LESSON PLAN

Name of the Lecturer: Dr. B. SRIDEVI Name of the Department: Lecturer in Chemistry

Name of the Topic : Preparation of Silicones, classification & Applications.

Hours required : 1 hr. 40 mints.

Learning Objectives :

→ To learn about the preparation of silicones,
→ To learn " the applications of silicones,
→ To " " classification of "

Previous Knowledge to be reminded

→ properties of 'Si'

Topic Synopsis:

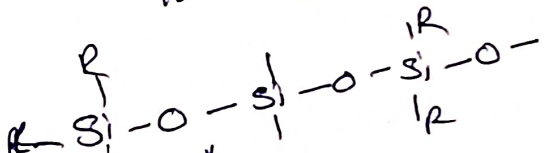
Preparation:

→ $2CH_3MgCl + SiCl_4 \rightarrow (CH_3)_2SiCl_2$

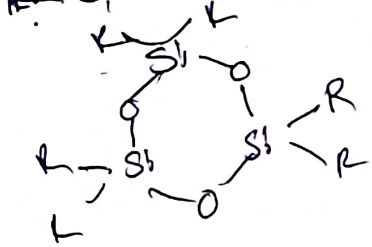
→ $2\,CH_3-Cl + SiCl_4 \xrightarrow[100-]{Cu} (CH_3)_2SiCl_2$

classification:

→ Linear →



→ cyclic →



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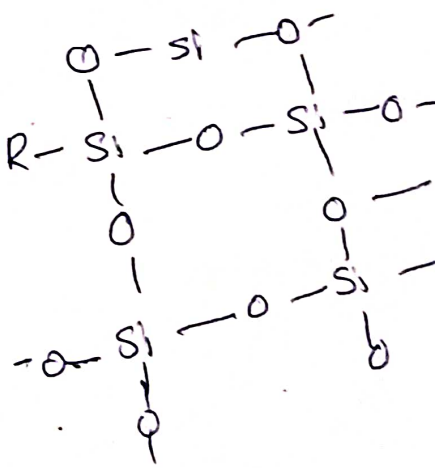


Applications:

- Silicone rubber
- " grease
- → water proof
- → Electrical parts

Examples / illustrations

 Silicon Tyres, Chips, gaskets, water proof jackets,

Additional Inputs

Recently used on Silicon type, Dental impressions

Teaching Aids used

Black - board

References cited

→ Unified
→ Telugu Academy
→ J.D. Lee

Student Activity planned after teaching

Discuss about applications.

Activity planned outside the class Room, if any

observe different types; rubbers, and silicone made materials.

Any other activity

—

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer: Dr. B. SRIDEVI ..... Name of the Department: Lecturer in Chemistry

Name of the Topic : Oxides and oxyacids of sulphur

Hours required : 1h

Learning Objectives :

→ To learn about the structure of oxyacids of sulphur.

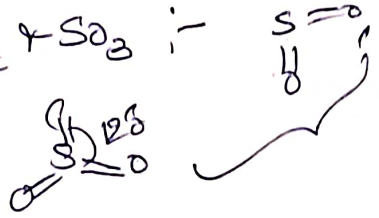
→ To learn about the oxidation states of sulphur

Previous Knowledge to be reminded

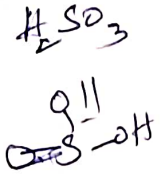
→ hybridization of S in SO_2 & SO_3.

Topic Synopsis:

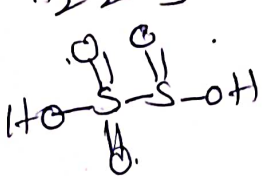
Structure of SO_2 & SO_3 :- sp^2 hybridisation



H_2SO_3

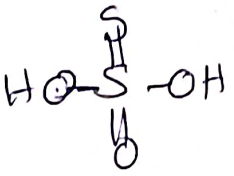


$H_2S_2O_5$



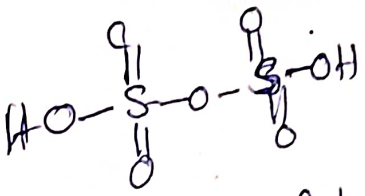
+3, +5

$H_2S_2O_3$



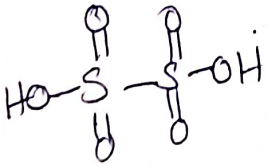
+2, +4,

$H_2S_2O_7$

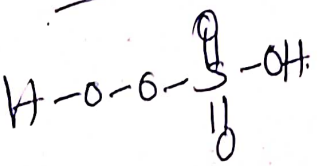


Di / Pyro- sulphuric Acid

$H_2S_2O_6$

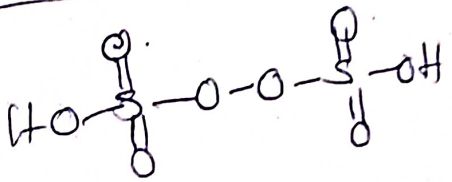


H_2SO_5



+6

$H_2S_2O_8$ Peroxy disulphuric acid



S → sp^3 hybridization

Examples / illustrations

different types of Acids

Additional Inputs

Acidic Strength of oxyacids of Sulphur. &
peroxy linkage & Basicity of oxyacids of Sulphur.

Teaching Aids used

Black board

References cited

— Telugu Academy
— unified
→ J. D. Lee.

Student Activity planned after teaching

practice the structures of Oxyacids of Sulphur.

Activity planned outside the class Room, if any

Any other activity

Signature of the Lecturer

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry **Name of the Teacher: D. Vijaya Sree** **Semester: III** **Class: B3, B4 and B6** **Programme / Course: Bioanalytical techniques**	
Name of the Topic	Centrifugation
Hours Required	10
Learning Objectives	• To understand the principle centrifugation • To separate various cellular components • To identify biomolecules
Previous Knowledge to be reminded	Sedimentation by gravity
Topic Synopsis	• Basic principles, concept of RCF, types of centrifuges (clinical, high speed and ultracentrifuges). • Preparative centrifugation: Differential and density gradient centrifugation, applications (Isolation of cell components). • Analytical centrifugation: determination of molecular weight by ultra centrifugation methods
Thrust Areas	Factors affecting centrifugation and separation of molecules .
Skills to be Learnt by the Student	Handling and care of bench top and Mini spin centrifuges
Examples and Illustrations	Sedimentation of particles in dirt water Separation of cellular fractions using mini spin
Additional Inputs	Types of rotors
Teaching Aids used	Board and instrument
References Cited	Practical Biochemistry- Wilson & Walker

	Bio physical chemistry- Upadhaya
Student Activity Planned after Teaching	Solve very short answeers Learn the various precautions in handling centrifuges
Activity Planned outside the Classroom	Browse for pictures of hi speed and ultracentrifuges and companies of manufacture
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities YOUTUBE for animations and videos Shomu`s Biology for illustrations
Any Other Activity	

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry **Name of the Teacher: D. Vijaya Sree** **Semester: III** **Class: B3, B4 and B6** **Programme / Course: Bioanalytical techniques**	
Name of the Topic	Chromatography
Hours Required	10
Learning Objectives	• To understand the principle of chromatography • To separate various biomolecules • To identify bio molecules
Previous Knowledge to be reminded	Chormatography
Topic Synopsis	• Partition principle, partition coefficient • detailed account of paper chromatography, TLC and Column chromatography • Gel filtration: Concept of distribution coefficient, types of gels and glass beads, applications. • Ion exchange chromatography: Principle, types of resins, choice of buffers, applications. • Affinity chromatography: Principle, selection of ligand, brief idea of ligand attachment, specific and non-specific elution, applications.

	• Principle of HPLC
Thrust Areas	Factors affecting chromatographic separation .
Skills to be Learnt by the Student	Preparation of regents and solid support media for Paper chromatography and TLC Calculation of Rf values
Examples and Illustrations	Absorption and adsorption
Additional Inputs	GC-HPLC
Teaching Aids used	Board and PPT
References Cited	Practical Biochemistry- Wilson & Walker Bio physical chemistry- Upadhaya
Student Activity Planned after Teaching	Solve very short answers Separation of amino acids and plant pigments by Paper chromatography and TLC Learn the table of contents for various gel matrices
Activity Planned outside the Classroom	Analyse given chromatograms pictures and identify the molecular weights
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities YOUTUBE for animations and videos Shomu`s Biology for illustrations
Any Other Activity	

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry **Name of the Teacher: D. Vijaya Sree** **Semester: III** **Class: B3, B4 and B6** **Programme / Course: Bioanalytical techniques**	
Name of the Topic	Electrophoresis
Hours Required	10
Learning Objectives	• To understand the principle of electrophoresis

	• To separate various proteins and nucleic acids
Previous Knowledge to be reminded	Chormatography Flow of electrons and current
Topic Synopsis	• Migration of ions in electric field, Factors affecting electrophoretic mobility. • Paper electrophoresis • Gel electrophoresis: - Types of gels, Solubilizers, Procedure, slab gels Detection, Recovery & Estimation of macromolecules. • SDS-PAGE Electrophoresis and applications.
Thrust Areas	Factors affecting electrophoretic mobility. .
Skills to be Learnt by the Student	Casting of gels- Agarose and SDS-PAGE
Examples and Illustrations	Polymerasation by chain reaction
Additional Inputs	Defects or problems facing in gel casting
Teaching Aids used	Chalk, PPT and electrophoretic unit
References Cited	Practical Biochemistry- Wilson & Walker Bio physical chemistry- Upadhaya
Student Activity Planned after Teaching	Solve very short answers Learn the table of contents for SDS -PAGE
Activity Planned outside the Classroom	Analyse given gel pictures and identify the molecular weights
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities YOUTUBE for animations and videos Shomu`s Biology for illustrations
Any Other Activity	

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry
Name of the Teacher: D. Vijaya Sree

Semester: III **Class: B3, B4 and B6** **Programme / Course: Bioanalytical techniques**	
Name of the Topic	Colorimeter and Spectrophotometer
Hours Required	06
Learning Objectives	• To make the students understand the quantification of biomolecules • To enable the students identify unknown compounds
Previous Knowledge to be reminded	• Sspectrum • Planks equation
Topic Synopsis	• Properties in various biomolecules to absorb electromagnetic radiation in the visible and UV range • Beer-Lamberts law and its derivation • Instrumentation-various parts in colorimeter and spectrophotometer • Working principle of colorimeter and spectrophotometer
Thrust Areas	Quantitative analysis of carbohydrates, proteins, Nucleic acids etc.
Skills to be Learnt by the Student	To find out absorption maximum for a coloured compound
Examples and Illustrations	Absorbance, transmittence
Additional Inputs	Deviations of Beer-Lambert`s law and limitations of spectrophotometer
Teaching Aids used	Chalk, PPT and instrument
References Cited	Practical Biochemistry- Wilson & Walker Bio physical chemistry- Upadhaya
Student Activity Planned after Teaching	Practice beer- lambert`s law derivation Solve very short answers
Activity Planned outside the Classroom	Practice work flow diagrams of single beam and double beam spectrophotometer
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities YOUTUBE for animations and videos Shomu`s Biology for illustrations

Any Other Activity	Advised to look for ELISA readers in diagnostic labs which work on same principles

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry **Name of the Teacher: D. Vijaya Sree** **Semester: V** **Class: B4,B6** **Programme / Course: Endocrinology**	
Name of the Topic	Mechanism of hormone action
Hours Required	06
Learning Objectives	• Classification of hormones • Hormone receptors • Mechanism of hormone action
Previous Knowledge to be reminded	Endocrine glands, hormones their functions
Topic Synopsis	• Peptide and steroid hormones • Extracellular and intra cellular hormones • Initiation of signal transduction after binding of hormone to the receptor generating secondary messengers in group 2 hormones and direct synthesis of proteins in group 1 hormones
Thrust Areas	Mechanism of adrenalin and insulin as group 2 hormones and mechanism of glucocorticoids as group 1 hormones
Skills to be Learnt by the Student	Signal transduction sequence that occur in cellular level
Examples and Illustrations	Duct and ductless glands
Additional Inputs	Classification based on type of receptors and secondary messengers
Teaching Aids used	Board PPT and animation

References Cited	Medical biochemistry – R.C. Gupta Harpers biochemistry
Student Activity Planned after Teaching	Practice signal transduction of hormones
Activity Planned outside the Classroom	Model presentation
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities YOUTUBE for animations and videos Shomu`s Biology for illustrations
Any Other Activity	

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry

Name of the Teacher: D. Vijaya Sree

Semester: V

Class: B4,B6

Programme / Course: Endocrinology

Name of the Topic	Hypothalamic and pituitary hormones
Hours Required	06
Learning Objectives	• GHRH, TSRH, GnRH • GH, Prl, FSH, LH, Oxytocin, Vasopressin
Previous Knowledge to be reminded	Position of hypothalamus and pituitary glands
Topic Synopsis	• GHRH of hypothalamus initiates pituitary to produce GH involved for growth of individual • TSRH of hypothalamus initiates pituitary to produce TSH initiates the production of thyroid hormones • GnRH of hypothalamus initiates pituitary to produce FSH & LH which initiates gonads for their hormones • Prolactin for the production and ejection of milk from mammary glands • Oxytocin during parturition for the contraction of uterine walls and milk ejection from mammary glands
Thrust Areas	Various hormones being secreted by hypothalamus and pituitary

Skills to be Learnt by the Student	Vital functions of hormones of hypothalamus and pituitary
Examples and Illustrations	
Additional Inputs	CRH, POMC
Teaching Aids used	Board and PPT
References Cited	Medical biochemistry – R.C. Gupta Harpers biochemistry
Student Activity Planned after Teaching	
Activity Planned outside the Classroom	
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities YOUTUBE for animations and videos Shomu`s Biology for illustrations
Any Other Activity	

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry

Name of the Teacher: D. Vijaya Sree

Semester: V

Class: B4,B6

Programme / Course: Endocrinology

Name of the Topic	Thyroid, pancreas and GIT hormones
Hours Required	04
Learning Objectives	T3,T4, insulin, glucagon, gastrin, secretin, cholecystokinin
Previous Knowledge to be reminded	Metamorphosis, Diabetes mellitus
Topic Synopsis	• T3& T4 involve in tissue differentiation and growth • Insulin and glucagon involves in regulating the levels of

	glucose in blood • Gastrin involve in controlling the levels of HCl • Secretin and cholecystokinin involve in the regulation of fat taken through diet
Thrust Areas	Diabetes mellitus and its types
Skills to be Learnt by the Student	Causes for diabetes mellitus
Examples and Illustrations	Variation between diabetes mellitus and diabetes incipidus
Additional Inputs	diabetes incipidus
Teaching Aids used	Board
References Cited	Medical biochemistry – R.C. Gupta Harpers biochemistry
Student Activity Planned after Teaching	
Activity Planned outside the Classroom	
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities
Any Other Activity	

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

Lesson Plan (2020-2021)

Name of the Department: Biochemistry **Name of the Teacher: D. Vijaya Sree** **Semester: V** **Class: B4,B6** **Programme / Course: Endocrinology**	
Name of the Topic	Adrenal hormones
Hours Required	04

Learning Objectives	Epinephrine, norepinephrine, cortisol, corticosterone and aldosterone
Previous Knowledge to be reminded	Adrenal gland, CRH from hypothalamus, ACTH from pituitary
Topic Synopsis	• Epinephrine and norepinephrine – adrenal medullary hormones regulates the stress and emotions of an individual • Aldosterone regulates the mineral content in our body along with rennin angiotensin • Cortisol and corticosterone as glucocorticoids, regulates the glucose levels
Thrust Areas	Effect of mineralocorticoids in urine formation
Skills to be Learnt by the Student	Biochemical changes occurring during the production of hormones
Examples and Illustrations	Stress, expelsion of urine etc
Additional Inputs	Rennin angiotensin system
Teaching Aids used	Board
References Cited	Medical biochemistry – R.C. Gupta Harpers biochemistry
Student Activity Planned after Teaching	
Activity Planned outside the Classroom	
ICT/LMS Tools / Blogs/ Websites	NPTEL/N-LIST for notes and activities
Any Other Activity	

