
5. LCD projector
6. Pictures
7. Charts, models, Instruments

Dr. S.K. Jawahare

Biodata

Name of Institute: Sundrrao Solanke Mahavidyalaya, Majalgaon.

Full Name	Sarage Omprasad Hanumant		
Name of Post	Assistant Professor		
Subject	Physics		
Specialisation	Condensed matter Physics		
Caste Category Appointed From	S.B.C.		
UG/ PG Teacher	**UG**		
Address & Contact Details	**Mobile No.: 7378373991** **Email: Sarageomprasad@gmail.com**		
Gender -Male	**Date of Birth: 08/01/1993**		
Mother tongue -Marathi	**Knowledge of Marathi: Yes**	**specially Abled: No**	

:: Caste Category of Candidate

Category : S.B.C.

Cast : Koli

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
SET	Pune University	2018	Physics	Qualified	
M.Sc.	Dr. B A M U Aurangabad	2016	Physics	8.72 CGPA	
B.Sc.	S R T M U Nanded	2014	Physics, Chemistry, Mathematics	2802/3300	84.90
HSC	Latur Board	2010	Physics, Chemistry, Mathematics	374/600	62.33
SSC	Latur Board	2008		527/650	81.08

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
Dayanand Science college latur	C.H.B	Assistant Professor	Temporory	July2016-march2017		July-2016
Dayanand Science college latur	C.H.B	Assistant Professor	Temprory	July2018-March2019		July 2018
Deogiri College,Aurangabad	Permanant	Assistant Professor	Full Time	7/1/2020 to 11/9/2020	57700-182400	2/3/2020
Vinaykrao Patil Collage,Vaijapur	Permanant	Assistant Professor	Full Time	12/9/2020 to till date	30/07/2022	
Sunderrao Solanke Mahavidyalaya,Majalgaon	Permanant	Assistant Professor	Full Time	31/07/2022	Till date	

:: Research Papers/ Conference Proceedings

Type of Journal	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor

:: Paper Presented in Conference/Workshop/Symposium

Title of Paper	Type of Conf./Workshop/Symposium	Details of Conf./Workshop/Symposium	Organiser Details	Proceedings Published?	Sole/ Co-author

:: Research Publications- Books, Chapters, Articles etc.

Publication Type	Title of Book	Publisher Details	Book ISSN/ISBN	Published Year	Sole/ Co-author

:: Details of Research Students guided for M.Phil./Ph.D.

Student Name	Degree	Registration Date	Award of Degree	Branch/Title	Degree Status

:: Details of Research Schemes/ Projects/ Consultancies undertaken

Project Name	Funding Agency	Fund Mobilised	Commencement Date	Completion Date	Worked as

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
Mathematical Physics	UG	L/S	3	100
Heat and Thermodynamics	UG	L/S	3	100
Statistical Physics and Relativity	UG	L/S	3	100
Electrodynamics	UG	L/S	3	100
Atomic, Molecular Physics & LASER	UG	L/S	3	100
Classical & Quantum Mechanics	UG	L/S	3	100
Basic Electronics	UG	L/S	3	100
Non conventional Energy sources and Optical fibre	UG	L/S	3	100
Practical	UG(S.Y.)	L/S	9	100
Practical	UG (T.Y)	L/S	9	100

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	
4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject content, course improvement etc.	Use of ICT in Teaching
API Score (Max Score:20)	

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)
Invigilation		100
Assessment of answer script		

CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field-based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counselling) ***API Score (Max Score:20)***	**NSS**
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committees & responsibilities ***API Score (Max Score:20)***	**Worked as IT Coordinator in online university examination** **Worked as Understudy in University Examination** **Worked as Internal Examiner in University Practical examination** **Worked as a Member of Science Forum of the Institution** **Worked in Solar Energy committee of the college**
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) ***API Score (Max Score:15)***	**Participated in seminars, Conferences** **One month Orientation/Induction Programme by Ramanujan College, Delhi**
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	**One week Faculty Development Programme by Devi Ahilyabai Holkar College Indore**
Invited lectures or presentations for conferences/symposia	
Design of new course & curriculum	
Particulars of current research work at personal level	**R.A.C Completed in S R T M U Nanded**
Co-curricular & extra-curricular activities	**NSS & NCC**
Consultancy work carried out	
Patents & IPR Details:	
Any other information you wish to specify	

Teaching Methods used for effective teaching

1. Lecture method
2. Practical methods
3. Experimental methods
4. Question and answer
5. Group Discussion
6. Seminar

Teaching aids used for effective teaching

1. Books
2. Green board
3. PPT
4. LCD projector
5. Videos
6. Pictures
7. Charts, Models, Instruments

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF PHYSICS

Time – Table Academic Year 2021-22 (First Term)

Name – Mr.K.J.Langade

Class & Time	Theory			Practical
	B.Sc. II	B.Sc. III	B.Sc. I	
Day	11.40 – 12.30	12.30 – 1.20	2.10 – 3.00	7-30 –10.00
Mon.	KJL PAPER-VII		KJL PAPER-I	B.Sc.I KJL
Tue.	KJL PAPER- VII		KJL PAPER-I	B.Sc.I KJL
Wed.	KJL PAPER- VII		KJL PAPER-I	B.Sc.II KJL
Thu.		KJL PAPER-XVI		B.Sc.II KJL
Fri.		KJL PAPER- XVI		B. Sc. III KJL
Sat.		KJL PAPER- XVI		B. Sc. III KJL

Total No. of Periods:

First Year - Practical - 09
- Theory – 18

Total periods of week-27

HOD
Department of Physics

Signature of Teacher
Mr.K.J.Langade

Head
Department Of Physics,
Sunderrao Solanke Mahavidyalaya,
Majalgaon Dist - Beed.

M. S. P. Mandals

SUNDERRAO SOLANKE MAHAVIDYALAYA MAJALGAON

DEPARTMENT OF PHYSICS

Time – Table Academic Year 2021-22 (Second Term)

Name – Mr.K.J.Langade

Class & Time	Theory			Practical
	B.Sc. II	B.Sc. III	B.Sc. I	
Day	11.40 – 12.30	12.30 – 1.20	2.10 – 3.00	7-30 –10.00
Mon.	KJL PAPER-XII		KJL PAPER-IV	
Tue.	KJL PAPER-XII		KJL PAPER-IV	
Wed.	KJL PAPER-XII		KJL PAPER-IV	
Thu.		KJL PAPER-XIX		B.Sc.II KJL
Fri.		KJL PAPER-XIX		B. Sc. III KJL
Sat.		KJL PAPER-XIX		B. Sc. III KJL

Total No. of Periods:

First Year - Practical - 09
- Theory – 18

Total periods of week-27

HOD
Department of Physics

Head
Department Of Physics,
Sunderrao Solanke Mahavidyalaya.
Majalgaon Dist - Beed.

