Name of the Department: Department of P G Studies and Research in Social Work

1.1Curriculum Design And Development

Revision carried in 2022	No of papers revised in the Syllabus (Provide details of the paper)	Units undergone revision(Provideentire revised unit)	Unit wise provide elaborate student specific outcome learning(what student learns from revised unit)
	Course : Social Work Profession Total Hours:48 Code:SWSH401 Course Type:CBCS Marks:70	Unit 1: Basic concepts relevant to social work are added. Introduction and history of Social work Profession is brought to this unit. Unit 2: Attributes, values , ethics , professionalism, introduction to core and auxiliary methods of social work , Social Work education is clubbed together in this unit Unit 3: All the concepts pertaining to practice of social work is put here which includes models,human rights etc Unit 4: constitutional guarantees for social welfare is added.	*The content is reshuffled and segregated to give an orderly structure to enable the student to understand and relate the relevant concepts pertaining to social work. *Basic social work concepts are put together to ensure easy understanding of the concepts to the non Social Work background students *Professionalism, attributes of profession, requisites for social work profession are taught in the unit *Relevant constitutional provisions for the welfare of the society is taught.
	Course: Medical Social Work Total Hours:40 Code:SWSS504 Course Type: CBCS Marks:70	Unit 1: concept of prevention, community health care, principles of health care is added Unit 2: Names of communicable and non communicablediseases , terminal and chronic illness is brought into this unit. Unit 3: Introduction, History , Scope on all relevant concepts related to Medical Social Work is clubbed in this unit. Unit 4: Concept of health education and communication, health as a concurrent subject, govt. and non-govt organization working for health, international and national organizations working for health is added to the unit.	* All the units are revised with the intention of making it convenient for students to relate the concepts well . few concepts are added to give clear detail of what the students learn under each heading.

	Course :Social Work Practice with Individuals and Group Total Hours:40 Code:SWS H 402 Course Type: Theory Marks:70	Unit 1: Recent trends in Social case work Unit 2: Role and Job Scope for Case Worker. Unit 3: Recent trends in Social group Work. Models in group work Unit 4: Role and Job Scope for Group Worker. Study of Case Work and Group Work format	Students will update about trends and adopt the skills required. Students will learn the Job Opportunities and will make the preparations for the same. Helps in specific focus Students will update about trends and adopt the skills required. Students will understand the method of implementing strategies. Students will learn the Job Opportunities and will make the preparations for the same. Helps in specific focus. Helps in Social Practicum casework recording
	Course : **THERAPEUTIC COUNSELLING** Total Hours:40 Code: **SWS S 555** Course Type:Theory Marks:70	Unit 2: Online Counseling. Unit 4: Case studies, Life skills helping model, Role Play, Practical Counseling sessions. Life style modification and wellness counseling. - Model- Hospital for nature cure and yoga therapy, ShanthivanaDharmasthala. Addiction counseling – Model- JanaJagruthiVedike , SDM trust –Laila. Counseling women in distress and violence – Model- GelathiCounseling centre SIRI Laila. SANTHWANA. Women's helpline Belthangady. PrajnaCounseling centre Mangalore..Behaviour therapy- Model-Anirveda Mangalore. Palliative Care- Model- Ave Maria, Vamanjooru	Students will orient and learn skills techniques and approaches in online counselling which is getting lot of prominence and also a recent trend in counselling. Students will get practical orientation about counselling methods, application, target group, techniques etc. Along with this students will learn job scope

	Course :**REHABILITATION AND AFTER CARE SERVICES** Total Hours:40 Code: **SWS S 557-A** Course Type:Theory Marks:100	Unit 4: Orientation Visits to Rehabilitation Settings. Study of Various Rehabilitation Models Ministry of Empowerment and social Justice (Dept of welfare of disabled). Role of Social Worker in District Rehabilitation centre. National Rehabilitation centers.	Students will orient and learn skills techniques and approaches in online counselling which is getting lot of prominence and also a recent trend in counselling. Students will get practical orientation about Rehabilitation models, methods, application, target group, techniques etc. Along with this students will learn job scope. Students will orient about agencies working under rehabilitation and they will identify the job scope for MSW profession in these agencies. Students will orient about skills required in Rehabilitation sector. Students will orient about agencies at the national level and skills required in Rehabilitation sector.
	Course : Non-Governmental Organization and Societal Development Total Hours: 34 Code: SWS 509 B Course Type: Open Elective Paper Marks: 70	Unit 2: Central Social Welfare Board – Objectives, Administrative Structure, Functions and Programs	Understands CSWB, its objectives, administrative structure and functions and programmes
	Course : Urban Community Development Total Hours:34 Code: SWSS 551 Course Type: CD Specialization Paper Marks : 70	Unit 3: Models of Urban Development Ministry of Housing and Urban Affairs and Its programmes Karnataka Urban Development and Coastal Environment Management Plan – A case study Unit 4 : - Role of NGOs in Urban	Unit 3: Students will able to learn different models of Urban Development like Sustainable Model of Urban Development, Smart City etc Students will able to learn different programmes and plans of Ministry of Housing and Urban Affairs and its structure and composition Students will able to Learn, Analyse and Evaluate the success and failures and drawbacks, Challenges, limitations and