Govt. College for Women
(Autonomous), Guntur

DEPARTMENT OF ENGLISH

Dr. K.Padmaja

Teaching Plans

Communicative English

Semesters 1, 3, & 5 ,2,4,& 6

2021-2022

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Second language acquisition –Behaviourist theory,
Hours required	2
Learning Objectives	Will know and apply Behaviourist theory to ELT
Previous Knowledge to be Reminded	Their classroom English learning experience
Topic Synopsis	*The major principle of the behaviorist theory is based on the analyses of human behavior in observable stimulus-response interaction and the association between them. Behaviorists like Skinner, Bruner and Pavlov propose that when one is born once brain is a tabula rasa, a blank slate, and all learning is the result of outside stimuli. Extrapolating from such animal experiments behaviourists claim that all language learning, too, is the result of habit formation by a reinforcement of 'successful behaviour'. A number of 'laws of learning' state that by the frequent repetition of SR-pairs and instantaneous feed-back on 'good' or 'bad' results, learning can be effected.* *Behaviourists argue that if L1and L2 are similar then learning L2 is easy and if there are differences between the two the learning will have difficulties and this is termed Contrastive Analysis Hypothesis. The similarities between L1 and L2 will lead to a positive transfer of the skills of L1 to L2 . Like wise if there are differences between L1 and L2 the grammatical , structural or sound aspect may turn into an interference and thus leads to negative transfer of skills of L1. So the behaviourists are particular of error correction. Audio lingual method is one such method based on theory and drill, memorization are some activities used in these classes.*
Thrust Areas	Advantages of the method in second language teaching
Skills to be learnt by students	Analysis of the principles of the theory
Examples/Illustrations	
Additional Inputs	
Teaching Aids used	
References cited	Larsen-Freeman Dianne- *Techniques and Principles in Language Teaching*
Student Activity planned after the teaching	Note making
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Second language acquisition –, Universal grammar theory
Hours required	2
Learning Objectives	Will know and apply universal grammar theory to ELT
Previous Knowledge to be Reminded	Basics of linguistics
Topic Synopsis	*These theorists believe that there are similarities and differences that are common to all the languages of the world and they are called language universals. Similarly the language specific features are called marked features. According to his theoretical approach, babies are born with an innate system of grammar. He argues that cognition plays the decisive part in creating the ability to produce an unlimited number of sentences with the knowledge of a limited number of grammatical rules. He calls this ability language competence and distinguishes it from performance, that is the actual use of language. languages are 'acquired' on the basis of an innate knowledge of grammatical principles contained in a language acquisition device (LAD). In later versions of Chomskyan theories the LAD is renamed Universal Grammar* *These theorists propose that the children select the universal features of the language that they are born into and core grammar is a part of this universal principle.*
Thrust Areas	Applicability of the theory to second language learning
Skills to be learnt by students	Analysis and synthesis of the principles of the theory
Examples/Illustrations	
Additional Inputs	Basics of Chomsky's structural linguistics
Teaching Aids used	
References cited	Richards,J.C & Theodore S.Rodgers: *Approaches and Methods in Language Teaching*
Student Activity planned after the teaching	Summarising
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR
Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Second language acquisition – cognitive theory
Hours required	2
Learning Objectives	Will know and apply Cognitive theory to ELT
Previous Knowledge to be reminded	Basics concepts of psychology like cognition
Topic Synopsis	*Psychologists like Jean Piaget point out that all knowledge is the result of active processes of knowledge construction by the child in his/her cognitive development. Such an approach to language learning is evident if a teacher chooses inductive (examples to rules) learning activities. In cognitive psychology, mental processing plays a central role in all learning and is the basic mediating variable for influences on learning that are external to the learner. Cognitive theories say that the child has a certain psychological capacity, or cognitive ability before s/he can learn particular aspects of using language in order to make themselves understood. A cognitive theory sees second language learning as a conscious and reasoned thinking process, involving the deliberate use of learning strategies. Cognitive strategy helps learners to make an association with the previous and new knowledge or information. Analysing, guessing, inductive and deductive reasoning, rearranging the information and taking regular notes of the information are examples of cognitive strategies. Cognitive and maturational factors influence language acquisition, similarly the process of language acquisition itself may in turn affect cognitive and social skill development.*
Thrust Areas	Veracity of the theory in second language learning
Skills to be learnt by students	Analysis and evaluation of the principles of the theory
Examples/Illustrations	
Additional Inputs	Psychology and language learning
Teaching Aids used	
References cited	Stern,H.H. *Fundamental Concepts of Language Teaching.*
Student Activity planned after the teaching	Classroom presentations
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K. Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Second language acquisition –, Monitor Theory
Hours required	2
Learning Objectives	Will know and apply Monitor theory to ELT
Previous Knowledge to be reminded	Historical perspective of other language learning theories
Topic Synopsis	*Stephen Krashen and Tracy Terrell published The Natural Approach,. Their idea is that the purpose of language is to communicate meanings and messages. Krashen and Terrell felt that the initial "silent period" should be honored until students begin to speak naturally; that is, when speech in the target language emerges on its own accord. This is supposed to occur when teachers create a non-risky environment by incorporating TPR at the beginning level, and by aiming low in terms of communicative skills; The Natural Approach is supported by Krashen's famous Monitor Model of Language Acquisition, with a set of five hypotheses: The typical Natural Approach classroom is teacher-centered. Textbooks are not used and it is the teacher's responsibility to make the classroom experience enjoyable and unchallenging. Student absorb the steady flow of comprehensible input and just enough extra information to help them acquire, rather than consciously learn, the target language. In the Natural Approach classroom, Students are encouraged to express their thoughts, opinions, and feelings in the target language. The teacher speaks only in the target language; but, in keeping with the no-pressure approach, students are permitted to use their native language.*
Thrust Areas	Advantages of the theory for English language learning
Skills to be learnt by students	Analysis, synthesis and evaluation of the principles of the theory
Examples/Illustrations	
Additional Inputs	Total physical response method
Teaching Aids used	
References cited	Penny Ur : *A Course in Language Teaching Practice and Theory*
Student Activity planned after the teaching	Group work and presentations
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Methods of Teaching English - Direct Method
Hours required	2
Learning Objectives	Understand the principles of the method
Previous Knowledge to be reminded	
Topic Synopsis	*Second-language theorists maintain that the first real method of language teaching was the Direct Method, learn their first language; that is, directly and without explanations of grammatical points and using only the target language. Therefore, grammar was taught inductively. The objectives were speaking and listening comprehension, not translation; for this reason, vocabulary was introduced in context and through demonstrations and pictures; and an emphasis was placed on correct usage and pronunciation. Students learned to write by taking dictation in the target language. Teachers who use the Direct Method intend that students learn how to communicate in the target language. When the teacher introduces a new target language word or phrase, meaning is demonstrated through the use of realia, pictures, or pantomime. Students speak in the target language a great deal and communicate as if they were in real situations. In fact, the syllabus used in the Direct Method is based upon authentic situations (at a bank/hospital or asking for way to a place etc.) Grammar is taught inductively; that is, the students are presented with examples and they figure out the rule or generalization from the examples. Students practice vocabulary by using new words in complete sentences.*
Thrust Areas	L1 & L2 learning comparison
Skills to be learnt by students	Application of the features to actual classroom
Examples/Illustrations	Samples of Realia in ELT
Additional Inputs	Community language learning
Teaching Aids used	
References cited	Stern,H.H: *Fundamental Concepts of Language Teaching.*
Student Activity planned after the teaching	Watching case study of an English class in this method and listing principles
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Methods of Teaching English -Bilingual Method
Hours required	1
Learning Objectives	Understand the principles of the method
Previous Knowledge to be reminded	Their classroom experience of ELT in School
Topic Synopsis	*The bilingual method of foreign language teaching was developed by C.J. Dodson The bilingual method makes use of the traditional three P's: presentation, practice, production. The three P's are the three main stages of any language lesson. First, you present material. Then you all practice together and students are expected to produce something with their new knowledge. The understanding of words and sentences in foreign languages can be made easier by the use of mother tongue. There is no need to create artificial situations for explaining the meaning of words and sentences of the target language. The bilingual method ensures accessibility. Students beginning the daunting task of learning a new language can immediately find a level of familiarity. Though the bilingual method employs the students' native language, it's important to note that it's predominantly the teacher who makes use of L1. This distinguishes it from the grammar-translation method which relies more on rote learning and the translation of texts. so language teachers can evaluate educational options such as mainstream, ethnic, international, or bilingual schools.*
Thrust Areas	Importance of L1 In learning L2
Skills to be learnt by students	Application of the features to actual classroom
Examples/Illustrations	Classroom examples of L1 use in explanation
Additional Inputs	Content based language teaching
Teaching Aids used	
References cited	Larsen-Freeman, Dianne: *Techniques and Principles in Language Teaching*.
Student Activity planned after the teaching	Watching case study of an English class in this method and listing principles
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Methods of Teaching English – structural -oral-Situational Approach
Hours required	1
Learning Objectives	Understanding the principles of the method in ELT
Previous Knowledge to be reminded	Their classroom experience of learning grammar and vocabulary
Topic Synopsis	*S-O-S approach is the proposition and practice of diligently take grammatical structures of English in successful, relevant situations. Formally it is practiced through speech. In the next stage focus is on reading and writing. Language is considered as structural elements for sending meaningful messages. Teaching lessons are chosen and classified by qualified teachers or linguists. Additionally, vocabulary of the L 2 also are chosen and classified. 2000-3000 words which are frequently used by the native speakers and written texts and which are necessary for teaching English are diligently chosen to prepare the vocabulary list. S-O-S approach is based on the conviction that 'language is primarily speech' L 2 is taught in the same way as the learners picked up their L1. As they learned their mother tongue, learners first learn by listening, then speaking, then reading and finally writing. First the learner will receive knowledge or resources with knowledge, secondly he will store them into his memory by repeating them and finally he will use them according to the suitability of the situation. SOS approach includes pattern-drilling and memorization.*
Thrust Areas	Application of the tenets of the method to ELT
Skills to be learnt by students	Application of the features to actual classroom
Examples/Illustrations	
Additional Inputs	Silent method
Teaching Aids used	
References cited	Richards,J.C & Theodore S.Rodgers. *Approaches and Methods in Language Teaching*
Student Activity planned after the teaching	Watching the case study of an English class in this method and listing principles
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Methods of Teaching English –Grammar Translation Method-
Hours required	2
Learning Objectives	Understand the features of the method
Previous Knowledge to be reminded	Their classroom experience of learning grammar and poem
Topic Synopsis	*The goal of foreign language study is to learn a language in order to study its literature. The target language is taught in the students' native language, and it is possible for students to have studied it for years without having been required to participate in the most elementary conversation. A typical class consists of synchronized verb declensions, grammatical features of the target language, identifying antonyms and synonyms, drilling vocabulary words, memorizing vocabulary lists, creating sentences with the new vocabulary words, and writing compositions in the target language. Other features of the grammar-translation class include translations of literary passages from the target language into the native language. Accuracy is emphasized and students are expected to attain high standards in literary translations. Grammar is taught deductively by focusing on rules and practiced through translation exercises. Students' native language is the medium of instruction. In learning how to read in the target language, students are exposed to a variety of grammatical structures, thousands of vocabulary words in context, and they learn to translate across linguistic borders. Thus, the ability to communicate in target language is not the goal of second/foreign language instruction.*
Thrust Areas	Teaching of grammar and prose or poetry
Skills to be learnt by students	Application of the features to actual classroom
Examples/Illustrations	Classroom examples of ELT
Additional Inputs	Desuggestopedia
Teaching Aids used	
References cited	Penny Ur : *A Course in Language Teaching: Practice and Theory.*
Student Activity planned after the teaching	Watching case study of an English class in this method and listing principles
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Second language acquisition- Motivation and scaffolding techniques
Hours required	2
Learning Objectives	Will know and use scaffolding techniques
Previous Knowledge to be reminded	Their classroom English learning experience
Topic Synopsis	*scaffolding is a concept that derives from cognitive psychology and L1 research. scaffolding is an instructional structure whereby the teacher models the desired learning strategy or task then gradually shifts responsibility to the students.* *As the learner begins to take on more responsibility for the task, the adult dismantles the scaffold indicating that the child has benefited from the assisted performance and internalised the problem-solving processes provided by the previous scaffolded episode. scaffolded performance is a dialogically constituted interpsychological mechanism that promotes the learner's internalisation of knowledge co-constructed in shared activity. In an L2 classroom, collaborative work among language learners provides the same opportunity for scaffolded help as in expert-novice relationships in the everyday setting. L2 teaching methodology can benefit from a study of L1 scaffolding to understand how classroom activities already tacitly employ such tactics. The study of scaffolding in L2 research has focused exclusively on how language teachers provide guided assistance to learners.*
Thrust Areas	Classroom demonstration of scaffolding in ELT
Skills to be learnt by students	Know the concept and evaluate its applicability to ELT
Examples/Illustrations	
Additional Inputs	Scaffolding in writing
Teaching Aids used	
References cited	Baruah, T.C: *The English Teacher's Handbook*
Student Activity planned after the teaching	
Activity planned outside the Class room, if any	Comparison of all the theories in seminar presentation
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Methods of Teaching English – Audio lingual method
Hours required	2
Learning Objectives	To know the features and use the activities listed in this method in ELT
Previous Knowledge to be reminded	Recollection of English class in school and college
Topic Synopsis	*In this method the teacher is like an orchestra leader, directing and controlling the language behavior of her students. She/he is also responsible for providing her/his students with a good model for imitation. Students are imitators of the teacher's model. They follow the teacher's directions and respond as accurately and as rapidly as possible in the target language and overcoming the old habits of their native language. New vocabulary, structural patterns are presented through dialogues. The dialogues are learned through imitation and repetition. Drills (such as repetition, backward build-up. chain, substitution, transformation, and question-and-answer) are conducted based upon the patterns present in the dialogue. Students' successful responses arc positively reinforced. Grammar is induced from the examples given. Vocabulary is kept to a minimum while the students are mastering the sound system and grammatical patterns. Pronunciation is taught from the beginning , often by students working in language laboratories on discriminating between members of minimal pairs. The target language is used in the classroom.*
Thrust Areas	Actual Classroom proceedings in this method
Skills to be learnt by students	Know and use the features of the method in ELT classroom, application
Examples/Illustrations	Sample language teaching activities used in the method
Additional Inputs	
Teaching Aids used	
References cited	. Larsen-Freeman, Dianne: *Techniques and Principles in Language Teaching*
Student Activity planned after the teaching	Watching the case study of an English class in this method and listing principles
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (A), GUNTUR.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(V)	
Name of the Topic	Methods of Teaching English – Communicative Method - Eclectic Approach
Hours required	3
Learning Objectives	Know the features and use them in ELT
Previous Knowledge to be reminded	Communication in real life
Topic Synopsis	*The goal is to enable students to communicate in the target language. The teacher facilitates communication in the class room. In this role, one of his/her major responsibilities is to establish situations likely to promote communication. He/ she might make note of their errors to be worked on a later time during more accuracy-based activities. At other rimes he might be a 'co communicator' engaging in the communicative activity along with students. Students are communicators. Students use the language a great deal through communicative activities such as games, role plays, and problem -solving tasks. Activities that are truly communicative have three features in common: information gap, choice, and feedback. Judicious use of the students' native language is permitted in CLT. However; whenever possible, the target language should he used not only during communicative activities, but also for explaining the activities to the students or in assigning homework. Errors of form are tolerated during fluency-based activities and are seen as a natural outcome of the development of communication skills. The teacher notes the errors during fluency activities and returns to them later with an accuracy-based activity.*
Thrust Areas	Communicative activities and student learning
Skills to be learnt by students	Application of the features to actual classroom
Examples/Illustrations	PWP listening activity
Additional Inputs	Opinion gap activities
Teaching Aids used	
References cited	Richards,J.C & Theodore S.Rodgers: *Approaches and Methods in Language Teaching*, CUP, 2007
Student Activity planned after the teaching	Watching case study of an English class in this method and listing principles
Activity planned outside the Class room, if any	Project on the use of methods in ELT
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Learning Styles and Multiple Intelligences
Hours required	4
Learning Objectives	Know and understand various learning styles and intelligences and identify one's own learning style and intelligence and optimize them: apply the concept to classroom teaching and learning
Previous Knowledge to be Reminded	Different kinds of learning experiences in classroom situation
Topic Synopsis	There are three basic types of learning styles. The three most common are visual, auditory, and kinesthetic. We use different learning styles for different tasks. **Visual learners:** They learn best from visual images. Graphs and diagrams are easy for them to understand. They remember faces and places and tend to recall information by picturing it in their minds. **Aural or auditory learners:** They do well with hearing information. In college, an aural learner will remember lecture material in a variety of classes and may be skilled at memorizing things like music or lines for a theatrical production. **Kinesthetic Learners:** These learners learn by doing. College classes like science labs, acting, or sports teach to the strengths of kinesthetic learners. They need to be active and take frequent breaks. These learners Read their notes out loud and create models for the information at hand. **Howard Gardener's Multiple Intelligences:** Verbal-linguistic intelligence (well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words) 2. Logical-mathematical intelligence (ability to think conceptually and abstractly, and capacity to discern logical and numerical patterns) 3. Spatial-visual intelligence (capacity to think in images and pictures, to visualize accurately and abstractly) 4. Bodily-kinesthetic intelligence (ability to control one's body movements and to handle objects skillfully) 5. Musical intelligences (ability to produce and appreciate rhythm, pitch and timber) 6. Interpersonal intelligence (capacity to detect and respond appropriately to the moods, motivations and desires of others) 7. Intrapersonal (capacity to be self-aware and in tune with inner feelings, values, beliefs and thinking processes)
Thrust Areas	Role of Multiple learning styles and intelligences in pedagogy
Skills to be learnt by students	Analysis learning styles and intelligences and application of the same to self and others
Examples/Illustrations	
Additional Inputs	Differentiated instruction
Teaching Aids used	Learning styles quiz and multiple intelligences chart and survey
References cited	Gardner, H. (1983/1993/2011) **Frames of mind: The theory of multiple intelligences.** New York: Basic Books
Student Activity planned after the teaching	Presentation on their own style and intelligences with examples
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Lesson Planning and Evaluation
Hours required	4
Learning Objectives	Know and use various aspects of ELT lesson plan
Previous Knowledge to be Reminded	Their memory of an English class in school/college
Topic Synopsis	*Students are provided with various types of lesson plans. They identify different components of a plan. Discuss the importance of each component. List the stages of the lesson plan. They study the objectives of a plan and learn how to write objectives using Blooms taxonomy of learning outcomes.* *They also study various aspects that go into the evaluation of lesson plan and how a lesson plan has to be evaluated as of its efficacy.*
Thrust Areas	Evaluation of a lesson plan
Skills to be learnt by students	Analysis of various components of a lesson plan
Examples/Illustrations	
Additional Inputs	
Teaching Aids used	Sample leson plans and lesson plan template
References cited	Penny Ur : *A Course in Language Teaching: Practice and Theory*
Student Activity planned after the teaching	
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Internal and External Evaluation
Hours required	Two
Learning Objectives	Know and differentiate types of evaluation
Previous Knowledge to be Reminded	their experience of slip tests, unit tests, final examinations
Topic Synopsis	**Formative (Internal) and Summative (External) Assessment** Assessment can be formative and summative. Most of the classroom assessment is formative assessment which is to assess students while they were forming competencies and skills with the goal of helping them to continue the learning process. Key factor in formative assessment is appropriate feedback on their performance that assists the future continuation of learning. All kinds of informal assessments are formative. The focus of a formative is the ongoing development of the learner's language. Feedback is given to improve the learners' learning. Summative assessment measures and summarizes what the student has grasped and usually takes place at the end of a course or a unit. Summative looks at what a student has learned and takes stock on how well the student has accomplished objectives. Summative assessment includes many often evaluation which is decision making. Formative assessment is vital as it provides crucial information to teachers on the learners' learning and thus helps in adopting suitable teaching strategies.
Thrust Areas	The importance of formative evaluation in ELT
Skills to be learnt by students	Analysis of formative tests
Examples/Illustrations	
Additional Inputs	
Teaching Aids used	
References cited	Testing for language Teachers by Arthur Hughes, CUP. Courseware, A course in assessment and evaluation, UMBC
Student Activity planned after the teaching	Write up on the types of formative tests that they experienced
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Lesson Planning and Evaluation
Hours required	4
Learning Objectives	Know and use various aspects of ELT lesson plan
Previous Knowledge to be Reminded	Their memory of an English class in school/college
Topic Synopsis	*Students are provided with various types of lesson plans. They identify different components of a plan. Discuss the importance of each component. List the stages of the lesson plan. They study the objectives of a plan and learn how to write objectives using Blooms taxonomy of learning outcomes.* *They also study various aspects that go into the evaluation of lesson plan and how a lesson plan has to be evaluated as of its efficacy.*
Thrust Areas	Evaluation of a lesson plan
Skills to be learnt by students	Analysis of various components of a lesson plan
Examples/Illustrations	
Additional Inputs	
Teaching Aids used	Sample leson plans and lesson plan template
References cited	Penny Ur : *A Course in Language Teaching: Practice and Theory*
Student Activity planned after the teaching	
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Introduction to Testing and Evaluation
Hours required	2
Learning Objectives	Differentiation between testing and evaluation
Previous Knowledge to be Reminded	Familiarity with terms like test, exam, marks etc
Topic Synopsis	Assessment is a broad term using which the level or magnitude of some attribute of a person is estimated. **Test** Test, which is a part of assessment is a tool or instrument that occurs at regular intervals in a curriculum and the responses of learners to the test are measured and evaluated. Thus a test is a method which is explicit and structured with items like gap fill, multiple choice questions, an essay question or matching exercise and so on. A test must report measurement either in numerical number or grade or percentage. A test measures performance and competence in a given domain which is overall proficiency in a language, general competence in all skills of language. Thus a well constructed test is an instrument that provides an accurate measure of the test taker's ability within a particular domain. **Evaluation** When the performance of a test or the response of the learner to the test is reported by number then it is measuring which is quantifying. Number response to test is always clear with specifications for scoring. Verbal descriptions are also used to report the results of a test through end of the test oral feed back or comments in the margins. Evaluation is using the results of test for decision making through interpretation of the information and conveying the worth of the performance to the test taker.
Thrust Areas	Importance of assessment in learning
Skills to be learnt by students	Analysis of different testing methods
Examples/Illustrations	
Additional Inputs	Positive Impact or backwash
Teaching Aids used	
References cited	Testing for language Teachers by Arthur Hughes, CUP , Courseware, A course in assessment and evaluation, UMBC
Student Activity planned after the teaching	a write up of their understanding of the benefits of examinations on learning
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Planning Lessons for Prose, Poetry and Grammar
Hours required	6
Learning Objectives	To Write lesson plans for ELT class room
Previous Knowledge to be Reminded	Their memory of an English class in school/college
Topic Synopsis	*The teacher provides the model lesson plans to teach prose, poetry and grammar. Students study and find out the common features of the lesson plans. In groups discuss the elements that go into the planning of a lesson. They plan their own lessons with the help of the inputs that they received on lesson planning*
Thrust Areas	Application of the learnt method in planning the lesson
Skills to be learnt by students	Preparing for a class with adequate knowledge of lesson plan
Examples/Illustrations	Actual classroom video using a plan
Additional Inputs	
Teaching Aids used	Sample lesson plans
References cited	Penny Ur : *A Course in Language Teaching: Practice and Theory*
Student Activity planned after the teaching	Sample demonstration of the lesson plan they wrote
Activity planned outside the Class room, if any	
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Types of Tests
Hours required	Three
Learning Objectives	Know about various types of tests
Previous Knowledge to be Reminded	The kinds of tests that they experience
Topic Synopsis	**Norm referenced Tests** In norm referenced test learners' score is evaluated (interpreted) in relation to average score, middle score, extent of variation in scores and rank. **Criterion referenced tests** These tests give results in the form of grades on a specific course or lesson. Classroom tests involving students of a course and connected to a particular syllabus are criterion referenced tests. **Achievement Tests** A Test is used to measure the learner's ability in a lesson, unit or the complete course and the complete curriculum in a programme. **Diagnostic Tests.** This test helps in identifying the aspects of language that a student needs develop or a course should be including. They elicit information on what students need to work on in the future. **Placement Tests.** The purpose of placement tests is to place a student into a particular level or section of a language curriculum or college. **Proficiency tests** A proficiency test tests overall ability of learners in a language. These tests are summative. The results are given in the form marks which are used accept or refuse a learners movement to next level of education. **Aptitude tests.** This test is designed to measure capacity or general ability of a learner to learn a foreign language and the final predicted success in taking the course.
Thrust Areas	Importance of the test in ELT
Skills to be learnt by students	Identification of test type
Examples/Illustrations	
Additional Inputs	
Teaching Aids used	Sample test instruments
References cited	Testing for language Teachers by Arthur Hughes, CUP, Courseware, A course in assessment and evaluation, UMBC
Student Activity planned after the teaching	
Activity planned outside the Class room, if any	Collection of various test tools and define the purpose of each instrument and categorize the type of test
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K.Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Activity Based Language Teaching
Hours required	3
Learning Objectives	Know and experience the advantages of ABLT
Previous Knowledge to be Reminded	Their English Classroom in School
Topic Synopsis	Activity-based teaching is an off-shoot of communicative learning. To make learning rich and interesting, short activities need to be included in the learning of language. This gives more scope for listening to English conversations, developing one's own vocabulary and skill of speaking. Any learning that is carried out with a purpose in a social environment, involving physical and mental action, stimulating for creative action or expression is activity method. In the process of learning, students experience, memorize and understand. It requires active problem solving by students in finding patterns in the information through their own investigation and analysis. Some of the advantages of activity based instruction are that it provides varied experiences to the students to facilitate the acquisition of knowledge, experience, skills and values. It builds the student's self-confidence and develops understanding through work in his/her group. Types of activities that can be carried out in classroom are ***Experiencing:*** • watching, observing, comparing, describing, questioning, listening, reading, drawing, calculating, imitating, modeling, playing, acting, taking on roles, talking, writing about what one can see, hear, feel, taste, experimenting and imagining. ***Memorizing:*** • Sequencing ordering, finding regularities and patterns, connect with given knowledge, use different modes of perception, depict. ***Understanding:*** • Structuring, ordering, classifying, constructing, solving, planning, predicting, transferring, applying knowledge, formulating ones individual understanding, interpreting, summarizing, evaluating, judging, explaining and teaching.
Thrust Areas	Actual Teaching context of Language
Skills to be learnt by students	Analysis and application of ABLT to English class room
Examples/Illustrations	
Additional Inputs	Task Based Instruction
Teaching Aids used	Video sample of ABLT
References cited	Larsen-Freeman, Dianne: *Techniques and Principles in Language Teaching*:
Student Activity planned after the teaching	
Activity planned outside the Class room, if any	Developing one activity using which any aspect of English Language can be taught
Any other activity	