Signature of Teacher
Mr.K.J.Langade

SUNDERRAO SOLA[illegible]KE MAHAVIDYALAY, MAJA[illegible]GAON, DIST: BEED

NAME: -**MR. K. J. LANGADE** SUB: -**PHYSICS** YEAR:**ANNUAL PLANE 2021-2022**

Sr	Subject /Paper	October	November	December	January
1	B. Sc. F. Y. Semester I Paper 102 Theory	**1) Thermal Conductivity: -** Transference of heat, Coefficient of thermal conductivity, Rectilinear flow of heat along a metal bar, Methods of radial flow of heat- (i)spherical shell method and (ii)Flow of heat along the wall of a cylindrical tube, comparison of conductivities of different metals.	**2) Real Gases and Transport Phenomena: -** Real Gases – Introduction, Reason for modification of gas equation, Van der Waals equation of state , comparison with experimental curves, critical constants, constants of Van der Waals equation. Transport phenomena–Introduction, Mean free path, sphere of influence, and expression for mean free path, variation of mean free path with temperature and pressure, transport phenomena, viscosity, Thermal conductivity (their interrelationship, dependence on temperature and pressure).	**3) Thermodynamics: -** Adiabatic process, Adiabatic equation of a perfect gas, Isothermal process, Indicator diagram, work done during isothermal process and adiabatic process, reversible and irreversible process, Second law of thermodynamics. (Kelvin and Clausius statement), Heat engines, Carnot's ideal heat engine, Carnot's cycle (work done and Efficiency).	**4) Entropy and Thermodynamic relations: -** General notation of entropy, change of entropy is independent of path, change of entropy in reversible and irreversible process, Formulation of second law in terms of entropy, Maxwell's thermodynamical relations, Applications of Maxwell's relations –i) Clausius – Clapeyron equation , ii) T-ds equations.
2	B. Sc. F. Y. Semester I Paper 103 Practical	1. Determination of acceleration due to gravity by Kater's pendulum. 2. Y by bending of a beam loaded at center	3. Determination of Y by Cantilever (Oscillation method 4. Determination of Y by Cantilever (Oscillation method)	1. Y by Searle's apparatus. 2. M.I. of fly wheel	3. Thermal conductivity of bad conductor by Lee's disc method. 4. Study of CRO
3	B. Sc. S. Y. Semester III Paper 202 Theory	**1. Photoelectric Effect :** Introduction, Lenard's method to determine e/m for photoelectrons, Richardson and Compton experiment, Relation between photoelectric current and retarding potential, Relation between velocity of photoelectrons and frequency of light, photoelectric	**2. X-rays :** Introduction, The absorption of X-ray's, Laue's experiment, Bragg's Law, The Bragg's X-ray spectrometer, powder crystal method, The Laue method, X-ray spectra, Main features of continuous X-ray spectrum, Characteristics x-ray	**3. Nuclear forces and models :** Introduction, Binding energy, Nuclear stability, Nuclear forces , Meson theory of nuclear forces, liquid drop model, shell model, Energy released in Fission , Chain reaction, Atom bomb, Nuclear Reactors, Nuclear fusion, Source of stellar energy.	**4. Particle Accelerators and Detectors** : Linear accelerator, Cyclotron, Synchrocyclotron, Betatron, Ionisation chamber, proportional counter, Geiger – Muller counter.

		cells- (1) Photo- emissive cell (2) Photo- voltaic cell (3) Photoconductive cell, Applications of photoelectric cells.,	spectrum.		
5	B. Sc. S. Y. Semester III Paper 203 & 204 Paper-IX & X Practical	1. 'h' by Photo cell 2. e/m by Thomson's tube method	. 3. Determination of absolute value of BH and BV using Earth Inductor 4. Stefan's constant by using thermo couple	1 Thermal conductivity of rubber tube. 2. Study of temperature dependence of total radiation.	3. To draw the histogram of theoretical Gaussian curve. 4. Comparison of capacities by Desauty's method
7	B. Sc. T. Y. Semester V Paper 302 Theory	**1. Electrostatics**Introduction : Electric field lines , electric flux and Gauss law, the divergence of E, Curl of E, Application of Gauss law: i) Electric field due to a uniform charged sphere ii) Electric field due to charged cylinder, Gaussian pillbox, Poisson's equation, Laplace's equation, Uniqueness theorem (First and Second)	**2. Time varying field** Faraday's Law of Electromagnetic induction, Lenz's law, Self-Induction, Mutual Induction, equation of continuity, Maxwell's displacement current, Maxwell's equation (Derivation, Differential form	**3. Electromagnetic wavesIII** Origin of electromagnetic waves, characteristics of electromagnetic wave, electromagnetic wave equations in a conducting medium, transverse nature of electromagnetic wave, plane polarized electromagnetic wave, The Poynting Vector, Poynting theorem, Polarization of Electromagnetic waves	**4. Interaction of Electromagnetic waves with matter** Boundary condition for the electromagnetic field vector –B, E, D and H at the interface between the two media, reflection and refraction at the boundary of two non-conducting media.
8	B. Sc. T. Y. Semester V Paper 303 &304 Paper-XVII& XVIII Practical	Measurement of the focal length of a given convex lens using laser Measurement of the focal length of a given convex lens using laser	Measurement of the focal length of a given convex lens using laser	1 Beam divergence of a diode laser 2. Determination of the diameter of a thin wire using laser	1 Beam divergence of a diode laser 2. Determination of the diameter of a thin wire using laser

Head
Department Of Physics,
Sunderrao Solanke Mahavidyalaya,
Majalgaon Dist. Beed.

SUNDERRAO SOLANKE MAHAVIDYALAY, MAJALGAON, DIST: BEED

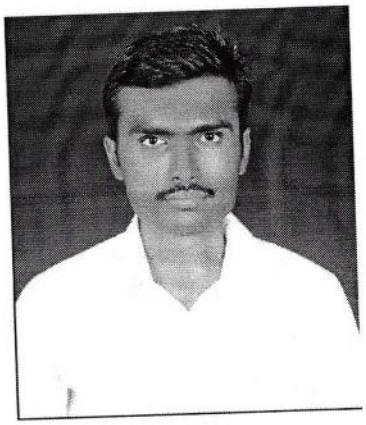
NAME: -**MR. K. J. LANGADE** SUB: -**PHYSICS** YEAR:**ANNUAL PLANE 2021-2022**

Sr	Subject /Paper	March	April	May	June
1	B. Sc. F. Y. Semester II Paper 102 Theory	**1) Vector Algebra : -** Dot and cross product (Revision), scalar triple product and it's geometrical interpretation, vector triple product, gradient of a scalar and it's physical interpretation, Divergence and curl of vector function and their physical interpretation, line, surface and volume integrals, Gauss's divergence theorem and Stoke's theorem .	**2) Electrostatics: -** Coulomb's Law , Electric field , field due to point charge, flux of electric field, Gauss's law (with proof) , Differential from of Gauss law , electric potential , potential due to a point charge, Potential and field due to electric dipole. Dielectrics, polarization of dielectric, Gauss's law in dielectrics, Relation between D, E and P.	**3) Magnetostatics: -** Magnetic field , Magnetic induction , magnetic flux , Biot-Savart law, Magnetic induction due to straight conductor carrying current , magnetic induction on the axis of solenoid ,Ampere's Law, Differential form Ampere's Law, Moving coil ballistic Galvanometer - expression for charge.of different metals.	**4) Transient Currents: -** Growth and decay of current in a circuit containing L and R , charge and discharge of a capacitor through resistor, Growth and decay of charge in LCR circuit.and pressure,
2	B. Sc. F. Y. Semester II Paper 106 Practical	1. Y by Searle's apparatus. 2. M.I. of fly wheel.	3. Thermal conductivity of bad conductor by Lee's disc method. 4. Study of CRO	5. Field along axis of circular coil. 6. I-H curve.	4. Study of CRO 7. Calibration of spectrometer.
3	B. Sc. S. Y. Semester IV Paper 206 Theory	**1. Crystal Structure :** Introduction, Crystal lattice- plane lattice, space lattice, translation vectors, Unit cell, (primitive, non primitive Wigner-Sietz primitive cell) Basis, symmetry operations, point groups and space groups, type of lattices (two dimensional and three dimensional lattices), lattice directions and planes, Miller indices, Inter planer spacing, simple crystal structure.	**2. Bonding and Band theory of solids :** Introduction, concept of inters–atomic forces, cohesive energy and types of bonding, primary bonds- (ionic bonds, covalent bond and metallic bond), secondary bonds- (Vander Walls bonds and hydrogen bonds). The Kroning-Penney model, Energy versus Wave vector relationship, different representations (Brillouin zone)	**3. Thermal properties of solids :** Classical theory of lattice heat capacity (Concept and comparison with experimental values), Einstein's theory of lattice heat capacity, Debye's model of lattice heat capacity, density of modes, limitations of Debye's model.	**4. Free electron theory of metals and Transport properties:** Drude-Lorentz's classical theory, electrical conductivity, thermal conductivity, Wiedemann Franz law, significance of Fermi energy level, Hall effect, Hall voltage and Hall coefficient, experimental determination of Hall coefficient, Importance of Hall effect.
5	B. Sc. S. Y. Semester IV Paper 207& 208	1. I.V. Characteristics of solar cell. 2. Calibration of bridge wire using Carry-Foster's bridge.	3. Full wave rectifier with Π filter. 4. Viscosity of liquid using Searle's viscometer.	1 Transistor characteristics in CE configuration. 2. Transistor characteristics in CB configuration	3. Study of CE amplifier 4. Hartly Oscillator using transistor.