		Development Intervention of Corporate Sector for Urban Development (CSR)	opportunities in relation to programmes and plans of Karnataka Urban Development and Coastal Environment Management Unit 4: Students will able to learn how NGOs are contributing to the urban development through its innovative programmes and services Students will able to learn how Corporate sector under its CSR (Corporate Social Responsibility) initiatives and funds plan to contribute for the urban development
	Course: Psychiatric Social Work Total Hours:48 Code: SWSS503 Course Type: Specialisation Marks:70	Unit 2: Current trends in Social Work. Limitations faced by the social worker in the field and alternative to improve the professional status of Psychiatric Social Work in India-NIMHANS Model. Role of PSW in Government Hospital, Unit 3: Intellectual Disability Psychiatric Case History Taking Format	Unit 2: Students will understand the changing milieu in Social Work *Students will know the limits and challenges of Mental Health Field* *Students will understand the various frame of reference if they study the models of mental health* Students will gain knowledge on the different roles played by psychiatric social worker in mental health field. Unit 3- Used the new term Students will understand the procedures to be followed during the psychiatric case history taking format. Used new term
	Course: Social Work Research and Statistics Total Hours:48 Code: SWS453 Course Type: General Paper Marks:70	Unit 1: Assumptions of science. Scientific approach in comparison to the native or the common-sense approach Application of scientific approach in study of social phenomena. Unit-2: Rationale, General consideration in determination of sample size. Scales-need for scales and some prominent scaling procedures. Unit 3: Nil Unit 4: Variance and 'F'distribution, SPSS Package.	Unit-1 Students will gain the opportunity to gain better knowledge of how and why things function Unit-2 Students will understand in-depth knowledge in the field of sampling Students will gain the scientific knowledge on data collection and analysing the data. Unit-4 Students will enhance their scientific knowledge on statistics.

Name of the Department: PG Studies and Research in Chemistry

M.Sc. Chemistry

Revision carried in 2022	No of papers revised in the syllabus(Provide details of the paper)	Units undergone revision(Provide entire revised unit)	Unit wise provide elaborate student specific outcome learning(what student learns from revised unit)
	Course: Inorganic Chemistry, Unit II Total Hours: 15 hrs Code: CH H 451 Course Type: Theory Marks: 100	**Metallurgy and redox potentials** Methods of reduction of oxide ores, chemical and electrolytic reductions, Ellingham diagram, Specialized techniques for the extraction of metals – Amalgamation, Hydrometallurgy, Solvent Extraction, Ion exchange chromatography. Reduction potentials, Latimer and Frost diagrams – features and applications. **Reactions in non-aqueous media:**Types of solvent, Characteristics of solvents. Anhydrous sulphuric acid, glacial acetic acid, anhydrous HF, bromine trifluoride, liquid sulphur dioxide and dinitrogen tetroxide. Reactions in molten salts. Self Study: Liquid ammonia	Understanding of distinct type of solvents
	Course: Coordination Chemistry, Unit III Total Hours: 15 hrs Code: CH H 501 Course Type: Theory Marks: 100	**Reaction Mechanisms in Transition Metal Complexes:** Energy profile of a reaction, inert and labile complexes, kinetics of octahedral substitution and mechanistic aspects. Acid hydrolysis, factors affecting acid hydrolysis, base hydrolysis, conjugate base mechanism and evidences in its favour. Anation	Applications of organometallic compounds

		reactions, reactions without M-L bond cleavage. Substitution reactions in square planar complexes, trans effect, mechanisms of substitution. Electron transfer reactions- inner sphere and outer sphere reactions, complimentary and non-complimentary reactions. **Organometallic compounds:** Introduction, Nomenclature: Hapticity, 16/18 electron rule, EAN, Applications of organometallic compounds.	
	Course: Chemistry of Synthetic Drugs, Unit I Total Hours: 15 hrs Code: CH S 504 Course Type: Theory Marks: 100	Introduction. Drug design and relationship of functional groups to pharmacologic activity- introduction, relationship between molecular structure and biologic activity, selectivity of drug action and drug receptors, biologic targets for drug action, physicochemical properties of drugs, stereochemistry and drug action drug design- discovery and structural modification of lead compounds, physicochemical and biopharmaceutical properties of drug substances, pharmacokinetics- physicochemical factors affecting drug absorption.Induced fit theory of drug action **General anaesthetics:** Synthesis of Halothane, & Methohexital sodium. **Local anaesthetics:** Synthesis and mode of action of Benzocaine & Procaine Hydrochloride,	Promotion to drug discovery research