Signature of the Lecturer

GOVT. COLLEGE FOR WOMEN (Autonomous), Guntur.

Teaching plan

Name of the Department/Subject: Department of English	
Name of the Lecturer: Dr. K Padmaja	
Course/Group: III Year Sem 5	
Paper: Communicative English(VI)	
Name of the Topic	Audio-Visual Aids
Hours required	Two
Learning Objectives	Knowing the role and use of various teaching aids
Previous Knowledge to be Reminded	Their experience of different teaching aids in their student experience
Topic Synopsis	The term audio-visual aids is commonly used to refer to those instructional materials that may be used to convey meaning without complete dependence upon verbal symbols or language. Audio Visual aids help the ELT teacher, in imparting good instruction. The use of Audio Visual aids keep the class lively and interesting by providing variety and they also make teaching effective by providing a different environment in which the language material can be drilled. i. Audio-visual aids provide a base for building students' conceptual thinking. ii. Since they develop students' sense of meanings, they enhance their vocabulary. Some of these aids are CD, DVD, tape recorder, e book, graphics, pictures, charts and are used to create the requisite interest and motivate the students to learn the language. Some more are, - Bulletin board, - Flannel board/graphs - Slides film strips - Overhead projector, - Tape recorder/gramophone - Radio - T.V. / Video. -Interactive White boards These supplementary aids are not only useful to enrich and vitalize teaching but surely improve its effectiveness. Within the last few years new forms of visual and auditory aids have appeared with definite educational value. Among these are the silent and sound motion pictures, radios, phonographs, school museum stereographs lantern slides, filmstrips, opaque projectors, and sound slide films.
Thrust Areas	Classroom teaching in an interesting way
Skills to be learnt by students	
Examples/Illustrations	Live examples of Language Classroom
Additional Inputs	
Teaching Aids used	Samples of Teaching Aids like Charts, Videos
References cited	
Student Activity planned after the teaching	Teaching Aids that they experienced in the previous schooling and their use- group discussion
Activity planned outside the Class room, if any	A check list of Teaching Aids that can be used in ELT classroom along with samples
Any other activity	

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer: Dr. D. Mallikarjuna Reddy Name of the Department: Chemistry

Name of the Topic : Chemistry of d-block elements

Hours required : 6h

Learning Objectives :

→ Electronic configuration of d-block elements
→ Variable oxidation states and stability of various oxidation states of d-block elements.
→ Complex formation and catalytic properties of d-block elements.
→ Magnetic properties of d-block elements.

Previous Knowledge to be reminded

periodic table and different types of blocks in periodic table. Various types of orbitals

Topic Synopsis:

→ d-Block elements are the elements which contains incomplete d-orbital or differentiating electron enters into d-orbital.
→ Since these elements are placed in between s- and p-block elements in the long form of periodic table, they are known as transition elements.
→ d-block elements consist of three series namely 3d-series (Sc to Zn), 4d series (Y to Cd), 5d series (La to Hg). It also contains incomplete 6d series
→ The elements of III B group (Sc, Y, La, Ac) and II B (Zn, Cd and Hg) are referred to as non-typical transition elements.
→ The outer electronic configuration of d-block elements is $ns^{1-2}(n-1)d^{1-10}$ The orbitals are filled in order of their increasing energy.
→ Exactly half-filled and completely filled d-orbitals are extra stable. This explains the electronic configuration of chromium as [Ar] $3d^5 4s^1$ and of copper as [Ar] $3d^{10} 4s^1$.
→ Variable valency is one of the most striking features of the transition elements.
→ All transition elements, except the first and the last numbers of each series exhibit variable oxidation states.
→ The highest oxidation state exhibited by the transition elements is +8. (osmium).
→ Compounds are regarded as stable, if they exist at room temperature and are not oxidized by air, hydrolysed by water vapour or disproportionate at normal temperatures.
→ In 4d and 5d series elements, the higher oxidation states are generally more stable than those of the elements of 3d series.
→ The d-block elements have a great tendency to form complexes or coordination compounds with Lewis bases
→ Many d-block elements and their compounds have catalytic properties. Ex: $TiCl_3$ as Ziegler-Natta catalyst in the production of polythene, Fe in Haber process for making NH_3, etc.
→ d-Block elements and their compounds exhibit magnetic properties. They show different behaviour magnetism. Eg: diamagnetism (due to paired electrons) and paramagnetism (due to presence of unpaired electrons). The magnetic moment of paramagnetic substance is given by $\mu = \sqrt{n(n+2)}$ B.M.