	Paper-IX & X Practical				
*7	B. Sc. T. Y. Semester VI Paper 306 Theory	**1. Non-conventional energy sources** Introduction, Biomass, wind energy, tidal energy/Ocean energy, geothermal energy, biogas hydro energy, wind energy, solar energy Biogas plantterms and definition: wind, wind farm, wind turbine, vertical axis wind turbine (VAWT), horizontal axis wind turbine (HAWT), propeller (wheel), wind mill,types of wind turbines generator units, monoblade HAWT, twin blade	**2.Solar Photovoltaic Systems:** Introduction to photovoltaic systems, Solar Cell fundamentals: i) Semiconductor, ii) P-N junction iii) Generation of electron-hole pair by photon absorption, iv) I_V characteristics of solar cell Electrical storage: Lead acid battery, basic battery theory	**3. Introduction of optical fiber** Introduction, importance of optical fiber, classification of optical fiber-stepped index fiber, stepped index monomode fiber, Disadvantages of monomode fiber, plastic fiber, latest developed types of optical fibers- HPSUV; HPSIR; Halide; Tapered.	**4.Fiber cables and fabrication** Fiber fabrication: Classification of fiber fabrication techniques; external chemical vapour deposition (external CVD), axial vapour deposition (AVD), internal chemical vapour deposition (internal CVD) Fiber Cables: Construction, Strength members, cable tensile loading, minimum bend radius losses incurred during installation of cables or during subscriber service testing of cable, selection criteria, optical cable fiber laying in telephone.
8	B. Sc. T. Y. Semester VI Paper 307 & 308 Paper-XVII & XVIII Practical	1. Thermal conductivity by Forb's method 2. Rydberg constant	1. Thermal conductivity by Forb's method 2. Rydberg constant	1. Transistorized Regulated power supply using Zener diode. 2. Bridge Rectifie	1. λ by grating (normal incidence)

Head
Department Of Physics,
Sundarrao Solanke Mahavidyalaya,
Majalgaon Dist. Beed.

CURRICULAM VITAE



NAME: Mr. LANGADE KRUSHNA JAGANNATH

LOCAL ADDRESS :AT: KHAPARWADI, POST: KADIWADGAON

TQ: WADVANI, DIST: BEEDPINCODE: 431122

CONTACT :EMAIL ID- **krushnajlangade77@gmail.com**

MO. NO- 8390171853 / 9404046771

DATE OF BIRTH: 05/08/1994

CATEGORY :OPEN-EWS (MARATHA)

GENDER :MALE

NATIONALITY :INDIAN

LANGUAGES KNOWN : ENGLISH, MARATHI AND HINDI

CAREER OBJECTIVE :

Seeking a position of Assistant Professor where I can give practical knowledge with the theoretical concept. An enthusiastic and disciplined person looking for a position of Assistant Professor in physics subject to share my knowledge for the improving potential of the student and growth of organization.

EDUCATIONAL QUALIFICATIONS:

LEVEL OF EDUCATION	INSTITUTION	BOARD/ UNIVERSITY	YEAR	MARK %
Ph.D	DEPARTMENT OF PHYSICS DR.BAMU, AURANGABAD	DR.BAMU, AURANGABAD	APPEAR	–
SET	Accredited by UGC & conducted by Savitribai Phule Pune University	Savitribai Phule Pune University	DEC-2020	-
M.Sc. (PHYSICS)	DEPARTMENT OF PHYSICS DR.BAMU, AURANGABAD	DR.BAMU, AURANGABAD	2017	84.44
B.Ed.	SHRI YOGESHWARI S.S COLLEGE OF EDUCATION KARI	DR.BAMU, AURANGABAD	2021	88.40
B.Sc.	MAJALGAON COLLEGE MAJALGAON	DR.BAMU, AURANGABAD	2015	82.28
HSC	SARSWATI MAHAVIDYALAYA TELGAON	AURANGABAD	2012	63.83

SSC	GAJANAN VIDYALAY LAUL	AURANGABAD	2010	65.82

Ph.D Research Topic:-FABRICATION AND INVESTIGATION OF STRUCTURAL, ELECTRICAL AND MAGNETIC PROPERTIES OF NANOFERRITE.

TEACHING EXPERIENCE

GRADUATION LEVEL:

Worked as a Contributory Teacher in Physics atDepartment of Physics, Sundarrao Solanke Mahavidyalaya majalagon during the period 2019 to till date.

PARTICIPATION AND PUBLICATION IN SEMINARS AND CONFERENCES:

1. Participated in the 104 Indian Science Congress Held at S. V. University , Tirupati(Jan 2017).
2. National Seminar on Material Science, X-ray and Gamma Ray Spectroscopies,Organized by Department of Physics, Dr.Bamu Aurangabad,(March 2017).
3. National Conference on Recent trends in Physics,Chemistry and Mathematics Sunderrao Solanke Mahavidyalaya Majalgaon,(RTPCM- 2020)
4. One day State lavel webinar on Research opportunities in higher studies Organized by Department of Physics Annasaheb Magar Mahavidyalaya Hadapsar Pune,(August 2021).
5. National webinar on Career Opportunities and Guidence in Physics 2021 (August 2021).
6. National webinar on Facts of Material Science organized by Karpagam academy of higher education Coimbatore, Tamil Nadu (Sep 2021).
7. Participated in the 5 day Virtual Faculty Development Program on CONTEMPORARY INNOVATIONS FOR SUSTAINABLE DEVELOPMENTS IN MATERIAL SCIENCE Organized by Department of Physics.Ranthinam College of Arts and Science, Coimbtore ,Tamil Nadu (September 2021).
8. National level webinar on the topic Gender Equality the need of era SSM College Majalgaon (November 2021).
9. National lavel webinar on INTELLECTUAL PROPERTY RIGHTS(IPR) SSM College Mjalgaon (November 2021).
10. National lavel webinar on Chemical Sciences: An Emerging Trends in Nanotechnology and Polymer Chemistry,SSM Majalgaon (December 2021).
11. Webinar on Research and Research Methodology Organized by Department of Physics SSM Majalgaon,(December 2021).

12. One Day National Webinar on Research Orientation Programme Organized by Research Committee and IQAC, SMGRGSM,Paranda in collaboration with SPM Bhoom, (February 2022).
13. INTERNATIONAL E-CONFERENCE ON "ADVENCE IN CHEMICAL AND PHYSICAL SCIENCES FOR SUSTANABLE DEVELOPMENT" (ICACPSSD - 2022),LGM Arts, Commerce and Science college Mdangad Ratnagiri.