	Course: Physical Chemistry Practicals–IV Total Hours: 6 hrs Code: CH P 558 Course Type: Practical Marks: 100	**A. Kinetics and Catalysis (Any Four Experiments are to be carried out)** Determination of reaction order and activation parameters, study of acidity/salt/solvent/catalytic effects on reaction rates of any FIVE of the reactions listed below. 1. Acid catalyzed hydrolysis of methyl acetate. 2. Saponification of ethyl acetate by conductivity method. 3. Decomposition of benzenediazonium chloride. 4. Reaction between potassium persulphate and potassium iodide (including the study of salt effect and catalysis by Ag^{+}, Fe^{2+} and Cu^{2+} ions). 5. Decomposition of diacetone alcohol by NaOH& Hydrolysis of t-butylchloride. 6. (i) Reaction between iodine and acetone, and (ii) iodination of aniline. 7. Reaction between hydrogen peroxide and HI. 8. Decomposition of H_2O_2 (including the study of catalytic effect). 9. Reaction between Chromic acid and oxalic acid. 10. Reduction of aqueous solution of ferric chloride by stannous chloride. 11. Determination of the mechanism of the oxidation of an organic compound from kinetic data. 12. Determination of catalytic constant of an acid. 13. Determination of effect of surface area of catalyst	Exposure and use of advanced instruments

		and temperature on the kinetics of Metal-acid reaction. 14. Determination of dissociation of trichloroacetic acid-Kinetic method. 15. Determination of equilibrium constant for homogeneous equilibria and determining the concentration of a given solution. 16. Determine the molecular formula of copper-ammonia complex by the partition coefficient method. 17. Alkaline hydrolysis of ethyl acetate volumetrically. 18. Effect of reaction surface area of catalyst and temperature, concentration on the kinetics of metal-acid **B. Polymer Chemistry (Any Two experiments are to be carried out)** 1. Determination of molecular weight and size parameters of polymers by viscometry. 2. Determination of sequences in polyvinylalcohol by viscometry. 3. Determination of molecular weight of a polymer by turbidimetry. 4. Preparation of Polymethylmethacrylate by suspension polymerization / polystyrene by free radical polymerization / Nylon by interfacial polymerization / Polyacrylamide by solution polymerisation method / polyvinylalcohol from polyvinylacetate / Phenol formaldehyde/ urea	

		formaldehyde resins / thin films of polymers. **C. Thermodynamics Experiments (Any Four experiments to be carried out)** 1. Determination of activities of an electrolyte and non-electrolyte by cryoscopy. 2. Determination of partial molar volumes of (a) Salts-water and (b) alcohol-water (methanol & ethanol) systems by density method. 3. Study of complex formation between mercury and potassium halides by cryoscopy. 4. Determination of specific heat of liquids and solutions by calorimetry. 5. Determination of stepwise neutralisation of acids. 6. Determination of heat of solution of KNO_3 in water, integral heat of dilution of H_2SO_4 and heat of ionization of acetic acid and ammonium hydroxide calorimetrically. 7. Cryoscopic and ebullioscopic analysis of the given mixture of urea and glucose. 8. Determination of vant Hoff's factor for benzoic and acetic acid mixtures in benzene. 9. Velocity of sound in liquid-ultrasonic interferometry 10. Corrosion behavior of different additives for mild steel and zinc in acid media using electrochemical methods **D. Spectroscopic Experiments (Any Two experiments to be carried out)**	

		1. Kinetics of oxidation of alcohol by potassium dichromate – spectrophotometrically. 2.Simultaneous determination of Manganese and chromium in a solution of dichromate and Permanganate mixture. 3. Determination of pKa of an indicator. 4. Spectroscopic investigation of partition coefficient ofiodinebetweenH_2O and$CHCl_3$. 5. Study of the effect of ionic strength on the pH of the given acid with the help of Indicators using buffer solution by colorimetric method. 6. Spectrophotometric determination of Critical micelle concentration **E. Radiochemistry Experiments (At least Two experiments to be carried out)** 1. Study of (a) Characteristic plateau, (b) Geometry effects and Statistics of G.M counter 2. Determination of (a) Dead time by single source & double source method. (b) Emax of □-source (c) Back scattering of □and (d) □energy emitted by C-14. 3. Verification of the inverse square law. 4. Determination of half life of radionuclides. 4. Determination of Linear and mass attenuation coefficient. 5. Preparation of Fricke and Ceric sulphate dosimeters & calculation of G-value & dose rate.	