Examples / illustrations

1. Various transition elements or their compounds as catalyst in various processes.
2. Magnetic behaviour of ions of transition elements.

Additional Inputs

1. Colour of transition metal compounds.
2. Applications of transition element in biological systems.
3. Symmetry of d-orbitals.

Teaching Aids used

Chalk and black board.

References cited

1. Concise inorganic chemistry, J. D. Lee, Fifth edition
2. Unified course in chemistry. Vol I, O. P. Agarwal.

Student Activity planned after teaching

solving the magnetic moment of elements of d-block.

Activity planned outside the class Room, if any

Further reading of reference books. collection of applications of various transition elements in various fields.

Any other activity

Assignments.

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer: Dr. D. Mallikarjuna Reddy Name of the Department..... Chemistry.....

Name of the Topic : molecular spectroscopy : Rotational spectroscopy

Hours required : 3h

Learning Objectives :

→ To know about principle and theory of microwave spectroscopy.
→ Rotational energy of diatomic molecule as a rigid rotator, rotational constant
→ Frequency of rotational spectral lines and selection rule for rotational spectra.
→ Determination of moment of inertia, bond length and atomic weight of isotopes using M.W. spectra
→ Relative intensities of rotational spectral lines and determination of bond distances in polyatomic molecules.

Previous Knowledge to be reminded

Different types of rotations of diatomic molecules, centre of gravity and reduced mass of diatomic molecule.

Topic Synopsis:

→ Rotational (microwave) spectroscopy has bee found to be very useful in the determination of the structures of the molecules. Rotational spectra result from transitions between the rotational energy levels of a gaseous molecule on the absorption of radiations falling in the microwave region.

→ Rotational spectra are shown by molecules which possess a permanent dipole moment E.g. HCl, CO, H_2O vapour, NO etc.

→ The energy of the rotational energy level is given by $E_J = \frac{h^2}{8\pi^2 I} J(J+1)$.

Where J = rotational quantum number and are having values 0, 1, 2, ...

I = moment of inertia $= \mu r^2 = \frac{m_1 m_2}{m_1 + m_2} r^2$

→ The rotational energy can also be expressed in terms of frequency units or terms as $\bar{\nu} = \frac{h}{8\pi^2 I c} J(J+1)\ cm^{-1} = B\,J(J+1)\ cm^{-1}$. Where B is known as rotation constants. Therefore $B = \frac{h}{8\pi^2 I c}$. For $J=0$ $\bar{\nu} = 0$, that means the molecule is not rotating at all in $J=0$ level.

→ Frequency of rotational spectral lines is given by $\bar{\nu}_{J \to J+1} = 2B(J+1)\ cm^{-1}$, and these lines are equally spaced by an amount of 2B called frequency separation.

→ The selection rule for rotational spectra is $\Delta J = \pm 1$.

→ The relative intensity of rotational spectral lines depend upon the relative populations of the energy levels. According Boltzmann distribution, Intensity $\propto \frac{N_J}{N_0} = g_J x e^{-E_J/kT}$; where g_J is the degeneracy and is given by $2J+1$.

→ By using rotational spectroscopy, one can determine moment of inertia, bond length and atomic weight of isotopes etc.

Examples / illustrations

→ Bond length, moment of inertia and atomic weight of isotope of CO molecule is discussed.
→ Bond distance determination of polyatomic molecule (OCS) was discussed

Additional Inputs

Application of microwave radiation in microwave oven and its principle was discussed.

Teaching Aids used

Chalk and black board.

References cited

1. Principles of physical chemistry, 45th edition, puri, sharma, pathania
2. Instrumental methods of chemical analysis, G. R. Chatwal, S. K. Anand

Student Activity planned after teaching

solving the problems on determination of bond lengths, moment of inertia, isotopic atomic weight of the gaseous molecule.

Activity planned outside the class Room, if any

Further reading of reference books and gain more information about the rotational spectroscopy

Any other activity

Assignments

Signature of the Lecturer

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A) : GUNTUR-522001
ANNEXURE-III
MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: NOVEMBER

Topic:	Mechanics of Particles
Hours required:	05 hours
Learning objectives:	Laws of motion, Variable mass system, Equation of motion of a Rocket, Multi Stage Rocket Impact parameter, Scattering cross section, Rutherford scattering Experiment.
Previous knowledge to be reminded:	Different types of motions
Topic synopsis:	Laws of motion, Motion of Variable mass system, Equation of motion of a rocket, Multi stage rocket Concept of Impact parameter, Scattering cross section, Rutherford Scattering.
Thrust areas:	
Skills to be learnt by students:	
Examples/illustrations:	General examples
Additional inputs:	Conservation of energy and momentum, Collisions in two and three dimensions
Teaching methods used:	Board
References cited:	Unified physics, Vikas, Telugu Academy
Student activity:	Quiz
Planned after teaching:	Discussion on the concepts
Activity planned outside class:	
Any other:	Bridge course

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GOVERNMENT DEGREE COLLEGE: GUNTUR-522001
ANNEXURE-III
MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: DECEMBER

Topic: Central forces
Hours required: 12 hours
Learning objectives: Central forces, Characteristics, Conservative nature, Equation of Motion of a particle under central forces, Kepler's planetary laws, Satellites motion, GPS, Weightlessness and psychological effects of Astronauts.

Previous knowledge to be reminded: Different types of forces
Topic synopsis: Central Forces-Examples
Characteristics of Central forces
Conservative nature of Central forces
Negative gradient of Central forces
Equation of motion of a particle under Central forces
Kepler's laws,
Motion of Satellites,
Idea of GPS

Thrust areas:
Skills to be learnt by students:
Examples/illustrations: General examples
Motion under inverse square law, Newton's law from kepler's laws
Additional inputs:
Teaching methods used: Board, Discussion and PPT
References cited: Unified Physics, Vikas and Telugu Academy
Student activity
Planned after teaching: Queries session
Activity planned outside class: Group Discussion
Any other: Assignment-I

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ANNEXURE-III

MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: JANUARY

Topic:	Relativistic mechanics
Hours required:	12 hours
Learning objectives	Galilean relativity, Frame of Reference, Absolute frames, Michenson-Morely experiment, Postulates, Lorentz Transformations, applications-Length contraction, Time Dilation and variation of mass with velocity, Mass-Energy relation
Previous knowledge to be reminded:	Classical Mechanics Concepts
Topic synopsis:	Galilean relativity, Frame of Reference, and Absolute frames, Michenson-Morely experiment- negative result Postulates of Special theory of relativity Lorentz Transformations-applications, Mass-energy relation,
Thrust areas:	
Skills to be learnt by students:	
Examples/illustrations:	General examples, figures, diagrams
Additional inputs:	Experimental verification of Time dilation
Teaching methods used:	Board
References cited:	Unified physics, Vikas, Telugu Academy
Student activity	
Planned after teaching:	Discussion on topics
Activity planned outside class:	Student seminars
Any other:	Student Projects

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ANNEXURE-III
MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: FEBRUARY

Topic: Undamped, Damped and Forced oscillations
Hours required: 07hours
Learning objectives: Simple harmonic oscillator- differential equation and its physical characteristics, Damped oscillations- differential equation
Forced oscillations- differential equation, Resonance, logarithmic decrement, Relaxation Time and quality Factor.

Previous knowledge to be reminded: Types and Motions and Wave mechanics
Topic synopsis:
Simple harmonic oscillator—differential equation
Physical characteristics of SHM
Damped oscillations- differential equation
Forced oscillations- differential equation
Resonance-Amplitude and Velocity Resonance
Logarithmic decrement, Relaxation Time and quality Factor

Thrust areas:
Skills to be learnt by students:
Examples/illustrations: General examples, figures, diagrams
Additional inputs: Torshional pendulum and Compound Pendulums
Teaching methods used: Board
References cited: Unified Physics, Vikas, Telugu Academy
Student activity
Planned after teaching: Discussion on topics
Activity planned outside class: Assignment -II
Any other:

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ANNEXURE-III
MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: FEBRUARY

Topic:	Ultrasonics
Hours required:	5 hours
Learning objectives	Ultrasonics, properties, production, detection, applications, SONAR
Previous knowledge to be reminded:	Basics on acoustics
Topic synopsis:	Ultrasonics, Properties of ultrasonics Production- Magnetostriction and Piezo electric methods, Detection methods of ultrasonics, Applications SONAR

Thrust areas:

Skills to be learnt by students:	
Examples/illustrations:	General examples, figures, diagrams
Additional inputs:	Infrasonics
Teaching methods used:	Board
References cited:	Unified physics, Vikas, Telugu Academy
Student activity	
Planned after teaching:	discussion on topics
Activity planned outside class:	Remedial Class
Any other:	

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ANNEXURE-III
MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: MARCH

Topic: Vibration of Strings

Hours required: 7 hours

Learning objectives: Transverse wave propagation along a stretched string, general solution, modes of vibration, Overtones, harmonics and Melde's strings

Previous knowledge to be reminded: Types of waves and its characteristics

Topic synopsis:

Transverse wave propagation along a stretched string,
General solution,
Modes of vibration of a stretched string,
Overtones and Harmonics,
Melde's strings

Thrust areas:

Skills to be learnt by students:

Examples/illustrations: General examples, figures, diagrams

Additional inputs:

Teaching methods used: Board

References cited: Unified physics, Vikas, Telugu Academy

Student activity

Planned after teaching: Discussion on topics

Activity planned outside class: Remedial class

Any other:

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ANNEXURE-III

MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: MARCH

Topic:	Coupled oscillations
Hours required:	5 hours
Learning objectives	Coupled oscillations, Two coupled Oscillators, Normal coordinates, Normal modes- N-Coupled Oscillators and its wave equation
Previous knowledge to be reminded:	Different types of oscillations
Topic synopsis:	Coupled oscillations Two coupled Oscillators Normal coordinates Normal modes N-Coupled Oscillators and its wave equation
Thrust areas:	
Skills to be learnt by students:	
Examples/illustrations:	General examples, figures, diagrams
Additional inputs:	Comparison of free & forced oscillations
Teaching methods used:	Board
References cited:	Unified physics, Vikas, Telugu Academy
Student activity	
Planned after teaching:	Discussion on topics
Activity planned outside class:	Study hours
Any other:	

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ANNEXURE-III

MODEL TEACHING PLAN (SYNOPSIS)

Course: B.Sc Subject: Physics Paper: I Month: ~~NOVEMBER~~ MARCH

Topic: Mechanics of Rigid bodies

Hours required: 07 hours

Learning objectives: Rotational kinematics, Equation of motion of a Rigid Body, Angular momentum and Interia Tensor. Euler equations, Procession of a Top, Gyroscope, Procession of atom and nucleus in a magnetic field, Procession of equinoxes

Previous knowledge to be reminded: Different types of forces

Topic synopsis:

Rigid body
Rotational kinematics relations
Equation of motion of a rigid body
Angular momentum and inertia tensor,
Euler equations and its applications,
Procession of Top,
Gyroscope,
Procession of atom and nucleus in a magnetic field,
Procession of equinoxes

Thrust areas:

Skills to be learnt by students: General examples,figures,diagrams

Examples/illustrations: Parallel & Perpendicular axes

Additional inputs: Board

Teaching methods used: Unified physics, Vikas, Telugu Academy

References cited:

Student activity
Planned after teaching: Group discussion session

Activity planned outside class: Quiz

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Government College for Women, Guntur
Department of Computer Science, Lesson Plan 2020-21

Name of the Department : Computer Science	
Name of the Lecturer :G.V.S.Pranayani Devi	
Group / Course : II BSC., Semester III	
Paper : Paas: Application development through Salesforce	
Name of the Topic	Objects, Fields, Records, Apps, Tabs, Profiles, Users, Queues, Public Groups
Hours Required	12
Learning Objectives	To learn the usage and customization of Salesforcecomponents
Previous Knowledge to be reminded	Cloud services, Customer Relationship Management(CRM), database concepts
Topic Synopsis	Objects, Fields and Records are the building blocks of Salesforce.Objects are the database tables in Salesforce where data is stored. Object holds the entire schema (structure) of the data. **Fields:**Objects each contain a unique, defined set of fields. There are minimal set of standard fields–those that are automatically created when an object is created. **Salesforce Apps:**Before you create an object and enter records, you need to set up the skeleton of the app. **Salesforce Tabs:**Tabs are used to access objects (tables) in the Salesforce App. A **user** is anyone who logs in to Salesforce. Users are employees at your company, such as sales reps, managers, and IT specialists, who need access to the company's records. A **profile** is a group/collection of settings and permissions that define what a user can do in Salesforce. **Queues** are groups of users who can own records. **Public group** is a collection of individual users, other groups, individual roles and roles with their subordinates that all have a function in common.

Thrust Areas	Business organization and Administration in Salesforce environment
Skills to be learnt by Students	Organization administration in Salesforce CRM
Examples / Illustrations	Creating Banking related app, Railway system app, and finding its objects, fields, Entry of Records. Creating no of users, and profiles, queues and public groups to assign tasks
Additional Inputs	Knowledge on Project Management and Internal Business Organization (Clients, Projects, Deals, Contracts, Sales, Employees and their roles, Assigning Tasks etc)
Teaching Aids Used	Blackboard& Chalk, LCD Projector
References Cited	1.practical salesforce.com development without code Philip Weinmeister, 2. https://trailhead.salesforce.com/en/content/learn/modules/data_modeling
Student Activity Planned after Teaching	Finding objects for various applications like Banking system, Railway system, College system
Any other Activities	Exam

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Govt. College for Women
Guntur

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Signature of the lecturer

Government College for Women, Guntur
Department of Computer Science, Lesson Plan 2020-21

Name of the Department : Computer Science	
Name of the Lecturer : G.V.S.Pranayani Devi	
Group / Course : II BSC., Semester III	
Paper : Paas: Application development through Salesforce	
Name of the Topic	Salesforce Relationships - Lookup, Master Detail, Many to many, Roll up summary, hierarchical relationship, Self relationship
Hours Required	12
Learning Objectives	To learn the Relationships among Salesforce objects
Previous Knowledge to be reminded	Database concepts, Relationships, Salesforce objects, fileds
Topic Synopsis	A relationship is a bi-directional association between two objects. The platform supports following relationship types **Master-detail Relationship**:Master Detail relationship is a type of relationship which form tight bond between parent object and child object. **Lookup Relationship**:Links two objects together. Lookup relationships are similar to master-detail relationships, except they do not support sharing or roll-up summary fields. **Roll-Up Summary Field**:A roll-up summary field calculates values from related records, such as those in a related list. **Self-Relationship:** In this relationship the object is self-referred. When an object has a lookup with itself, it is a self-relationship. **Hierarchical Relationship :** This type of relationship is a special lookup relationship available only for the user object. **Many to Many Relationship:**In many to many Relationship, one record of one object is linked to multiple records of another object and vice versa.
Thrust Areas	Business organization and Administration in Salesforce environment

Skills to be learnt by Students	Identifying Relations between various data Items to Achieve data consistency
Examples / Illustrations	Creating Banking system app, and look up and master detail Relationships between objects. Creation of Roll up Summary Field in Banking System Creation of Client, Project Objects and establishing many to many Relationship. Creation of Hierarchy(Self) relationship in User Object
Additional Inputs	Primary Key, Foreign Key concepts in Data base management
Teaching Aids Used	Blackboard & Chalk, LCD Projector
References Cited	1. practical salesforce.com development without code Philip Weinmeister, 2. https://trailhead.salesforce.com/en/content/learn/modules/data_modeling
Student Activity Planned after Teaching	Finding Differences between look up and Master Detail Relation ships Finding application for Self Relationship
Any other Activities	Exam

Signature of the Incharge.