OTHER QUALIFICATION-

- PHD ENTRANCE TEST QUALIFY –DECEMBER 2020 (SRTMU)
- PHD ENTRANCE TEST QUALIFY –MARCH2021 (DR.BAMU)
- SET (STATE ELIGIBILITYTEST) QUALIFYIN 2020 CONDUCTEDBYSAVITRIBAIPHULEPUNE UNIVERSITY
- ENGLISH TYPEWRITING (30) , (40)
- MARATHI TYPEWRITING (30)
- HINDI TYPEWRITING (30)
- MS-CIT WITH 80% YEAR OF PASSING 2011

PERSONAL STRENTH

- HARDWORKING.
- ADAPTABITITY
- EAGAR TO LEARN NEW THING.
- GOOD COMMUNICATE.

DECLARATION

I HEREBY DECLARE THAT THE INFORMATION GIVEN HERE IN ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND BEAR THE RESPONSIBILITY FOR THE CORRECTNESS OF THE ABOVE MENTIONED PETICULAR.

DATE: - 13/12/2022

Your's Faithfully

Langade

PLACE:- Majalgaon

MR. LANGADE KRUSHNA JAGANNATH

Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist Beed.

Department of Mathematics

TIME TABLE

Name of the teacher :- Dr Sanap G.k.

Academic Year **2021-2022.**

Class :- **B. Sc.** (First year ,Second Year & Third Year)

Day |Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00 -10.50	T Y -(62)	T Y -(62)	T Y -(62)	---	S Y –(72)	
10. 50-11.40	---	--	--	--	S Y –(71)	F Y – (73)
11.40-12.30	T Y -(73)	T Y -(73	T Y -(73	T Y -(73	T Y -(73	T Y -(73
12.30- 01.20	---	---	---	---	--	---
01.20-02.10	T Y -(73)		F Y – (71)	F Y – (71)	F Y – (71)	F Y – (71)
02.10-03.00	--	--	--	--	--	--
03.1 0-04.00	---	S Y –(72)	---	S Y –(72)	--	S Y –(72)

Paper	No of Periods	Total periods
First Year.	01	05 05
Second Year	01	05 05
Third Year	02	05 10

Total Periods 20

Signature of Head of Dept.

PRINCIPAL
Sunderrao Solanke Mahavidyalya
Majalgaon Dist. Beed (M.S.)

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed

Department of Mathematics

T IME TABLE

Academic Year: 2021-2022

Name of Teacher ; Prof. G. K. SANAP **Class: M. *Sc.* (*First year & Second Year)***

Day /Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01.20-2.10	-	-	-	-	-	-
	-	-	-	-	-	-
2.10-3.00	-	-	-	-	-	-
	-	-	-	-	-	-
3.00-3.50	-	-	-	-	-	-
	-	-	-	-	-	-
3.50-4.10	-	-	-	-	-	-
	-	-	-	-	-	-
4.10-5.00	-	-	-	-	-	-
	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)

Signature of Head of Dept.

(Prof. G. K. SANAP)
Professor & Head
Dept. of Mathematics
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist. Beed.

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT – 102 Differential Equation
Name of the Faculty: Prof. Dr. Sanap G.K.

Class: B.Sc.F.Y.
Semester – I

Sr.No.	Month.	Topics – Subtopics to be taught theory.
01	November	**1. Prerequisite:** Ordinary and partial differential equation, order and degree of Differential equation, Solutions : general, particular, singular. **2. Equations of the First Order and of the First Degree :** Exact Differential equation, Linear Equations. Equations reducible to the linear form. Linear Equations with Constant Coefficients : Linear equations , complementary function , particular integral , complete integral ,
02	December	The linear equations with constant coefficients and second member zero, case of auxiliary equation having equal root, case of auxiliary equation having imaginary roots.The symbol D, the linear equation with constant coefficients and second member of function of x, the symbolic function 1/F(D), methods of finding the particular integral , short methods of finding particular integrals corresponding to the terms e^{ax} ,x^m, sinax ,cosax, e^{ax} V and x^m V in the second member .
03	January	**Linear Equation With Variable Coefficients** : The homogeneous linear equation, methods of finding solution , the symbolic function f(0) and 1/f(0), methods of finding the particular integral , integral corresponding to a term of form x^m in second member , equations reducible to homogeneous linear form . **Exact Differential Equations and Equations of Particular Forms :** Exact differential equations, criterion of an exact differential equation.
04	February	**The integration of an exact equation :** first integral, equations of the form d^ny/dx^n=f(x), equations of the form d^2y/dx^2 =f(y). **Ordinary Differential Equations with more Than Two Variables :** Simultaneous differential equation which are linear, simultaneous equations of the first order . **Partial Differential Equations:** Definitions , Derivation of partial differential equation by the elimination of constant , Derivation of a partial differential equation by the elimination of arbitrary function .

MarathawadaShikshanPrasarak Mandal's

Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 202 Geometry
Name of the Faculty: Prof. Dr. Sanap G.K.

Class: B.Sc.F.Y.
Semester – II

Sr.No.	Month	Topics – Subtopics to be taught theory
01.	March	**The Plane:** Equations of the first degree in X,Y, Z, transformation to the normal form , determination of plane under given conditions , equations of the plane through three given points , system of plane , two sided of a plane , length of the perpendicular from a point to a plane , bisectors of angels between two planes , joint equation of two planes .
02.	April	**Right Lines:** Equation of a line , equation of a straight line in terms of its direction cosines and co-ordinates of a point on it, equation of a line through two points, symmetrical and unsymmetrical forms of the equations of a line, transformations of the equations of a line to the symmetrical form, angel between a line and plane, the condition that a given line may lie in a given plane , the condition that two given lines are coplanar, number of arbitrary constants in the equations of a straight line, sets of conditions which determine a line, the shortest distance between two lines, the length and equation of the line of distance between two straight lines, length of perpendicular from a given point to a given line
03.	May	**Sphere:** Definition and equation of the sphere, equation of the sphere through four given points, plane section of a sphere, intersection of two spheres, equation of a circle, sphere through a given circle, intersection of a sphere and a line, equation of a tangent plane **Cones:** The right circular cone, equation of a right circular cone.
04.	June	**Cylinders:** The right circular cylinder, equation of a right circular cylinder. **The Conicoid:** Central conicoids, intersection of a line and a central conicoid, tangent lines & tangent plane at a point, condition that a plane may touch a central conicoid

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 303 Mechanics - I
Name of the Faculty: Prof. Dr. Sanap G.K.

Class:-B.Sc.S.Y.
Semester – III

Sr.No.	Month	Topics – Subtopics to be taught theory
01	November	**1. Forces acting on a particle:** Particle, Rigid body, Force, The force as a vector, Equilibrium, Axiom for equilibrium of two forces, Statics, Resultant of forces, Law of parallelogram, Particle, Rigid body, Force, The force as a vector, Equilibrium, An axiom for equilibrium of two forces,
02	December	Statics, Resultant of forces, Law of parallelogram of forces, Principle of the transmissibility of force, Deductions, Resultant of forces $m \cdot \overrightarrow{OA}$ and $n \cdot \overrightarrow{OB}$, Components and Resolved parts, the algebraic sum of resolved parts of two forces, To find the magnitude and direction of the resultant of any number of coplanar forces acting at a point, Resultant of parallel forces
03	January	**2. Equilibrium of forces acting on a particle:** Triangle law of forces, Converse of the triangle law of forces, Polygon of forces, Lami2s theorem, Conditions of equilibrium of forces acting on a particle
04	February	**3. Forces acting on a Rigid Body:** Introduction, Moment of a force, Sum of vector moments of two like parallel forces, Couples, Conditions of equilibrium of forces acting on a rigid body, Trignometrical Theorems 4. Centre of Gravity:Centroid of weighted points, Centre of gravity, Centre of gravity of some uniform bodies

Head
Dept-of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 403 Mechanics -II
Name of the Faculty: Prof. Dr. Sanap G.K.