		6. Study of isotope dilution analysis; 8. Radiochemical Determination of I-131 in sea water. 7. Determination of β-particle range and, axmum energy (by half thickness method). 8. Percentage purity of copper sulphate by electrogravimetric method. **F. Adsorption** 1. Synthesis of a suitable adsorbent (e.g activated carbon) and its characterization by surface area, iodine value, total acidity and pzc 2. Adsorption of monovalent and divalent metal ions and their mixture on a suitable adsorbent. Applicability of Freundlich and Langmuir Adsorption isotherms. 3. Adsorption characteristics of pollutants such as dyes and/or surfactants on a suitable adsorbent. 4. Investigation of adsorption charactrisitics of different dyes (cationic andanionic) on two different types of activated carbons.	

M.Sc. Organic Chemistry

Revision carried in 2022	No of papers revised in the syllabus(Provide details of the paper)	Units undergone revision (Provide entire revised unit)	Unit wise provide elaborate student specific outcome learning(what student learns from revised unit)
	Course: Inorganic Chemistry, Unit II Total Hours: 15 hrs Code: OC H 451 Course Type: Theory Marks: 100	**Metallurgy and redox potentials** Methods of reduction of oxide ores, chemical and electrolytic reductions, Ellingham diagram, Specialized techniques for the extraction of metals – Amalgamation, Hydrometallurgy, Solvent Extraction, Ion exchange chromatography. Reduction potentials, Latimer and Frost diagrams – features and applications. **Reactions in non-aqueous media:**Types of solvent, Characteristics of solvents. Anhydrous sulphuric acid, glacial acetic acid, anhydrous HF, bromine trifluoride, liquid sulphur dioxide and dinitrogen tetroxide. Reactions in molten salts. Self Study: Liquid ammonia	Understand to distinct the type solvents
	Course: Organometallic Chemistry, Unit I Total Hours: 15 hrs Code: OC H 503 Course Type: Theory Marks: 100	**Catalysis by Organometallic Compounds:** Catalysis by Organometallic Compounds: 16 and 18-electron rules, oxidative addition,insertion, deinsertion and reductive elimination reactions. Homogeneous catalysis by organometallics-hydrogenation, hydrosilation,	Understanding the applications of Wacker process

		hydrocyanation and is omerization of olefins. Hydrocarbonylation of olefins (oxo reaction–cobalt and rhodium oxo catalysts), carbonylation of alcohols- Monsanto acetic acid process.Wacker process.L-DOPA synthesis, alkene oligomerizations, The Reppe reaction. Polymerization of olefins andacetylenes: Ziegler-Natta catalyst systems. Fischer–Tropsch reaction, Water Gas Shift reactions.	
	Course: Chemistry of Synthetic Drugs, Unit I Total Hours: 15 hrs Code: OC S 504 Course Type: Theory Marks: 100	Introduction. Drug design and relationship of functional groups to pharmacologic activity-introduction, relationship between molecular structure and biologic activity, selectivity of drug action and drug receptors, biologic targets for drug action, physicochemical properties of drugs, stereochemistry and drug action drug design- discovery and structural modification of lead compounds, physicochemical and biopharmaceutical properties of drug substances, pharmacokinetics-physicochemical factors affecting drug absorption.Induced fit theory of drug action **General anaesthetics:** Synthesis of Halothane, & Methohexital sodium. **Local anaesthetics:** Synthesis and mode of action of Benzocaine & Procaine Hydrochloride,	Promotion to drug discovery research