Lecturer In-charge
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LESSON PLAN

2021 - 2022

Name of the lecturer : **DR.R. ANURADHA**

Department : **HISTORY AND TOURISM**

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LESSON PLAN

2021- 2022

Department of History and Tourism

Name of The Lecturer : Dr.R.Anuradha

Paper I : Ancient Indian History & Culture

(Indus Valley Civilization to 13th Century)

LESSON PLAN

Name of the lecturer: Dr.R.Anuradha

Name of the department: History and Tourism

Name of the topic: Indus valley civilization

Hours require: 3

Learning objectives: In the world India has the best culture. It was Indus valley civilization they had many sculptures and customs.

Previous knowledge to be remained: world famous cultures should be learned.

Topic synopsis: *In 1875 sir Alexandra cunning hum discovered a seal with the image of bull at Harappa.

- Further excavations conducted at Harappa in the Montgomery district of Punjab in1921 under dayaram sahani at Mohenjodaro in larkhana district of Sind in 1922 under R.d.banarjee under the able guidance of sir john marshall.
- The width of streets varied from 9 feet to 34 feet. They were many houses which were built small as well as big in size. There were plain and devoid of any sculptures. City was elaborated with the drainage system.
- The fortified citadel at Harappa shows there was a well established kingdom according to piggot.
- Agriculture was the chief occupation of Indus people they grew wheat, barley, cotton, palm date, fruits, milk, fish, and flesh.
- Indus people knew the use of gold, silver, copper, tin, lead and bronze but iron was not found in the excavations.
- Men and women both use ornaments they know singing and dancing.
- Indus people worship ammathalli, lord Shiva, pasupathi goddesses.
- Indus valley civilization was disappeared by the aryas of floods or droughts or some natural calamities.

Examples / illustrations: world famous Egypt, Babylonian, china, cultures should be known in there things were also has in the lesson.

Additional inputs: world famous Egypt, Babylonian, china, cultures should be known in there things were also has in the lesson.

Teaching aids used: India map, Indus civilization, cities, vessels, dancing, ornaments, goddesses is to be learned.

References cited: Telugu academy, ancient Indian history by k.krishna rao.

Student activity planned after teaching: Indus valley civilization is compared with today's culture and said by seminars by students.

Activity planned outside the classroom, if any: Indus civilization had ornament, pictures, animals had to be collected.

R. Anu

Signature of the lecturer

LESSON PLAN

NAME OF THE LECTURER: Dr. R. ANURADHA

NAME OF THE DEPARTMENT: HISTORY AND TTM

SEMESTER: I

NAME OF THE TOPIC: Chalukyas of badami and eastern chalukyas of vengi

HOURS REQUIRED : 9

LEARNING OBJECTIVES: How did badami chalukyas conquered and ruled south India how did vengi chalukyas established their kingdom fram badami Chalukyas

PREVIOUS KNOWLEDGE TO BE REMINDED: to remember satavahanas administrations to explain how badami chalukyas came to India

TOPIC SYNOPSIS:

ORIGIN many legendary stories appeared in the literary works regarding their origin

POLITICAL HISTORY OF THE CHALUKYAS OF BADAMI: He was succeeded by his grand son pulakesin I,also kirtivarman who won the victories over the kadambas of banavasi

- **PULAKESINI** defeated the kadambas and destroyed their capital vanvas! UNHAPPY END: the glorious career of pulakesin II ended in a most tragic way, stormed it and probably killed pulakesin II.
- **SUCCESSORS OF PULAKESIN** he was succeeded by his son vikram adithya I
- **FALL OF THE CHALUKYAS** chalukya empire was passed on into the hands of the Rashtrakutas of Deccan
- **RELIGION** the chalukyas were orthodox hindus while Buddhism was practically Disappearing
- **ART AND ARCHITECTURE**: chalukyas were great patrons of art painting of Ajanta and temples of ellora badami etc.
- **CHALUKYAS OF VENGE**

EARLE HISTORY: pulakesin B the western chalukya king conquered vengi about 624 AD he expanded his empire from north to south.

GUNAGA VIJAYADITYA OR VIJAYADITYA II: he was the 13th king of the dynasty ,he made the chalukyas authority supreme in deccan.

SUCCESSORS OF GUNAGA VIJAYADITYA :He was succeeded by a number of kings Bhima I,Bhima II,Ammaraja II ,Etc.

RAJARAJA NARENDRA: He was succeeded by after death of throne of vengi

FALL OF THE VENGI KINGDOM :The vengi kingdom merged with the chola empire in 1076 AD.

CONTRIBUTION OF EASTERN CHALUKYAS TO THE HISTORY AND CULTURE: Under long rule of eastern chalukyas andhra desa enjoyed good government ,economic ,prosperity, and culture glory.

EXAMPLES/ILLUSTRATIONS: Art and architecture.

TEACHING AIDS USED: India map.

REFERENCES CITED: Telugu academy Ancient Indian history.

STUDENT ACTIVITY PLANNED AFTER TEACHING :conducted assignments.

ACTIVITY PLANNED OUTSIDE THE CLASSROOM:

ANY OTHER ACTIVITY

SIGNATURE LECTURER

LESSON PLAN

Name of the lecturer:Dr.R.Anuradha

Name of the department: HISTORY

Semester : I

Name of the topic: KAKATIYAS

Hours required : 15

Learning objectives: To know & recollect the boundaries of Andhra Desa & its history in various times.

Previous knowledge to be Remained: To recollect the previous knowledge of Andhra dynasties and rules.

Topic synopsis : origin and establishment of kakatiyas various rulers of kakatiya dynasty Great rulers among kakatiyas administration, society of kakatiyas economy, trade commerce of kakatiyas promotion of literature , Religious tolerance Patronage of art & Architecture relations with other contemporary rulers/dynasties downfall & decline of the dynasty capture of Andhra by TUGHLAS etc.

Examples/ Illustrations : Warangal & Hanmakonda Forts, Lepakshi temple, kaktiyas welcome arch, Ramappa temple etc.

Additional Inputs: Kakatiyas relations with their counterpart rulers/ dynasties in Andhra

Teaching aids used: paper cuttings, you tube lessons, p.p.ts, video clipping, black board etc.

Refrences cited : Study material, Articles published in News papers, English and telugu text books & movies relating to Kakatiyas .

Student activity planned after teaching: prepared a list of (activities) constructed by KAKATIYAS.

Any other activity: Conducted class room debate on somees for Kakatiyas history re-construction.

R. Anu

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LESSON PLAN

2021- 2022

Department of History and Tourism

Name of The Lecturer : Dr.R.Anuradha

Paper -III :Modern Indian History & Culture(1764 to 1947 AD)

LESSON PLAN

Name of the lecturer: Dr.R.Anuradha

Name of the department: History and Tourism

Name of the topic: Commercialization of Agriculture Impact of Industrial Revolution.

Hours required: 4

Learning objectives: during the British rule how the agriculture developed and how it impact on the industrial revolution explained to the students.

Previous knowledge to be remained: when the Britishers didn't came to Indian how the villages developed by themselves and how the traditional crops are grown been revised.

Topic synopsis: one of the economic consequences of british rule in India was the commercialization of agriculture.

- It implies protection of crops for sale rather than family consumption.
- It was a process by which crops were produced for marketing on a large scale.
- It was started by the British in the beginning of the 19th century and continued till they left India.
- Commercialization of agriculture was a must for an industrializing nation. It feeds and helps its own nation.
- But under the British rule it was aimed at helping British industries and at protecting Britain commercial and trade interests at the cost of Indians own interest.
- Commercializations of agriculture were taken away by the British, middle men and money lenders at the cost of Indian interest.

Examples/illustrations: ancient India what crops were grown agricultural methods handicrafts, handlooms,

Additional inputs: when Britishers didn't came to India handlooms, handicrafts, agricultural methods, village self development will be explained.

Teaching aids used: India map

References cited: Telugu Academy

Student activity planned after teaching: Assignment

Activity planned outside the classroom, if any:

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LESSON PLAN

Name of the lecturer: Dr. R.Anuradha

Name of the department: History and Tourism

Name of the topic: Regulating Character Acts and Spread of Modern Education

Hours required: 5

Learning objectives: During the time of British how the regulated character.

Previous knowledge to be remained: when the Britishers didn't come to India we will explain about the education system in India.

Topic synopsis: the character act of 1813 provided that not less than 1 lakh rupees a year. Should be allotted to promote education in India.

- In 1823, the company appointed a committee of the public instruction to suggest the way that the funds should be utilized.
- According to it funds allotted to education should be spent only for the promotion of english education.
- Lord hardinge stated that in employment preference will be given to the English knowing people.
- There were about 1474 educational; institutions with a capacity of 69,589 students.
- Educational institutions were started in different parts of country between 1835 and 1854.
- Not only by the government but also by the Christian missionaries.

Examples/illustrations: vedas,

Additional inputs: To explain about the present education system in India.

Teaching aids used: India Map

References cited: Telugu Academy

Modern Indian history by Krishna rao

Student activity planned after teaching: asking questions and answers

Activity planned outside the classroom, if any:

Any other activity

R. Anu

Signature of the lecturer

LESSON PLAN

Name of the lecturer: Dr. R. ANURADHA

Name of the department: HISTORY AND TOURISM

Semester: III

Name of the topic: FREEDOM STRUGGLE FROM 1920-1947

Hours required: 15

Learning objectives: to know the freedom movement in the Gandhi period.

Previous knowledge to be remained: to recollect the freedom movement in the extremist period.

Topic synopsis : freedom struggle from 1920-47, Non-Cooperation movement, swaraj party, simon commission, civil disobedience, round table conferences, communal award, 1935 act, quit india movement, cripps proposals etc.

Examples/ Illustrations : freedom movement in extremist period, boycott of simon commission, 2nd world war.

Additional Inputs: quit india movement, cripps proposals, cabinet mission

Teaching aids used: PPT's, YouTube lesions, Published Articles.

References Cited : study materials, journals, reference books.

Student activity planned after teaching: propose to conduct a classroom seminar on a given topic.

R. Anu

Signature of the lecturer

LESSON PLAN

Name of the lecturer: Dr. R. ANURADHA

Name of the department: HISTORY AND TOURISM

Semester: III

Name of the topic: MUSLIM LEAGUE AND COMMUNALISM

Hours required: 15

Learning objectives: to know the genesis and growth of Muslim league activities.

Previous knowledge to be remained: to recollect the causes for the 1857 mutiny.

Topic synopsis : muslim league and growth of communalism, anglo-muslim relations, muslim-hindu relations, partion of India, integration of princely states, sardar vallabhai patel.

Examples/ Illustrations : Muslim league, anglo-Muslim relations, mohmmad ali zinnah.

Additional Inputs: partition on India, integration of princely states.

Teaching aids used: PPT's, YouTube lessons, Publish articles.

References Cited : journals, study materials, reference books.

Student activity planned after teaching: propose to organize group discussion on a given topic.

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R. Anuradha

Signature of the lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : chemistry

Name of the Topic : Determination of Cr^{+6} in $K_2Cr_2O_7$ - Absorption spectroscopy.

Hours required : 1 hr " " Mn^{2+} in $MnSO_4$

" " Fe^{3+} by NH_4CNS

Learning Objectives :

$K_2Cr_2O_7$ in aq. sol'n exist as equilibrium with K_2CrO_4.

$Cr^{+6} + Fe^{2+} + H^+ \longrightarrow Cr^{3+}$ (green) $+ Fe^{3+}$

Mn^{+2} (colourless) dehydrated. $Mn^{2+} \xrightarrow{O.A} Mn^{+7}$ (violet).

$Fe^{3+} + (SCN)^-_n \longrightarrow [Fe(SCN)_n]$

Previous Knowledge to be reminded :

Beer lamberts Law.

Topic Synopsis :

By the application of Beer lambert's law the conc. of unknown sol'n is calculated.

In the estimation of Cr^{6+} in $K_2Cr_2O_7$ by adding $HClO_4$ & Mohr's salt the absorptivity is measured.

In the estimation of Mn^{+2} (colourless) $\xrightarrow[O.A]{HIO_4}$ Mn^{+7} the absorptivity is measured.

In the estimation of Fe^{3+} $\xrightarrow{(SCN)^-_n}$ $\left[Fe(SCN)_n\right]^{3+}$ deep red

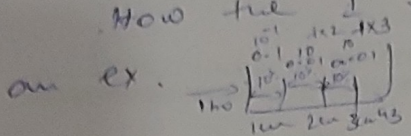
$Fe^{3+} \xrightarrow{H_2O} Fe(OH)_3 \downarrow$ (X) $\xrightarrow{HClO_4} Fe^{3+}$

absorptivity is measured

Examples / illustrations

How the I ↓ exponentially is explained by taking

an ex.



The incident radiation may absorbed, emitted & scattered.

EMR →

(1). Absorption spectroscopy.

(1) quantitative (2) qualitative

(1) UV (2) IR (3) NMR

Additional Inputs

$\log \frac{I_0}{I} = A = abc$

$A = -\log T = \log \frac{1}{T} = \log \frac{I_0}{I}$

Teaching Aids used

Black board, chalk, spectrophotometer.

References cited

1) B.Sc chemistry Telugu academy.

Student Activity planned after teaching

Students tell Beer lambert's law.

Activity planned outside the Class Room, if any

In lab practical – Estimation of Mn in unknown by using spectrophotometer or colorimeter.

Any other activity

—

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : Chemistry

Name of the Topic : Spectroscopy — Beerlamberts law

Hours required : 6 hrs

Learning Objectives : Beer lamberts law, Limitations, spectrophotometers - single beam, double beam, Estimation of Mn, Cr by using Beer's law.

Previous Knowledge to be reminded :

Absorption spectroscopy.

Topic Synopsis : Interaction of EMR with matter is called spectroscopy.

The amount of monochromatic radiation absorbed by a sample is described by B-L. law.

$I_0 \rightarrow [b] \rightarrow I$ → detected by spectrometric detectors.

c

$I_0 - I$ is absorbed light intensity

Bouger & lamber in 1762 observed that when EMR absorbed the power of I ↓ exponentially. 100 [ ] 10% 1cm, 10% of 100, 10^{-1} ; 10% × 2 [ ] 2 cm, 10% of 1, 0.01 = $10^{-1\times2}$; 10% × 3 [ ] 3 cm, 10% of 0.001, 0.001 = $10^{-1\times3}$

Since the fraction of EMR transmitted decays exponentially with path length b, we can write it in exponential form $T = \frac{P}{P_0} = 10^{-kb}$

$$\log T = \log \frac{P}{P_0} = -kb$$ (k → constant)

↳ Transmittance, fraction of radient energy transmitted.

In 1852 Beer & Bernard each stated that a similar law holds for the dependence of T on the conc. c

$T = \frac{P}{P^0} = 10^{-k'c}$ ⇒ combining these two laws we have beer's law which describes the dependence of T on both b & c $T = \frac{P}{P^0} = 10^{-abc}$ a → combined constant k & k'

$\log T = \log \frac{P}{P_0} = -abc$ ⇒ $A = -\log T = \log\frac{1}{T} = \log\frac{P_0}{P}$

$\%T = \frac{P}{P_0} \times 100$ $T = \frac{\%T}{100}$ $A = \log \frac{100}{\%T} = \log 100 - \log \%T = 2 - \log \%T$

$T \times 100$ $\log \%T = 2 - A$ ⇒ $\%T = \text{antilog}(2-A)$

Examples / illustrations

Relevant to UV.

Additional Inputs

UV spectral data gives information of presence & absence of double bonds.

Teaching Aids used

Black board, chalk.

References cited

B.Sc. IV paper Telugu academy (Third year) text book.

Student Activity planned after teaching

→ Answer the questions
→ Range of UV
→ Types of transitions.

Activity planned outside the Class Room, if any

→ Going to Hindu college of pharmacy & in our chemistry lab to get spectra of some double bonded compounds.