Class: B.Sc.S.Y.
Semester – IV

Sr.No.	Month.	Topics – Subtopics to be taught theory.
01.	March	**Kinematics and dynamics of a particle in two dimensions:** Introduction, Definitions, Velocity and acceleration in terms of vector derivatives, Tangent and unit vector along the tangent
02.	April	**Kinematics and dynamics of a particle in two dimensions:** Rate of change of unit vector moving in a plane, Curvature principal normal, Tangential and normal components of velocity and acceleration, Angular speed and angular velocity, Radial and transverse components of velocity and acceleration, Areal speed and areal velocity.
03.	May	**Kinetics of a particle:** Introduction, Newton2s law of motion, Matter, Linear momentum, Angular momentum, An Impulsive force and its impulse, Conservation of linear momentum, Impact of two bodies, Work, Energy, Scalar point function, Vector point function, Field of force, Conservative field of force.
04.	June	**Motion of a projectile and motion in a resisting medium:** Rectilinear Motion, Motion under gravity, Projectile, Motion of projectile, Range on an inclined plane, Parabola of Safety, Projectile to pass through a given point, Motion in a resisting medium, Motion of a body moving under gravity and in a medium whose resistance varies as velocity. **Centre of Gravity:** Definitions, Areal velocity in central orbit, Differential equation of central orbit, Apses, Law of force, Pedal equation of some curves

Head
Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 501 Real Analysis
Name of the Faculty: Prof. Dr. Sanap G.K.

Class: B.Sc. T.Y.
Semester – V

Sr.No.	Month.	Topics – Subtopics to be taught theory.
01	November	**Prerequisite :** Sets and elements, Operations on sets **Functions :** Functions, Real-valued functions, Equivalence, Countability, Real numbers, Least upper bounds.
02	December	**Sequences of real Numbers:** Definition of sequences and subsequences, Limit of a sequence, convergent sequence, Divergent Sequence, Bounded sequences, Monotone Sequences, Operations on Convergent Sequences, Operations on divergent sequences, Limit superior and limit inferior, Cauchy Sequences
03	January	**Series of Real Numbers:** Convergence and divergence,Series with non-negative terms, Alternating series, Conditional convergence and Test for absolute convergence,
04	February	**Jacobians :** Definitions,Case offunction of functions, Jacobian of implicit functions, Necessary and sufficient condition for a Jacobian to vanish.

Head,
Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT -504 Ordinary Differential Equation-I
Name of the Faculty: Sanap G.K.

Class: B.Sc. T.Y.
Semester – V

Sr.No.	Month.	Topics – Subtopics to be taught theory.
01	November	**Prerequisite :** Complex numbers **Preliminaries :**Introduction , Functions, Polynomials , Complex Series and exponential function , Determinants.
02	December	**Linear Equations of First Order :** Introduction ,Differential Equation, Problems associated with Differential equations, Linear equation of the first order.
03	January	The equation $y'+ay=0$, The equation $y'+ay=b(x)$, The general linear equation of the first order .The general linear equation of the first order .Linear Equations with Constant Coefficients :Introduction ,Second Order homogenous equation ,Initial value problems for second order equation.
04	February	**Linear dependence and independence :** A formulas for Wronskian,Linear dependence and independence , A formulas for Wronskian,The Non-homogenous equation of order Two.

Head,
Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 601 Real Analysis
Name of the Faculty: Sanap G. K.

Class: B.Sc.T.Y.
Semester – VI

Sr. No.	Month.	Topics – Subtopics to be taught theory
01.	March	**Limits in Metric Spaces :** Metric spaces, Limits in Metric spaces
02.	April	**Continuous functions on Metric Spaces:** Functions continuous on metric spaces, Open sets, Closed sets **Connectedness, Completeness and Compactness:** More about open sets, connected sets,
03.	May	Bounded sets and Totally bounded sets, Complete metric spaces, Compact metric spaces, continuous functions on compact metric spaces, Uniform continuity
04.	June	**Calculus:** Sets of measure zero definition of the Riemann Integral, Existence of the Riemann integral, Properties of the Riemann Integral, Fundamental Theorem of Calculus **Fourier Series:** Introduction

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Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT -604 Ordinary Differential Equations –II
Name of the Faculty: Sanap G.K.

Class: B.Sc.T.Y.
Semester – VI

Sr. No.	Month.	Topics – Subtopics to be taught theory
01.	March	Linear Equations with Variable Coefficients : Introduction ,Initial value problems for the homogenous equation ,
02.	April	Solution of the homogenous equation ,
03.	May	The Wronskian and linear independence , Reduction of the order of a homogenous equation ,
04.	June	The non-homogenous equation, homogenous equation with analytic coefficients ,The Legendre equation.

Head,
Dept. of Mathematics

Biodata Format - 2021-2022

Name of Institute: Sunderrao Solanke Mahavidyalaya, Majalgaon,Dist.Beed

Full Name		**SANAP GOVARDHAN KARBHARI**		
Name of Post		**Professor & Head (Principal)**		
Subject		**Mathematics**		
Specialisation		**Applied Mathematics**		
Caste Category Appointed From		**NT-3**		
UG/ PG Teacher		**UG**		
Address & Contact Details		**Dept. Of Mathematics, Sunderrao Solanke Mahavidyalaya, Majalgaon Mobile No.: 9423170954 Email: govardhansanap28@gmail.com**		
Gender	**Male**	Date of Birth : **28/07/1963**		
Mother tongue	**Marathi**	Knowledge of Marathi: **Yes**	Specially Abled: **No**	

:: Caste Category of Candidate

Category : NT – 3

Caste : VANJARI

:: Educational Qualification (Start from Ph.D/PDF to SSC)

Name of Exam	Board/University	Passing Mon-Year	Stream/Subject	Obtained/ Total Marks	% or Grade Point
Ph.D	**O.P.J.S UNIVERSITY CHURU,**	**3 MARCH 2020**	**MATHEMATICS**	**Awarded**	
M.Phil.	**Algappa University**	**May 2007**	**Mathematics**	**326/500**	**65.2%**
M.Sc.	**Marathwada Uni.**	**March 1987**	**Mathematics**	**480/800**	**60%**
B.Sc.	**Marathwada Uni.**	**March 1985**	**Maths, Physics, Chemistry**	**1704/3400**	**50.09%**
HSC	**Aurangabad**	**March 1982**	**Phy, Chem, Maths, Biology**	**317/600**	**52.83%**
SSC	**Aurangabad**	**March 1979**	**Maths, Science, Social Sci. etc**	**380/700**	**54.17%**

:: Work Experience

Name of Employer	Type of Service	Designation	Nature of Post	From-To	Payscale	Approval date
Sunderrao Solanke Mahavidyalaya, Majalgaon	**Teaching Staff**	**Professor**	**Full Time Regular**	**09/09/1991-till date**	**144200-218200**	**Affil/92-93/coll.change/66878,879 dt. 22/03/93**

:: Research Papers/ Conference Proceedings

	Title with Page No.	Journal Details	Published year	Sole/ Co-Author	Peer Review/Impact Factor	API Score
International	On Sombor indices of VC5C7(p,q) nanotubes by M-polynomial and exponential Page no-64-70	JRAM Journal of Research in Applied Mathematics	**June 2022**	**CO-Author**	**Peer reviewed Journal Impact Factor 5.09**	9.1