	Course: Organic Chemistry Practicals-IV Total Hours: 6 hrs Code: OC P 510 Course Type: Practical Marks: 100	Synthesis of one derivative each of Furan, Indole, Pyrazole, Quinoline, Thiazole, Acridine, Coumarin and Triazole containing heterocycles. Synthesis of Picric acid, Para red, Methyl red, Methyl orange, Flourescein, Eosin, Indigo. Chromatographic techniques: TLC and column chromatography Elucidation of structure of organic compounds using UV, IR, NMR and Mass spectra. Purification of organic compounds using flash chromatography	Exposure and use of advanced instruments
	Course: Organic Chemistry Practicals-VII Total Hours: 6 hrs Code: OC P 559 Course Type: Practical Marks: 100	Isolation and Characterization of natural products like Caffeine, Recinoleic acid, Azelic acid, Piperine, Hespiridine, Cysteine, Casein, Lycopene and enzymes like Lipase and Sucrase. Extraction of Groundnut oil and Coconut oil. Determination of Saponification and Iodine values of oils and fats. Isolation of Carotines. Purification by paper, Column and TLC. Characterization of natural products by oxidation studies & derivatization of natural products.Isolation of carotenoids and purification by Flash chromatography	Exposure and use of advanced instruments

Name of the Department: Department of P.G Studies & Research in Psychology

Revision carried in 2022	No of papers revised in the syllabus (Provide details of the paper)	Units undergone revision (Provide entire revised unit)	Unit wise provide elaborate student specific outcome learning(what student learns from revised unit)
	Course :Counselling skills Total Hours:48 Code: PYH453 Course Type: Hard core Marks:70	PYH452: counselling skills – content of unit IV is merged with Unit III and the content related to areas of counselling is added as IV Unit. Title of the paper PYH 452: Counselling skills was changed to Counselling skills and areas of Counselling.	Become acquainted with the roles, functions and qualities of an effective counsellor. Understand various stages involved in the process of counselling.
	Course: Psychotherapeutic Interventions Total Hours:40 Code: PYH504 Course Type: Soft core Marks:70	To include Trauma focused therapy and Family therapy in PYH504: Psychotherapeutic interventions.	Analyse the method, merits, limitations and applicability of different psychotherapies.
	Course: IV SEMESTER Total Hours:48 Code: PYH552 and PYH554 Course Type: Hard core Marks:70	PYH552: Internship and PYS554 case analysis. PYH552: Areas of Counselling and PYH554: Areas of Counselling practical were removed from IV Semester and the major content were added as IV Unit of PYH 452: Counselling skills. Papers on internship and case were added as PYS552: Internship and PYH554: Case studies and field visit in IV Semester instead of the existing PYH552 Areas of counselling and PYS554: Areas of Counselling Practical.	To enhance the practical exposure i.e. employability skills.

	Course: Marketing, advertising and consumer behaviour	Unit I: Concepts related to customer relationship was removed and only concepts related to Marketing is retained. Unit IV: Foundation of advertisement and effective advertisement is removed as the concepts are Not beneficial for the students of Psychology. Instead the concepts on consumer behavior is shifted From II Unit to Unit IV. Title of the Paper PYS556 has been changed as Marketing and consumer behaviour.	To provide conceptual knowledge on basic concepts of advertising in order to develop students skills on analysing advertisements psychologically and developing effective advertisements.
	Total Hours:40		
	Code: PYS556		
	Course Type: Softcore		
	Marks:70		

Name of the Department: Department of PG Studies & Research in Biotechnology

Revision carried in 2022	No of papers revised in the syllabus (Provide details of the paper)	Units undergone revision(Provide entire revised unit)	Unit wise provide elaborate student specific outcome learning (what student learns from revised unit)
	Course : - Genetic Engineering Unit 1 Total Hours:13 Code: BTH452 Course Type: Theory Marks:	General introduction to concepts of genetic engineering. Host controlled restriction and modification, restriction endonucleases, target sites sticky, cohesive ends and blunt ended fragments. Role of DNA ligase, linkers, adaptors, homopolymer tailing. Other methods of joining DNA molecules: TA cloning of PCR products, Construction of genomic libraries, construction of cDNA library, methods of cDNA synthesis; PCR: Optimization of PCR reaction, analysis of products, Nested PCR, Multiplex PCR, RT-PCR and Real time PCR .Application of PCR in cloning, agriculture and medicine	PCR different types & its application
	Course:Immunology Total Hours:13 Code:BTH551 Course Type:Theory	Immunoglobulins: Isolation and purification of immunoglobulins. Structure of antibodies. Classes	Antibody structure & production

	Marks:	and subclasses of immunoglobulins, biological and chemical properties of Igs. Hyper variable region, isotopic, allotypic and idiotypic variations and idiotypic network. Biosynthesis, theories of formation, diversity of antibodies, genetics of Ig diversity, mechanisms contributing to antibody diversity, Ig genes, isotype switching, Ag-Ab reactions, specificity, affinity binding of antibodies. Production of polyclonal and monoclonal antibodies.	

Registrar (Admn)

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