Any other activity —

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : Chemistry

Name of the Topic : Spectroscopy. (Guest lecture)

Hours required : 8h

Learning Objectives : UV-visible or Electronic spectroscopy.

-> spectroscopy. -> Types of electronic transitions
-> Types of molecular spectra -> effect of conjugation.
-> electronic energy levels -> chromophore & Auxochrome.
-> (Selection rules)x

Previous Knowledge to be reminded : EMR match with electronic energy
EMR : ? ; what happened when EMR interact with matter

scattering, transmission, reflect, absorb -> ? -> cause: Electronic excitations -> UV 150-400 nm; Translational, Rotational, vibrational } IR; Spin excitations -> NMR } types of molecular spectra.

-> MOT -> σ, σ*, π, π*, n

Topic Synopsis : Interaction of EMR with matter is called spectroscopy. σ, π & n electrons
when UV interact with matter the valence electrons
get excited from lower energy state to higher energy state. The various
energy levels are σ, π, n, π*, σ*. The possible electronic transitions are
σ -> σ*, n -> σ*, π -> π*, n -> π*.

alkanes (C-C) high ν 150 nm. R_3N, ROH 227 nm 184 nm. Ethylene 170-190, Ar, -C=O-, -C=O -> B band, 280 nm, -R band. In conjugated systems -K band.

-> chromophores: ex: In azo dyes Ar-N=N-Ar, In Nitrogroups NO_2.
However the more of groups or conj. cause the shifting of ν to lower side. cause colour are also considered as chromophores.

Hyperchromic ↑, Bathochromic shift (Red shift) ->, Hypsochromic (Blue) <-, Hypochromic (absorption intensity) ↓

conjugation (more stable, less energy) shifts towards lower ν. Ex: Butadiene λ_{max} = 217 nm
octatetraene = 296 nm.
if more λ_{max} moves towards visible & colour
Ex: β-carotene & lycopene - Tomatoes
11 double bonds. neolycopene - 13 double bonds -> 500 nm.

Auxochromes: The groups themselves are not show colour.
The groups that are responsible for increasing colour of chromophores

Ex: benzene -> not colour. NO_2 benzene -> chromophore -> pale yellow, NO_2 / OH benzene -> deep yellow, OH -> auxochrome.
N≡N benzene -> Red, N≡N / OH benzene - deep red.
-> bathochromic shift. <- acidic auxochromes - COOH, -OH, -SO3H; Basic auxochromes - NH_2, -NHR, -N

Examples / illustrations problems -

Additional Inputs colligative properties : calculation of molecular weight of non volatile solute.

Teaching Aids used Black board, chalk.

References cited 1) B.Sc. chemistry Telugu academy.

Student Activity planned after teaching doing problems.

Activity planned outside the Class Room, if any preparing notes & seminars

Any other activity Seminars.

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : chemistry

Name of the Topic : Dilute solutions

Hours required : 10 h

Learning Objectives : colligative properties, Raoults law, RL of V.P, its r/n to m.wt of non volatile solute, Elevation of b.p & depression of f.p. Derivation of r/n b/w m.wt & e.b.p & d.f.p. osmosis, osmotic pressure, exp. determination. Theory of dil. sol'ns – Determination of m.wt of n.v.s from O.P.

Previous Knowledge to be reminded : Abnormal colligative properties – van't Hoff factor. Reverse osmosis & its application.

what are solutions. In 1st year 2nd sem 2-L mix sol'ns have seen. Here solid nonvolatile in liq solutions.

Topic Synopsis :

The properties of dilute solutions which depend on the no. of non volatile solute particles & not on the nature of chemical sps but. are called colligative properties. Real sol'ns become ideal at very dil'ns, are called colligative properties. (the solute bind to solvent molecules & make it colligatus meaning bound together. C.P include 1) Relative lowering of V.P 2) Elevation of b.p 3) Depression of freezing point 4) osmotic pressure.

$P_A x_A + P_B x_B$ — non volatile solute + volatile solvent.

Dalton's law: $P = P_1 + P_2 + \ldots$

$PV = nRT$, $P = \frac{nRT}{V}$; $P = \frac{n_1RT}{V} + \frac{n_2RT}{V} + \ldots$; $\frac{P_1}{P} = \frac{n_1}{n_1+n_2} = x_1$, $P_1 = Px_1$

when all are gases or volatile components

Here with non volatile + volatile: $P = P^\circ_A x_A + P^\circ_B x_B$, solute = 0

$P = P^\circ_A x_A$

$\Delta P = P^\circ_A - P = P^\circ_A - (P^\circ_A x_A) = P^\circ_A (1 - x_A)$, $\frac{\Delta P}{P^\circ_A} = 1 - x_A = x_B$ → Raoult's law

$$\frac{\Delta P}{P^\circ_A} = \frac{n_B}{n_A + n_B} = \frac{n_B}{n_A} = \frac{\frac{w}{m.wt}}{\frac{W}{M}} = \frac{w}{m.wt} \times \frac{M}{W} \Rightarrow m.wt = \frac{P^\circ_A \, w \, M}{\Delta P \cdot W}$$

Experimental determination of E.B.P, D.F.P, R.L.V.P — Ostwald walker method; Landsberg, Cottrell's, Rast; O.P — Battery, Berkeley-Hartley method.

2) E.B.P $T_b - T^\circ_b = K_b \cdot \frac{w}{m.wt} \cdot \frac{1000}{W} \Rightarrow m.wt = \frac{K_b \cdot w \cdot M}{\Delta T_b \cdot W}$

3) D.F.P $T^\circ_f - T_f = K_f \cdot \frac{w}{m.wt} \times \frac{1000}{W} \Rightarrow m.wt = \frac{K_f \cdot w \cdot M}{\Delta T_f \cdot W}$

4) O.P $\pi = CRT$

Abnormal molecular masses – van't Hoff factor

when molecular association ($i < 1$) or dissociation ($i > 1$) takes place results are abnormal – $i = \frac{obs}{theoretical}$

$nX \rightleftharpoons X_n$
$1-\alpha \quad \alpha/n$
total $= 1 - \alpha + \frac{\alpha}{n}$
$i = 1 - \alpha + \frac{\alpha}{n}$

$X \rightleftharpoons P + Q$
$1-\alpha \quad \alpha \quad \alpha$
total $= 1 - \alpha + \alpha + \alpha = 1 + \alpha$
$i = \frac{1+\alpha}{1}$

Examples / illustrations Estimation of Fe^{2+} by $K_2Cr_2O_7$ through potentiometric titration.

Additional Inputs Electrodes.

Teaching Aids used Potentiometer, Glass electrodes, Black board, chalk.

References cited IInd B.Sc Chemistry (Telugu academy)

Student Activity planned after teaching

Demonstrating the experiment & electrodes.

Activity planned outside the Class Room, if any

Assignment.

Any other activity : Explaining potentiometric titration in [illegible] (B.Sc).

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department Chemistry

Name of the Topic : Electrochemistry II

Hours required : 4h

Learning Objectives : SEP, sign convention, Reversible & Irreversible cells, Nernst Equation - Reference electrode, SHE, calomel electrode, Indicator electrode, M-M ion, inert electrode, Determination of EMF, Applications potentiometric titrations.

Previous Knowledge to be reminded :

Meaning of electrochemistry = conversion of electrical energy to chemical energy & chemical energy to electrical energy.

Topic Synopsis :

In this chapter we are going to discuss how chemical energy is converted to electrical energy. when there is potential difference b/n two electrodes current flows from one electrode to other through the external flow of e^-s through the metal. In a redox reaction where flow of e^-s takes place is separated & the flow of e^- from RHC to OHC is carried out through metal wire deflection of galvanometer indicates the amount of current flows from one compartment to other. with reference to Hydrogen e^- & under red'n condition, a cell potential is taken as SRP of that half cell reaction. By using SRP, by connecting two (any) reaction cells the cells RP can be calculated. $E_{cell} = E_R - E_L$ or $E_R - E_O$ E_{oxid} E_{red}

Cathode Reduction, Anode oxid'n takes place. 1M $H^+/H_2/Pt(s)$ 1 atm adj. to metal

Sign convention $Zn/Zn^{2+}//Cu^{2+}/Cu$

Reversible cells → Rechargeble cells, Irreversible - use & through batteries.

By using potential measurements we can calculate the amount of substance, called potentiometric titrations.

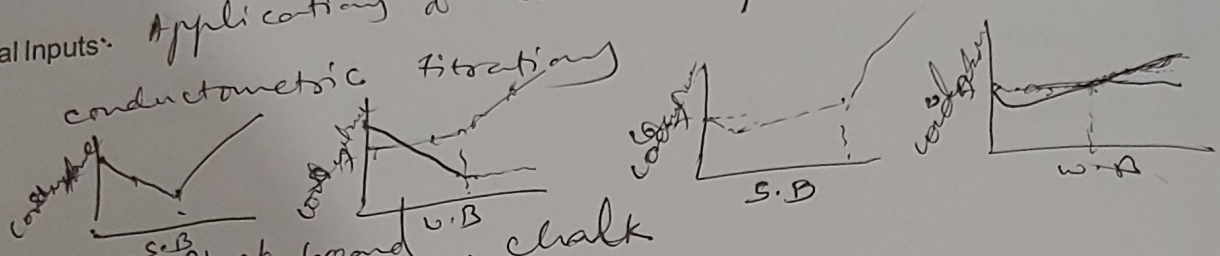
$t_v = \frac{1}{2}-(A+B\sqrt{c})$, Transport no. t_c : $\frac{\text{Amount of current carried by cation}}{\text{total current}}$

Examples / illustrations

t_a : $\frac{\text{Amount of current carried by cation}}{\text{total current in cell}}$,

$t_a + t_c = 1$, By Hittorf method we can measure

Additional Inputs: Applications of conductivity measurements in conductometric titrations



Teaching Aids used Black board, chalk

References cited 1) B.Sc chemistry Telugu academy,

Student Activity planned after teaching Asking questions.
writing notes.

Activity planned outside the Class Room, if any Reading.

Any other activity — Experiment on conductivity measurement

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : chemistry

Name of the Topic : Electrochemistry I

Hours required : 10 h

Learning Objectives : k, λ, variation of λ with dilution. Migration of ions, Kohlrausch's law. Arrhenius theory of electrolyte dissociation & its limitations. Ostwald dilution law, Debye-Huckel-Onsagar's equation for strong electrolytes. Def. of Transport no., Hittorf method. Applications of conductometric measurements — conductometric titrations.

Previous Knowledge to be reminded : conductance, Flow of current in metals & in sol'ns.

Topic Synopsis : conductance in sol'n is due to flow of charge carried by ions. The reciprocal of specific resistivity ρ is called specific conductance.

k. when the electrolyte solution length 1cm & area of cross section is 1 cm^2 i.e 1 cm^3 is called specific conductance. $R \propto \frac{l}{a}$, $R = \rho\frac{l}{a}$, $\rho = R\frac{a}{l}$

λ = conductivity of 1cm^3 electrolytic cell having 1eq. of substance. $C = \frac{1}{R}$

λ ↑ with ↑ of dilution as the ions move freely. $C = \frac{1}{\rho}\cdot\frac{a}{l}$

$C = k\cdot\frac{a}{l}$

$k = C\frac{l}{a}$ — cell constant

Migration of ions : conductance in sol'n is due to movement of ions towards oppositely charged electrodes. Smaller ions move very fastly. conductivity is more as they move very fastly.

Kohlrausch law : the conductivity of a solution is equal to the sum of the current carried by cations & anions.

$\lambda = \lambda_c + \lambda_a$.

Applications : Measuring λ_α of weak electrolyte, α, solubility of sparingly soluble salt, dissociation constant.

Arrhenius theory of electrolyte dissociation : 1) AB dissociate into $A^+ + B^-$ ions. In a sol'n a solute dissociate into ions. 2) on dil'n more ions dissociate so the λ ↑. 3) An eq. is established b/n dissociated & undissociated molecules.

Limitations : Applicable to weak electrolytes only. & it can explain the λ of uni-univalent ions but fails for uni-bi, bi-bi valent ions. It can Ostwald's law

For w.e : $AB \rightleftharpoons A^+ + B^-$
$c(1-\alpha)$ $c\alpha$ $c\alpha$

$K = \frac{c^2\alpha^2}{c(1-\alpha)} = \frac{c\alpha^2}{1-\alpha}$ as α is very small for w.e.

$K_c = c\alpha^2$, $\alpha^2 = \frac{K_c}{c}$, $\alpha = \sqrt{\frac{K_c}{c}}$ so, $\alpha \propto \frac{1}{c}$, $\alpha \propto V$ & $\alpha = \sqrt{K\cdot V}$

Debye-Huckel-Onsagar eq. : 1) In case of strong electrolyte all the ions dissociate completely at all conc. The ↑ on dil. due to free mobility of ions & the λ upon conc. is due to electrophoretic & relaxation eff.

Examples / illustrations The metal ions with d^8 configuration gener[ally] form square planar complexes. Ex. $[Pt(NH_3)_3Cl]^+ + Y^- \longrightarrow [Pt(NH_3)_3$
Pt(II), Pd(II), Ni(II), Au(III), Rh(I), Ir(I)

→ effect of leaving group : $Cl^- > Br^- > I^- > N_3^- > SCN^- > NO_2^- > CN^-$

→ " " other groups : L–Pt(NH₃)(Cl)–X + Y   L may be cis or tran[s]; there is diff.

Additional Inputs →

entering group effect : The ↑ if nucleophilicity ↑.

effect of solvent . rate ↑ if co-ordinating ability ↑. $ROH < H_2O \approx CH_3N$
" " " of C_6H_6, CCl_4, is less. rate is low if the

electrical charge in SN^1 on the complex.   Trans effect applications →

Teaching Aids used →

pdf, laptop.

References cited

II B.Sc chemistry - Telugu academy - Hyderabad.

Student Activity planned after teaching

Assaignment, seminar on Trans effect.

Activity planned outside the Class Room, if any

Assaignment, charts

Any other activity ——

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha **Name of the Department** chemistry

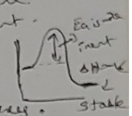
Name of the Topic : VI Sem Paper-I 1st unit - 1st chapter - Reactivity of metal complexes

Hours required : 4 h

Learning Objectives : → Labile and inert complexes
→ Ligand substitution reac'ns - S_N1 & S_N2
→ substitution reactions of square planar complexes -
Trans effect & applications of trans effect.

Previous Knowledge to be reminded : what are complex compounds. coordination no. in complexes & their shapes.

Topic Synopsis : The terms labile & inert are related to kinetics of the reactions in co. ordination complexes. If the rate of substitution is fast - labile, slow - inert. where as stable & unstable related to thermodynamic terms.



Ex: Taube proposed that at 25°C, in 0.1M sol'n, if subst'n takes place in less than one minute, the complexes are designated as labile complexes.

$ML_n \overset{K}{\rightleftharpoons} M^{n+} + nL^-$ if K is large unstable & K is small stable.

According to Roubeld → Thermodynamically stable complex may be labile or inert complex. Eg: $[Fe(H_2O)_6]^{3+}$, $Cr[H_2O)_6]^{3+}$ have M-L bond strength same. Their stabilities also same. But labile, inert. $[Co(NH_3)_6]^{3+}$ unstable & inert in acid sol'n for many days. $[Ni(CN)_4]^{2-}$ is stable & inert.

The inert & labile nature depends on 1. e⁻. conf. of central metal ion of the complex, 2. Geometry of the complex 3. Co. no. 4. CFSE of the reactant complex & the activated state complex. 4 coordinated Cu^{2+} are labile & 6 coordinated Rh^{3+} are inert.

$[Ni(CN)_4]^{3-}$, $[Mn(CN)_6]^{3-}$, $[Cr(CN)_6]^{3-}$ → high thermodynamic stability constants.
↓ but labile; inert

S_N1, S_N2 depends on size of metal ion, charge of the ion, the chemical nature of entering & leaving groups.