		Vol.-8 Issue –6				
International	A Study of Decimal Place Value System in Ancient Indian Mathematics Page nos-828-831	IJARSCT International Journal of Advance research in Science, Communication &Technology, Vol.-2 Issue –6	**June 2022**	**Co- Author**	**Peer reviewed Journal** **Impact Factor 6.252**	9.1
International	**Analytical sudy of D alemberts solution of the wave equation Page No 3892-3896**	**International Journal of Innovative Research In Science,Engineering &Technology.(IJIRSET) Volume -10 Issue -4 ISSN:** **2320-6710**	**April-2021**	**Co-Author**	**Peer reviewed Journal** **Impact Factor 7.52**	9.1
International	**On Nirmala indices of carbon nanocone C4[2]** **Page -10-15**	**IOSRJournal of mathematics** **(IOSR-JM)** **Volume-18 Issue-4** **ISSN:2278-5728**	**Jul-Aug 2022**	**Co-Author**	**Peer reviewed Journal** **Impact Factor 3.15**	

CATEGORY I: TEACHING, LEARNING & EVALUATION RELATED ACTIVITIES

:: 1. Details of Lectures, Seminars, Tutorials, Practicals, Contact Hrs

Course/Paper	UG/ PG Level	Teaching Mode	Hours per week allotted	% of classes taken
Differential Equations	**UG**	**Theory/Lecture**	**5**	**100%**
Mechanics	**UG**	**Theory/Lecture**	**5**	**100%**
Ordinary Differential Equations	**UG**	**Theory/Lecture**	**5**	**100%**
Real Analysis	**UG**	**Theory/Lecture**	**5**	**100%**

API Score for Classes taken (Max Score 50 for 100% performance & proportionate score) up to 80% performance; below which no score may be given)	50
2. API Score for Teaching load in excess of UGC norm (Max Score: 10)	10

3. Reading/ Instructional Material consulted/ additional knowledge resources provided to students:

Course/Paper	Consulted	Prescribed	Additional Resources Provided
Differential Equations	**10**	**07**	**Printed reading material**
Mechanics	**10**	**08**	**Printed reading material**
Ordinary Differential Equations	**10**	**07**	**Printed reading material**
Real Analysis	**10**	**08**	**Printed reading material**

API Score based on preparation & imparting knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to students (Max Score:20)	20
4. Use of Participatory & Innovative Teaching-Learning methodologies, updating of subject	20

content, course improvement etc.	
API Score (Max Score:20)	

5. Examination Duties Assigned and Performed (invigilation; question paper setting, evaluation/ assessment of answer scripts) as per allotment:

Type of Examination Duties	Duties Assigned	Extent to which carried out (%)
Invigilation, Question Paper Setting & evaluation of answer script	**Question Paper Setting Univ. Exam 2020**	**100%**
Internal College Examinations, Internal & External Examiner for Practical Examinations	**Paper Setting & Evaluation**	**100%**

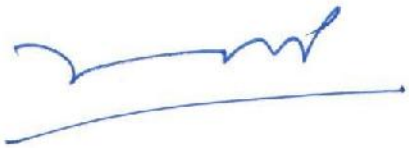
CATEGORY II: CO-CURRICULAR, EXTENSION & PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES	
1. Student related co-curricular, extension & field based activities (such as extension work through NSS/NCC & other channels, cultural activities, subject related events, advisement & counseling) *API Score (Max Score:20)*	**09**
2. Contribution to Corporate life & management of the department & institution through participation in academic & administrative committiees & responsibilities *API Score (Max Score:20)*	**20**
3. Professional Development Activities (such as participation in seminars, conferences, short term, training courses, talks, lectures, membership of associations, dissemination & general articles, not covered above) *API Score (Max Score:15)*	**15**
Training Courses, Teaching, Learning Evaluation Technology Programmes, Faculty Development Programmes (Not less than one week duration) API Score	**01-20**
Invited lectures or presentations for conferences/symposia	**-**
Design of new course & curriculum	**03**
Particulars of current research work at personal level	**Paper Published- 04**
Co-curricular & extra curricular activities	**10**
Consultancy work carried out	**05**
Patents & IPR Details:	**-**
Any other information you wish to specify	**International** Award **25 Highly effective professors 2022 28 Feb. 2022 Connect education plus**

Teaching Methods used for effective teaching

1. Lecture method
2. Question and answer
3. Group Discussion
4. Seminar

Teaching aids used for effective teaching

1. Books
2. Green board
3. Smart board
4. PPT
5. LCD projector
6. Videos



Marathwada shikshanPrasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist Beed.

Department of Mathematics

T IME TABLE

Name of the teacher :- Ku.Jagtap K.D.

Academic Year **2021 -2022.**

Class :- **B. Sc.** (First Year, Second Year & Third Year)

Day |Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00 -10.50	---	--	---	--	--	---
10. 50-11.40	---	--	--	--	----	S Y –(72)
11.40-12.30	--	--	--	--	--	--
12.30- 01.20	S Y –(72)	--	--	--	--	--
01.20-02.10	---	T Y -(73	T Y -(73	T Y -(73	T Y -(73	T Y -(73
02.10-03.00	--	--	--	--	--	--
03.1 0-04.00	S Y –(72)	--	S Y –(72)	---	S Y –(72)	--

	Paper	No of Periods	Total periods
Second Year	01	05	05
Third Year	01	05	05
		Total Periods	10

Signature of the Teacher

Signature of Head of Dept.
Sunderrao Solanke Mahavidyalya
Majalgaon Dist. Beed (M.S.)

Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed

Department of Mathematics

T IME TABLE

Academic Year: 2021-2022

Name of Teacher : Jagtap kalpna D Class: M. *Sc.* (*First year & Second Year)*

Day /Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01.20-2.10	-	-	-	-	-	-
	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)
2.10-3.00	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)
	-	-	-	-	-	-
3.00-3.50	-	-	-	-	-	-
	-	-	-	-	-	-
3.50-4.10	-	-	-	-	-	-
	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)
4.10-5.00	-	-	-	-	-	-
	-	-	-	-	-	-

Signature of Head of Dept.

(Prof. G. K. SANAP)
Professor & Head
Dept. of Mathematics
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist. Beed.

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics.
Paper: MAT 301 Number Theory
Name of the Faculty: Jagtap K.D.

Class: B.Sc.S.Y.
Semester – III

Sr. No.	Month.	Topics – Subtopics to be taught theory
01	November	**1. Divisibility Theory in the integers:** The Division Algorithm, The greatest common divisor, The Euclidean algorithm, The Diophantine equation ax + by = c
02	December	**2. Primes and their Distribution:** The Fundamental Theorem of Arithmetic **3. The theory of Congruences:** Basic Properties of congruences, Linear congruences
03	January	**4. Fermat2s Theorem:** Fermat2s Factorization Theorem, The little Theorem, Wilson2s Theorem. **5. Number-Theoretic Functions:** The functions / and ∫, The Mobius inversion formula
04	February	**6. Euler2s Generalization of Fermat2s Theorem:** Euler2s Phi-function, Euler2s Theorem, Some properties of the Phi-function

Head,
Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT -401 Numerical Methods
Name of the Faculty: Jagtap K.D.