S_N1 → inert	S_N2 → labile undergo		S_N1	S_N2			
$[ML_nX]+Y \rightarrow [ML_nY]+X$	$[ML_nX]+Y \rightarrow [ML_nY]+X$. ↳ co. no. ↑	size of metal ion +ve charge of the ion ↑	opposite effects	↑ in -ve charge of leaving group	↓	↓	
mechanism: $[ML_nX] \xrightarrow[k_1]{slow} [ML_n]+X$ ↳ co. no. ↓	mechanism: $[ML_nX]+Y \xrightarrow{slow} [ML_nXY]$	.		↑ in the -ve charge	↑	opposite effects	
$[ML_n]+Y \xrightarrow{fast} [ML_nY]$	$[ML_nXY] \xrightarrow{fast} [ML_nY]+X$.	-ve charge of entering group no effect	↑	↑ " " " " of the other groups	↑	,	
rate $= k_1 [ML_nX]$. first order unimolecular reac'n.	Rate $= k_2 [ML_nX][Y]$ second order & bimolecular.	↑ size of entering group - no effect	↓	↑ in the size of the other groups	↑	↓	

Examples / illustrations

Additional Inputs — By using NMR the no. of types of protons in different environments can be calculated.

Teaching Aids used — Black board, chalk.

References cited — IV Sem Telugu academy text book

Student Activity planned after teaching — Practicing the problems.

Activity planned outside the Class Room, if any — → Going to Hindu College of Pharmacy for getting NMR data.

Any other activity —

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : ..... Name of the Department .....

Name of the Topic : PNMR spectroscopy.

Hours required : 2h

Learning Objectives : → Applications of NMR with examples – C_2H_5Br
C_2H_5OH
CH_3CHO
1,1,2-tribromoethane
→ $CH_3COOC_2H_5$
→ o-CH_3 & p-CH_3.

Previous Knowledge to be reminded :
chemical shift.
splitting of neighbouring signal
follows (n+1) rule.
actual $R-CH_3$ 0.9
$\alpha-CH_2$ 1.3
δ

Topic Synopsis :
In CH_3CH_2Br → Two types of protons ← CH_3, CH_2 ∴ two peaks in the spectrum.

In CH_3CH_2OH → 3 types of protons
for O–H → 5.1 δ → singlet
CH_2 → 3.4–4.4 → quartet (1:3:3:1 = J)
CH_3 → 1.3 → triplet (1:2:1 = J)

In CH_3CHO → two types
–C(=O)–H → 9.5 δ (quartet)
CH_3 → 2.2 δ (doublet)

In $BrCH_2CH_2Br$ → 2 types
CH_2 is more deshielded → 5.8 (δ) triplet
CH_2Br → 4.0 δ → doublet.

In $CH_3COOC_2H_5$
$CH_3COOCH_2CH_3$
2.1 (S) 4.2 (Q) 1.21 (T)

In $C_6H_5CH_3$
C_6H_5 – 6–8.5 δ (S)
CH_3 → 2.3 (S)

In o-CH_3 (2.48) S
p-CH_3 (7.5) S
(7–7) S

Examples / illustrations bar magnets 2.

CH_3 , CH_3CH_3 , $CH_3CH_2CH_3$, $CH_3CH_2CH_2CH_3$, 

Additional Inputs By using NMR the no. of equal & unequal protons can be known.

Teaching Aids used Black board, chalk.

References cited : Silverstein, IV sem Telugu academy B.Sc chemistry.

Student Activity planned after teaching

Recall Resonance
chemical shift
no. of H signals.

Activity planned outside the Class Room, if any

Reading. Getting data of NMR for  at Hindu college.

Any other activity ——

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department Chemistry

Name of the Topic : PNMR spectroscopy

Hours required : 6h

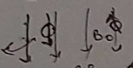
Learning Objectives :
- → Principle of NMR.
- → Equivalent & non equivalent protons.
- → Position of signals.
- → chemical shift, NMR splitting of signal – spin-spin coupling
- → coupling constants

Previous Knowledge to be reminded :

what is spectroscopy.

Topic Synopsis : when a substance is kept under the magnetic field is interacted with radiofrequency EMR nuclei with nuclear spin quantum no. $I \neq 0$ (at. no. – any one, At wt. – both odd) are active i.e undergo resonance. when a NMR active substance is kept in ext. mag. field strength B_0 the nucleus with $I \neq 0$ is either aligned or aligned in opp. dir. to m.f. Rf from lower energy to higher energy (α to β state).

$\Delta \nu = \frac{h\gamma}{2\pi} B_0$, γ = gyromagnetic ratio



under Rf → resonance

when shielded less Rf is needed (down field), deshielded more Rf is needed (upfield). $(CH_3)_4Si$ is taken as ref. for NMR. shifting of signals with ref. to TMS is called chemical shift. unit τ, δ or ppm, shift = $\nu_{nuclei} - \nu_{TMS}$

→ The no. of signals = no. of unequal protons.

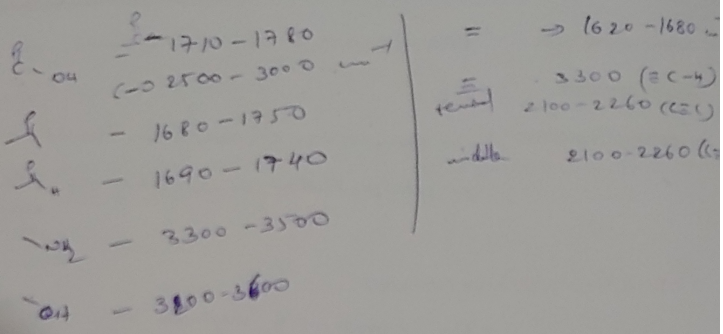
splitting of signals: Due to the environmental influence i.e near by protons $I \neq 0$ the neighbouring protons signals are splitted by n+1 times. where n = no. of H's.

coupling constant : the distance b/n two signals of similar protons is called coupling constant. For doublet J = 1

n	
0	1
1	1 1
2	1 2 1
3	1 3 3 1
4	1 4 6 4 1
5	1 5 10 10 5 1
6	1 6 15 20 15 6 1

Examples / illustrations Alkanes, Aromatic alcohols, carbonyl compounds.

Additional Inputs



Teaching Aids used

References cited Silverstein

Student Activity planned after teaching – Going to Hindu college lab for spectral data collection.

Activity planned outside the Class Room, if any –

Any other activity –

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : Chemistry

Name of the Topic : characteristic absorption bands of various functional g. - IR.

Hours required : 4h.

Learning Objectives : -> characteristic absorption bands of various f.g.

-> Interpretation of spectra of alkanes, aromatic, alcohols, carbonyl & amines with one ex. each.

Previous Knowledge to be reminded :

The vibrations $\bar{\nu}$ depends on m_1 & m_2, f - force constant — related to bond strength.

intermolecular H bonds — broad -> depends on conc

intra " " -> sharp -> " " " X.

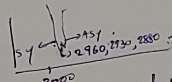
Topic Synopsis :

$\equiv$ > = > —

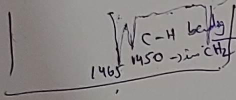
↑ $\bar{\nu}$ ← $\bar{\nu}$ ← $\bar{\nu}$

lesser bond angle - strain — ↑ s character — $\bar{\nu}$ ↑.

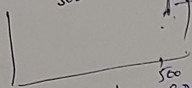
-> Alkanes: C-H stretc; CH- deformations.

① 

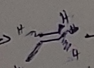
-> C-H (stretch)

② 

-> 772 (rocking)

③ 

-> C-C bending below 500 cm^{-1}

->  -> C-H str - 3100-3000 cm^{-1}, C-H bend -> 986 cm^{-1} -> for trans, for cis - 700 cm^{-1}

(C=C str) - 1625 cm^{-1}, methylene rocking = 720 cm^{-1}.

in conjugation with C_6H_6 -> conjugated double bonds. (C=C stre) without centre of symmetry -> 1650-1600 cm^{-1}.

C=C=C shows -> 2000-1900 cm^{-1}

-> C≡C-H -> 3300

-> Aromatic: C-H (str) -> 3050 - 3000

C=C (str) - 1650-1450

C-H def. -> 900-700.

-> mono sub. -> 710 - 690 cm^{-1} & 770-730 cm^{-1}

meta " -> 710-690 & 800-750

ortho - para -> 770-735 & 840-800 one band each respectively

-> Alcohols: O-H (str) - 3700-3500 cm^{-1} (at dil'n) -> 1° > 2° > 3° due to +I effect O-H weakens

3330 (at conc. ↑)

	1°	2°	3°
C-O (str)	1050	1100	1200
O-H (bend)	1350-1260	1350-1260	1410-1310 cm^{-1}

} 1250-1000 -> shows C-OH

Phenols:

O-H str — 3600 cm^{-1} (dil)
3585-3300 (conc).

C-O str - 1200 cm^{-1}
1410-1300.

Examples / Illustrations

Additional Inputs

Teaching Aids used

Black board, chalk –

References cited

Student Activity planned after teaching

project

Activity planned outside the Class Room, if any

project, visit

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Anusha Name of the Department : Chemistry

Name of the Topic : IR spectroscopy

Hours required : 4h

Learning Objectives : → Different regions of IR radiations.

→ Modes of vibration in diatomic & polyatomic molecule

→ Fingerprint region.

Previous Knowledge to be reminded : EMR.

	γ	x	UV	visible	IR	microwave	Radiowaves
λ in cm	10^{-12} to 10^{-10}	10^{-8}	10^{-5}	10^{-5}	10^{-2}	1	10^{2}	10^{4}

400 nm 700 nm

Topic Synopsis :

IR was discovered by an Astronomer William Herschel while he is observing the heats of visible radiations. The heat of invisible radiations after visible is more than the visible radiations.

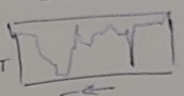
λ 0.8×10^{-4} cm — 2.5×10^{-4} cm — 15×10^{-4} cm — 200×10^{-4} cm

0.8 μ — 2.5 μ — 15 μ — 200 μ

Near IR — IR / mid IR — FAR IR

$\bar{\nu}$ 12500 cm^{-1} — 4000 cm^{-1} — fingerprint region 1500 cm^{-1} to 667 cm^{-1} — 50 cm^{-1}

In IR the spectra is drawn b/w %T & $\bar{\nu}$.



When a substance absorbs IR radiations the molecules undergo vibrations. The vibrations that result in a rhythmical change in the dipole moment of the molecules are IR active.

Fundamental vibrations involve no change in retain of gravity of the molecule

A molecule has many d.o.f. = Total d.o.f of its individual molecules.

Each atom has 3 d.o.f (along x, y, z) necessary to describe its position w.r.t other atoms in the molecule.

A molecule has n atoms ∴ has 3n d.o.f. for non linear molecules, 3 d.o.f of rotation, 3 d.o.f translation

3n d.o.f = Rotational + Translational + vibrational

The remaining 3n − 6 d.o.f = vibrational & fundamental vibrations.

Linear has 3n − 5 (2 Rotation, 3 translation).

Modes of vibration : Sy. St., A-St., → str

Rocking, scissoring, wagging, twisting. → ben

Examples / illustrations

Additional Inputs Estimation of Cu^{+6}, Hg^{+2}, $Fe^{3}C$

Teaching Aids used black board, chalk piece.

References cited II nd yr. B.Sc.

Student Activity planned after teaching
· practical,

Activity planned outside the Class Room, if any
Seminars,

Any other activity Seminars.

Signature of the Lecture

LESSON PLAN

Name of theLecturer : K. Aparna Seethavan Name of the Department : Chemistry.

Name of the Topic : Complex compounds

Hours required : 6hr.

Learning Objectives : Define complex compounds nomenclature, Difference between Complex Compounds & Double salts, Bonding in complex compounds, Werner theory.

Previous knowledge to be reminded : Bonding in molecules.

Topic Synopsis : Complex compounds are made upof a metal & ligand & are prepared by combining two salts. The complex compound has a coordination sphere containing metal ion & ligands. The no: of ligands is called coordination number. In double salt ions are formed when they are dissolved in water. While complexes compounds produce new ions on dissolutions.

IUPAC System has devised rules to name complex compounds basing on which a complex is name. The main points are.

(1) The positive ion is named first.

(2) If the coordination sphere is to be named first ligands are named & then metal. The suffixes di, tri, tetra is used to number the ligands.

(3) If the ligands are chelating then suffixes bis tri's etc are used.

(4) For a cationic metal coordination sphere the metal atom retains its name & for anion the world ate is added at the end.

Examples / Illustrations

Examples for IUPAC names are discussed.

Additional Inputs

Werner theory along with bonding to be discussed.

Teaching Aids used

Diagrams.

References cited

Unified Course in Chemistry, MMT, & Kalyani publication.

Student Activity planned after teaching

Assignment on IUPAC names.

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. Aparna Seetharaman Name of the Department : Chemistry

Name of the Topic : Complex Compounds (Contd)

Hours required : 6 hr.

Learning Objectives : To understand bonding in Complex through various theories.

Previous knowledge to be reminded : Types of bonding and theories involved in bonding like VBT, Lewis theory etc.

Topic Synopsis : Werner theory is a basic theory to explain the bonding of complexes which does not give any insight into bonding. Sidgwick theory mainly stress on electronic transfer and explains the ionic nature of complexes. It highlights on the stability of the complexes by discussing EAN rule which states the total number of electrons around the metal ion. If this is equal to nearest inert gas configuration to complex is stable.

Valence bond theory explained Linus pauling can be used to explain the complex compounds. According to them a covalent bond is formed between metal ion & ligands by overlapping of orbitals. The accomodate the ligand electrons metal atom pair ups the electrons and undergoes hybridisation. creating vacant orbitals. The overlapping of empty orbitals of metal & filled orbitals of ligand results in bonding & 'σ' bond. This theory also gives us the structure of the complexes. This theory has its own limitations.

Examples / Illustrations

many examples for inner and outer orbital complexes along with their structures discussed.

Additional Inputs

—

Teaching Aids used. Diagrams. Ball & Stick models.

References cited Unified Course, MMT, Kalyani publications Telugu academy.

Student Activity planned after teaching

Slip test

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K. Apsana Seelthaven Name of the Department : Chemistry

Name of the Topic : Complex Compounds (Contd.)

Hours required : 6 hrs.

Learning Objectives : To understand CFT & colour & magnetic properties of complexes.

Previous knowledge to be reminded : Shapes of orbitals, Spectral bands, Refraction of light, magnetic materials.

Topic Synopsis : Crystal field theory is based on the ionic nature in complexes. Here the metal atom is assumed to be tiny cations & ligands as tiny anions. There is an electrostatic attraction between them to form complex. When the anions (ie ligands) approach the metal ion then the degeneracy of 'd' orbitals gets disturbed due to splitting of 'd' orbitals to fo energy level diagrams: This splitting of the orbitals is the reason for the colour of the complex and magnetic behaviour of the complex.

When the electrons from lower 'd' orbitals are excited to higher orbitals then return to lower orbitals the energy is released in the form of particular wavelength showing colour to the complexes.

Magnetic properties are due to the presence of unpaired electrons in the complex. Complexes can be para magnetic, diamagnetic & ferromagnetic.

Examples / Illustrations — complexes of various colours, and magnetic properties of complexes quoted.

Additional Inputs :- Ligand strengths, low spin & high spin complexes discussed.

Teaching Aids used — Tabular forms, CFT diagrams & orbital diagrams.

References cited — NCERT, Telugu academy, P.L. Soni etc.

Student Activity planned after teaching — Assignment -

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K. Aparna Seethavan Name of the Department : Chemistry

Name of the Topic : Stability of Complexes

Hours required : 3 hrs

Learning Objectives : To understand the stability of complexes & their applications, Job's method

Previous knowledge to be reminded : Law of mass action.