Class: B.Sc.S.Y.
Semester – IV

Sr. No.	Month.	Topics – Subtopics to be taught theory
01.	March	**Solution of Algebraic and Transcendental Equations:** Introduction, Bisection method, Method of false position, Newton-Raphson method, Generalized Newton's method
02.	April	**Interpolation:** Introduction, Finite differencesForward differences, Backward differences, Central differences. Symbolic relations and separation of symbols, Differences of a polynomial. Newton's formulae for interpolation, Interpolation with unevenly spaced points, Lagrange's interpolation formula, Hermite's interpolation formula,
03.	May	**Curve Fitting and Approximations:** Introduction, Least-Squares curve fitting procedures, fitting a straight line, nonlinear curve fitting. Approximations of functions, Chebyshev polynomials, Economization of power series
03	June	**Solution of Linear System of Equations:** Solution of Linear Systems-direct methods, Gaussian elimination method, Method of factorization, Solution of Linear Systems-iterative methods The Eigenvalue problem, Householder's method, Eigenvalues of a symmetric tridiagonal matrix, The QR method **Numerical Solution of Ordinary Differential Equations:** Introduction, Solution by Taylor's series method, Picard's method of successive approximations. Euler's method, Runge Kutta methods

Head,
Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 502 Abstract Algebra-I
Name of the Faculty: Jagtap K.D.

Class: B.Sc. T.Y.
Semester – V

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Sr.No.	Month.	Topics – Subtopics to be taught theory.
01	November	**Prerequisite :** Sets , Functions , Integers .
02	December	**Group Theory :** Definition of a group ,Some examples of a group ,Some Preliminary lemmas subgroups, A counting Principle , Normal Subgroup
03	January	Quotient group Homomorphisms , Automorphism . **3.Ring Theory :** Definition and examples of rings ,Some classes of ring ,Ideals and quotient
04	February	More ideals and quotient rings,polynomial ring

Head,
Dept-of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 602 Abstract Algebra-II
Name of the Faculty: Jagtap K.D.

Class: B.Sc.T.Y.
Semester – VI

Sr. No.	Month.	Topics – Subtopics to be taught theory
01.	March	**Vector Spaces and Modules :** Elementary basic concepts,
02.	April	Linear independence and bases,
03.	May	Dual spaces,
04.	June	Inner Product Spaces, Modules.

Head,
Dept. of Mathematics

RESUME

KALPANA DADASAHEB JAGTAP

Address:-At.Manurwadi,Tq- Majalgaon, dist. Beed- 431131

mob.no.-9579270616/8698974973

Email - kalpanajagtap1387v@gmail.com

PERSONAL INFORMATION

Date of birth – 01 March 1987
Age - 31 years
Marital status - unmarried
Adhar no. – 461664878692

ACADEMIC QUALIFICATION

Msc . Mathematics , Swami Ramanand Teerth Marathwada University Nanded.

Qualification	specialization	Collage/universit/	Year of passing	Obtained mark Total mark	percentage	Grade /class
MH-SET			June 2019			
Msc Maths		SRTMU Nanded	July 2009		72.33%	First Class
Bsc	Physics,Mathematics, Computer	Majalgaoncollage, majalgaon	June 2007	1602/2400	66.75%	First division
HSC		Majalgaoncollage, majalgaon	June 2004	401/600	66.83%	Grade I
Ssc		Z.P.Kanya Prashala, Majalgaon.	June 2002	536/750	71.46%	A

Work Experience:

- I have 7 years Teaching Experience in M.S.P. Mandal's Sunderrao Solanke College, Majalgaon.

The above information furnished by me is correct. I am neither involved nor any criminal case is pending against me. In any case false information is detected , I understand that my application is liable to be rejected.

Signature of Applicant

Place: ----------

Date:

Marathwada shikshanPrasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist Beed.

Department of Mathematics

T IME TABLE

Name of the teacher :- Mrs. Taur Kiran Academic Year **2021-2022**

Class :- **B. Sc.** (First Year, Second Year & Third Year)

Day |Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00 -10.50	---	--	---	--	--	---
10. 50-11.40	---	--	--	--	----	S Y –(72)
11.40-12.30	--	--	--	--	--	--
12.30- 01.20	S Y –(72)	--	--	--	--	--
01.20-02.10	---	T Y -(73	T Y -(73	T Y -(73	T Y -(73	T Y -(73
02.10-03.00	--	--	--	--	--	--
03.1 0-04.00	S Y –(72)	--	S Y –(72)	---	S Y –(72)	--

	Paper	No of Periods	Total periods
Second Year	01	05	05
Third Year	01	05	05
		Total Periods	10

Kiran

Signature of the Teacher

Signature of Head of Dept.

Professor & Head
Dept. of Mathematics
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist. Beed.

Marathwada Shikshan Prasarak Mandal's

Sunderrao Solanke Mahavidyalaya, Majalgaon Dist. Beed

Department of Mathematics

T IME TABLE

Academic Year: 2021-2022

Name of Teacher : Taur kiran **Class: M. *Sc.* (*First year & Second Year)***

Day /Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01.20-2.10	-	-	-	-	-	-
	-	-	-	-	-	-
2.10-3.00	-	-	-	-	-	-
	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)	M. Sc. S. Y (72)	M. Sc. S. Y. (72)	M. Sc. S. Y. (72)
3.00-3.50	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)
	-	-	-	-	-	-
3.50-4.10	-	-	-	-	-	-
	-	-	-	-	-	-
4.10-5.00	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)	M. Sc. F. Y (62)
	-	-	-	-	-	-

Kiran.

Taur Kiran Indarrao

Signature of Head of Dept.

(Prof. G. K. SANAP)
Professor & Head
Dept. of Mathematics
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist. Beed.

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics | Class:-B.Sc.F.Y.

Paper: MAT 101 Differential Calculus | Semester – I

Name of the Faculty: Taur K.I.

Sr. No.	Month	Topics – Subtopics to be taught theory
01	November	**Differential Calculus :-** **Prerequisite:** Functions–Domain & range of function, independent & dependent variables, polynomial functions & rational functions, constant function & identity functions, one-one function, invertible function, composite function. **Limit and continuity:**Limit of function, left handed and right handed limits non existence of limit, theorems on limits, theorems on continuity, discontinuity, types of discontinuity
02	December	**Differentiations:** Derivative of a function, derived function, derivability implying continuity, geometrical interpretation of a derivative , hyperbolic function derivatives of hyperbolic & inverse hyperbolic functions, logarithmic differentiation, derivative of implicit function. Successive Differentiation:-Higher order derivative , calculation of n derivative, some standard results, determination of n derivative of rational functions
03	January	The n derivative of the products of the powers of sine and cosine , Leibnitz's theorem, n derivative of the product of two functions. **Mean Value Theorems :-**Rolle`s Theorem, Lagrange`s Mean Value Theorem, meaning of the sign of the derivative, Cauchy's Mean Value Theorem, higher derivatives, Taylor`s theorem, Maclaurin's theorem, Maclaurin`s power series for a given function.
04	February	**Partial Differentiation :-** Function of two variables ,limit of a function of two variables , continuity of a function of two variables at appoint ,limit of a continuous function , partial derivative s , partial derivatives of higher order , homogenous function , Euler`s theorem on homogenous function , total differentials , differentiation of composite function and implicit function .

Head,
Dept of Mathematics

MarathawadaShikshanPrasarak Mandal's

Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT 201 Integral Calculus
Name of the Faculty: Taur K.I.

Class: B.Sc.F.Y.
Semester – II

Sr.No.	Month	Topics – Subtopics to be taught theory
01.	March	**Integral Calculus** **1.Methods of Integration:** Reduction Formula **Integration of algebraic rational function:** case of non repeated linear factor, case of non repeated linear or repeated linear factors, Case of linear factors or quadratic non repeated factors. **Integration of trigonometric functions:** Integration of sin^nx, cos^nx and reduction formula for integration of sin^nx ,cos^nx
02.	April	**Definite integral as the limit of the sum:** Introduction ,Fundamental Theorem **Area of Plane regions:** Area of region bounded by a curve, X-axis and two ordinates
03.	May	**Rectification, Length of plane curves:** Introduction, expression for length of curves y=f(x), expression for the lengths of arc x=f(y): x=f(t); r=f(w) **Volumes and Surface of Revolutions:** Introduction, Expression for the volume obtained by revolving about either the axis.
04.	June	**Integral Transformation:** Introduction, Line Integrals, circulation, irrotational vector point functions,Surface Integrals, Volume Integrals, reduction of volume to surface integral, physical interpretation of Gauss theorem, Reduction of surface to line integrals, condition for irrotational vector functional.

Kiran.

Head,
Dept. of Mathematics

MarathawadaShikshanPrasarak Mandal's
Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021- 2022

Subject: Mathematics
Paper: MAT 302 Integral Transform
Name of the Faculty: Taur K.I.

Class:-B.Sc.S.Y.
Semester – III

Sr.No.	Month	Topics – Subtopics to be taught theory
01	November	**Beta and Gamma Function :** Eulers Integral –Beta and Gamma Function , Elementary Properties of gamma function
02	December	Transformations of gamma function ,Another form of Beta function ,Relation between beta and gamma function ,other transformations **Laplace Transform :** Piece –wise or sectional continuity, function of exponential order ,function of class A , The transform concept ,Laplace Transform ,Notation ,Some Standard
03	January	**Inverse Laplace Transform :** Definition ,Null function , Uniqueness of inverse Laplace transform ,partial fraction , Heaviside's expansion formula ,the complex inversion formula
04	February	**Application to Differential Equation :** Differential Equation ,notation s (Problems related to Ordinary Differential Equation only) **Fourier Transform :**Infinite Fourier sine transform of F(x) , Finite Fourier cosine transform of F(x) ,Infinite Fourier transform of F(x) ,relationship between Fourier transform and Laplace transform Finite Fourier sine transform ,finite Fourier cosine transform ,Fourier integral Theorem .

Taur

Head,
Dept of Mathematics

MarathawadaShikshanPrasarak Mandal's

Sunderrao Solanke Mahavidyalaya Majalgaon

Teaching Plan for the Academic Year 2021-2022

Subject: Mathematics
Paper: MAT -402Partial Differential Equation
Name of the Faculty: Taur K.I.

Class: B.Sc.S.Y.
Semester – IV

Sr. No.	Month.	Topics – Subtopics to be taught theory
01.	March	**Prerequisites:** Derivation of a partial Differential Equation by the elimination of arbitrary constants, Derivation of a partial Differential Equation. **Partial Differential Equations of Order One (Linear Equation):** Definition of Partial Differential Equation ,Lagrange's Linear Partial Differential Equation , Geometrical Interpretation of the Lagrange's Linear Partial Differential Equation Pp+Qq=Rr.
02.	April	**Non-Linear Partial Differential Equations of Order One:** Complete and Particular Integrals, General Integral ,Singular Integral ,Special method ,Standard form I, Standard form II, Standard form III ,Standard form IV, Charpit's Method , Non-Linear Partial Differential Equations of Order One with three or more independent variable ,Jacobi's methoda
03.	May	**Linear Partial Differential Equation :** Definitions, Linear Homogeneous Partial Differential Equation with constant coefficient , Non – Homogenous Linear Partial Differential Equations, Equations reducible to linear form with constant coefficients.
04.	June	**Partial Differential Equation Of Second Order :** Equations that can be integrated by inspection, Monge's method to solve the equation Rr+Ss+Tt=V, Method of Transformations (Canonical form).

Taur

Head,
Dept. of Mathematics

Resume

Personal information

Name :- Kiran Indarrao Taur

Date of birth :- 3/4/1994

Gender :- female

Cast :- open Maratha

Marital status :- Married

Correspondence :- At -Bhat Wadgaon, Manjarath road, Majalgaon

Permenent address :- At- Bhat Wadgaon , Manjarath road, Majalgaon

language Known : - English, Marathi, Hindi .

Nationality :- Indian

email address :- Shalinitaur@gmail.com

Contact number :- 7796057709, 9096578252, 9440602787.

Objective

To obtain professional as well as personal excellence and to get excellent exposure of the field through joining a growth oriented organisation where my talent can be utilized maximum.

Academic qualification

Examination	Subject special/general	Univercity /board	month and year of passing	percentage of marks	class division grade
SET	Mathematics	Savitribai Phule Pune University, Pune	January 2018	qualified	Qualified
M.Sc	Mathematics	Savitribai Phule Pune University, Pune	April 2017	67.35	A´ grade GPA – 8.15
B.sc	mathematics and physics and chemistry	Dr. BAMU, Aurangabad	April 2015	85.64	first division
HSC	mathematic physics chemistry computer science English	Maharashtra State board Pune	May 2012	77%	first division
SSC	Marathi Sanskrit English mathematics science	Maharashtra State board Pune (Aurangabad divisional	SSC Marathi Sanskrit English June 2010	90.18	first division

	technology social science	Board)			
Ph.D	Mathematics	NMU Jalgaon	in process		
MS-CIT	-	MSBTE Mumbai	June 2010	81	

Project

Project work on complex analysis at devgiri College Aurangabad in 2014 worth 25000

Teaching experience

4 year teaching experience in Sunderao Solanke Mahavidyalay Majalgaon at the Assistant Professor on C.H.B.(Granted) in mathematics from 2/7 /2018

present status

Assistant Professor on C.H.B.(Granted) in mathematics in Sunderao Solanke Mahavidyalay Majalgao

Seminars/ workshops /conference attended

Sr. no.	Name of seminar	Type	Date	Duration	Name of sponsoring agency

1	recent trend in physics chemistry and mathematics	National conference	4 February 2020	1-day	Sundar Rao Solanke mahavidyalay majalgaon
2	fractional calculus	National Webinar	31st August 2021	1-day	R.B. Attal college georai
3	mobile apps for teaching and learning mathematics	National Webinar	23rd September 2021	1-day	Mrs. kesarbai Kshirsagar alias Kaka college Beed.
4	Future of financial management and Covid -19	Regional webinar	28 September 2021	1-day	Sundar Rao Solanke mahavidyalay majalgaon
5	Fractional calculus	National Webinar (online)	20-22oct - 2021	3-days	Department of mathematics school of mathematical science N.M.U.Jalgaon
6	Future of financial management and Covid -19	Regional webinar	28 September 2021	1-day	Sundar Rao Solanke mahavidyalay majalgaon
7	Recent development in number theory	International webinar	1-4 Oct 2021	4 days	department of mathematics school of applied

					science KIIT Deemed University Bhubaneswar India
8	Fixed a point theory and applications	National Webinar	10 to 12 October 2021	3 days	school of mathematical science N.M.U. Jalgaon
9	Recent trend in regional mathematical and statistical techniques	Regional webinar	22-23 oct 2021	2 days	MIT- WPU school of mathematics
10	Recent advances in mathematics	National Webinar	18 January 2022	1-day	Shri siddheshwar mahavidyalay majalgaon

Yours faithfully

Kiran Indarrao Taur

(M.Sc. SET)

Coordinator
Internal Quality Assurance Cell (IQAC)
Sunderrao Solanke Mahavidyalaya,
Majalgaon, Dist.Beed (MS)

Sunderrao Solanke Mahavidyalaya
MAJALGAON DIST.BEED (MAHARASHTRA)
Majalgaon

PRINCIPAL
Sunderrao Solanke Mahavidyalaya
Majalgaon Dist. Beed (M.S.)