Topic Synopsis : complexes can be said to have two types of stability kinetic stability and thermodynamic stability. The case with which ligands can be replaced by another ligands gives us the measure of stability. Depending upon ease of replacement ligands can be labile or inert. Stability can be

eg kinetic stability gives the measure of speed of reactions like isomerism, racemisation, substitution, thermodynamic stability is extent of the formation of complexes.

complexes have wide range of application In agriculture, fertilizers, medicines, etc. There are many biomolecules in the form of complexes eg heamoglobin of B complex etc

Jobs method is used to determine the composition of a complex. It can be calculated by the formula $\frac{C_L}{C_M} = \frac{x}{1-x}$

Examples / Illustrations

Compared various stability of complexes.
Discussed various application of complexes

Additional Inputs

Application of complexes.

Teaching Aids used

—

References cited

H MT, Telugu academy, kalyani publication etc.

Student Activity planned after teaching

—

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

Sem VI Environmental chemistry

LESSON PLAN

Name of the Lecturer : K. Aparna Sekhar Name of the Department : Chemistry

Name of the Topic : Scope and Importance of Environment.

Hours required : 4hrs.

Learning Objectives : To understand the origin and need of Environmental studies and various streams it is associated with.

Previous Knowledge to be reminded :
Natural resources available, and basic geography concepts.

Topic Synopsis : Environmental chemistry is defined as the science of chemical phenomenon in the environment and can be defined as "the study of the sources, reactions, transport effects & fates of chemical species in water, soil & air".

Importance : with increase of technology advancements to make life easy many new products were invented and and dumped into the environment. This lead to pollution like air pollution, water pollution, soil pollution etc.. This pollution is affecting the biological systems and had lead to a major concern to the society.

Scope : The essence of environmental studies is multidisciplinary. As it effects all fields of life its study involves many basic subjects like biology, chemistry physics maths, engineering, anthropology, litvature, management, economics & philosophy. All these aspects are studies under Environmental studies.

Segments of Environments: The various segments of environment like troposphere, Stractosphere, mesosphere Ionosphere, & thermosphere & Exosphere etc! have to

be understood to understand the effect of environ

Examples / illustrations

Hydrological cycle & oxygen cycle are required to understand how water & O2 which are prime parameters of life are maintained in equilibrium in nature & how they lead to air & water pollut

Additional Inputs

oxygen reactions

Teaching Aids used - Videos and power point presentations.

References cited A. K. De environmental Sciences.

and some movies & short films on envi

Student Activity planned after teaching

Planned to conduct study project on environmental pollutions by grouping students

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K. Aparna Sethuraman Name of the Department : Chemistry

Name of the Topic : Natural resources / renewable & non renewable. & definitions.

Hours required : 5 hrs.

Learning Objectives : To understand various natural resources available & their consumptions by various industries and nature.

Previous knowledge to be reminded : List of renewable & non renewable resources.

Topic Synopsis : The natural resources available on the earth are gift given to human beings for their survival. Man has been using them for his development since ages. They can be categorised as renewable and non renewable resources.

Non Renewable resources : Resources like coal, wood, petroleum, natural gas etc come under this category. They are all sources of fuels for the human activities for cooking, industries & transportation. Excessive use of these resources is leading to their depletion causing acute shortage of fuel resources in coming days. These resources also cause wide spread pollution both in water and air. To reduce these deficiences world is looking for renewable resources which can be sustainable alternatives.

Renewable resources : Resources like solar energy, wind energy, tidal energy, geothermal energy, biofuels, biomass, hydropower etc which can

Examples / Illustrations

harnessed properly to get energy continously
They can be replaced regularly and act as a good/
unpolluted source of fuels in coming future.

Additional Inputs

Detail discussion of solar panels structures &
their functioning was dissussed

Teaching Aids used

Video lessons.

References cited

Unified course in Environmental chemistry
A.K. De. Environmental Chemistry.

Student Activity planned after teaching

—

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K Aparna Seetharam Name of the Department : Chemistry

Name of the Topic : Air pollution. Sources of Air pollution Acid rain,

Hours required : 3hrs.

Learning Objectives :

To understand the causes of air pollutions & its effects on environment.

Previous knowledge to be reminded : Constitution of air, oxygen Cycle etc.

Topic Synopsis : Presence of contaminants in air or substances excess than their normal amounts lead to air pollution example CO_2, NO_2, SO_2 etc. Smoke particles, dust particles, lead, etc..

The causes for air pollution is mainly due to (1) Industrial discharges (2) Auto mobile exhaust (3) burning of organic waste mainly obtained from agriculture (4) fermentation of Domestic waste etc.

Air pollutants can be classified into two types

(1) Primary air pollutants ; These are the substances which cause directly pollution to environment. eg CO_2, CO, CFC's etc.

(2) Secondary air pollutants ; These chemicals react with other chemicals and they become the cause of pollution. eg dust particles, SO_2, NO_2 etc.

Examples / Illustrations

Acid Rain: It is one of the effects of air pollution. When air contain gases like SO_2, NO, NO_2 etc they react with rain water to produce acids like Sulphuric acid, nitric acid etc. which fall to the earth.

Additional Inputs

This rain has adverse effect on vegitation increases acidity of water bodies, causes eye irritation, accelarate rusting of iron damages historical monumants especially marble monumants etc.

Teaching Aids used

Videos after the class as explanation.

References cited

Environmental chemistry by A.K. De.

Student Activity planned after teaching

Slip test on Acid rain.

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K. Aparna Seethavan Name of the Department : Chemistry

Name of the Topic : Air pollution. Smog, green house effect ozone depletion.

Hours required : 3 hrs.

Learning Objectives :

~~Constitution of air~~

Various segments of atmosphere.

Previous knowledge to be reminded :

Constitution of air

Topic Synopsis :- Smog : It is a mixture of smoke and dust.. Major air pollution deaths occured due to the presence of this pollution. Here the dust & smoke combines with organic pollutions and are converted to PANs in presence of oxides of nitrogen as catalysts. These PANs create respiratory problems & eye irritation. leading death of many people in London. Recent Delhi pollution can also be explained due to this Smog pollution.

Green house effect :- The CO_2 and gases like CFCs, CH_4 & N_2O which are called green house gases trap IR radiations from the sun and keep the earth's atmosphere warm. But if this is called green house effect in excess amount they absorb lot of heat from the sun and traps this heat in the atmosphere this will lead to heating of the earth atmosphere leading increase in day temperature which inturn will lead to melting of ice caps and raising sea levels & flooding of low lying lands.

Examples / Illustrations Ozone depletion:- Ozone is an important chemical in stratosphere formed by combination of oxygen molecules. It forms a layer in stratosphere and protects the harmful U.V radiations reaching the earth by absorbing them. But due to excessive use of CFC's by man, these chemicals reached to the stratosphere react with ozone molecules to form O_2. Thus a hole is formed in the ozone layer there by allowing the U.V rays reach the earth easily. The effects of Ozone hole are damage to vegetation, skin cancer and threat to human existance.

Additional Inputs

Teaching Aids used

References cited Environmental chemistry A. K. De.

Student Activity planned after teaching

Slip test

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K. Aparna Seethavan Name of the Department : Chemistry

Name of the Topic : Air pollution: Bhopal gas tragedy & prevention of Air pollution

Hours required : 3 hr.

Learning Objectives : To understand the effects of air pollution.

Previous knowledge to be reminded :

Topic Synopsis : Bhopal gas tragedy: On 3rd Dec 1984 in the state of Madhya Pradesh, in Bhopal in Union Carbide factory a major accident occured. This factory manufacture Carbyl a fertilizer using Methyl Isocyanide as raw material. This methyl Isocyanide being a poisonous gas has to kept at low temprature in the atmosphere of N_2 as coolent. The factory has poor maintainance of equipment and the refrigeration apprarus went out of order since 3 months and was not repaired for day. At midnight on the accident day worker noticed gas leak at MIC plant and tried all methods to stop it. But as MIC is very reactive compound the pressure soon built up and the gas rush out of the Cement Slabs kept on the top and was drifted towards the sleeping town. Thousands of people were killed and thousands were affected. This is considered as one of the major tragedies of the world.

Prevention of Air pollution:- Air pollution can be prevented by ① Reducing the burning of fossil fuels.

Examples / Illustrations

Reducing the burning of agri cultural waste
Reducing the number of automobiles, Arranging filters in industries, adopting green practices etc.

Additional Inputs

Discussed in detail the procedure occurring at Bhopal gas tragedy.

Teaching Aids used

vedio on Air pollution & Bhopal gas tragedy

References cited

—

Student Activity planned after teaching

Skip test

Activity planned outside the Class Room, if any

Any other activity

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : K. SUBBALAKSHMI Name of the Department COMMERCE

Semister : I Class : I year Programme / Course B.com

Name of the Topic : UNIT-I INTRODUCTION

Hours required : 15

Learning Objectives : Need for Accounting, Definition and objectives.
Accounting concepts and conventions.
Classification of Accounts and its Rules —
Book keeping and Accounting — Journal Entries.

Previous Knowledge to be reminded :
Earlier in the Intermediate all above contents were studied by the students hence, ~~xxxx~~ Now, in I Semesters all the contents reminded

Topic Synopsis : Accounting begins where Bookkeeping ends.
Accounting means the compilation of Accounts in such away That in in a position to know the State of affairs of the ~~affairs~~ business.
Definition: "Accounting is a means of measuring and reporting the results of economic activities" — Smith and Ashburn.

Book keeping and Accounting; The object of book-keeping is to prepare original books of Accounts. where — Accounting ~~the~~ main object of accounting is to record anglyse and interpret the business transactions.

Thrust Areas
Accounting concepts and Conventions —
Assets = Liabilities + capital
Double Entry System — There are two systems of recording the business transactions. They are — (1) Double Entry System (2) Single Entry

Skills tobe learnt by the Student Systems.
Classification of Accounts:

Accounts
- Personal Accounts
- Impersonal Accounts
  - Real Accounts
  - Nominal Accounts

1. Debit the receiver Credit the giver
2. Debit what comes in Credit what goes out
3. Debit all Expenses & loss Credit all incomes & gains.

Examples and illustrations By asking question to know about importance of final Accounts and financial accounting.

Additional Inputs By giving Examples to know about the final accounts

Teaching Aids used Black board & Chalk

References cited Jai Bharathi publishers, Kalyani publishers
SM pandey.
Himalaya publication - financial Accounting - I

Student Activity planned after teaching : Conducted discussions
Asked questions
Doubts clarification

Activity planned outside the Class Room Collection of data from Google / LMS etc

ICT / LMS Tools / Blogs/ Websites use CCE LMS.

Any other activity - Conduct Slip Test, Given Assignment.

Signature of the Lecturer
(K-SUBBA RATHINAMMA)

LESSON PLAN

Name of the Lecturer : K. SUBBA RATHNAMMA **Name of the Department** COMMERCE

Semister : 1 **Class :** 1 **Programme / Course** B.Com

Name of the Topic : UNIT-5 FINAL ACCOUNTS

Hours required : 15

Learning Objectives : Features of final Accounts and objectives.
⇒ Trading Account.
⇒ profit and Loss Account.
⇒ Balance Sheet.

Previous Knowledge to be reminded :
Capital Expenditure, Revenue Expenditure and Deffered Revenue Expendi
Differences between Capital Receipts and Revenue Receipts and provisions and Reserves.

Topic Synopsis : Main Adjustments in final Accounts —

1. outstanding Expenses —
   Expenses A/c Dr
   To Outstanding Expenses.
2. Prepaid Expenses:
   Prepaid Expenses A/c Dr
   To Expenses A/c.
3. Depreciation
   Depreation A/c Dr
   To Assets A/c
4. Accrued Income —
   Accrued Income A/c Dr
   To Income A/c.
5. provision for Bad debts
   profit & Loss A/c Dr
   To Reserve

Thrust Areas

Skills tobe learnt by the Student

Examples and illustrations General Examples

Additional Inputs By giving Examples to know about the final accounts

Teaching Aids used Black board & Chalk

References cited 1, Kalyani publishers — Fundamentals of Accounting — I
2, Jai Bharath publishers — Fundamentals of Accounting.

Student Activity planned after teaching Quiz to be conducted and conducted discussions

Activity planned outside the Class Room

ICT / LMS Tools / Blogs/ Websites ICT, LMS of CCE.

Any other activity Conduct Subject Test & Given Assignment

V.R.

PRINCIPAL
GOVT. COLLEGE FOR WOMEN (A)
GUNTUR.

(K. SUBBARATNAMMA)
Signature of the Lecturer

Govt. College for Women

GUNTUR - 522 001

GOVERMENT COLLEGE FOR WOMEN-GUNTUR

LESSON PLAN

2021 - 2022

Name of the Lecturer : K. LAKSHMI PRAMEELA

Department : Chemistry, 2021-2022.

III BSc, Semester-V, Paper-VI.

September -2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Phaneela Name of the Department: Chemistry

Name of the Topic : Reactivity of Metal Complexes.

Hours required : 04

Learning Objectives : SN^1, SN^2 reactions in ligand substitution reactions, Labile and Inert complexes and examples, Trans effect and its applications, substitution reactions in square planar complexes with examples.

Previous Knowledge to be reminded

Nucleophilic unimolecular, bimolecular reactions SN^1, SN^2, Factors influence the rate of reaction.

Topic Synopsis: Reactivity of metal complexes: Introduction; In metal complexes (~~one ligand is rapidly~~) based on the rate of substitution of one ligand by another ligand the metal complexes are classified into two types. they are ① Labile complexes ② Inert complexes

Labile complexes: In a metal complex one ligand is rapidly replaced by another ligand the complex is known as Labile complex; Ex: $[Cu(H_2O)_4]^{2+} + 4NH_3 \longrightarrow [Cu(NH_3)_4]^{2+} + 4H_2O$

Some important aspects regarding Nucleophilic Substitution reactions: Labile complexes exhibit SN^2 reactions, Co-ordination number of intermediate is increases.

→ Inert complexes exhibit SN^1 reactions the coordination number of intermediate is decreases.

Trans effect: In 1893 werner recognised a theory for a better understanding of the kinetic behaviour of planar complexes. this is called Trans effect.

Trans effect is explained by ① Electro static polarisation theory, ② π-bonding theory.

Examples / illustrations

Labile complexes; Ex; $[Cu(H_2O)_4]^{2+} + 4NH_3 \rightarrow [Cu(NH_3)_4]^{2+} + 4H_2O$

Inert complexes; Ex; $[RhCl_6]^{3-} + 4NH_3 \rightarrow RhCl_2(NH_3)_4 + 4H_2O$

Additional Inputs

SN^1 SN^2 substitution reactions and Examples.

Trans-effect Applications.

Teaching Aids used

Green board & chalk

References cited

1. Concise coordination chemistry by Gopalan and Ramalingam
2. Coordination chemistry by Basalo and Johnson.

Student Activity planned after teaching

doubts clarifications, Question And Answers.

Activity planned outside the class Room, if any

Explain Inert and Labile complexes and Examples.

Any other activity

Assignment

Signature of the Lecturer

October -2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prameela Name of the Department: Chemistry

Name of the Topic : Bio-Inorganic chemistry

Hours required : 04

Learning Objectives : chemical elements present in living organism and functions. structure and functions of haemoglobin, chlorophyl, calcium and magnesium., metal porphyrins Toxicity of ~~silver~~ Lead and Mercury.

Previous Knowledge to be reminded
Essential, Non essential elements, functions of some elements in bio systems, Myoglobin, photosynthesis.

Topic Synopsis: Essential elements; those which elements are actively participated in chemical reactions in metabolism process they are called Essential elements. Ex; Na, K, Ca, Mg, V, Cr, Mn, Fe etc.
Non essential elements; those which elements are not actively participated in chemical reactions in metabolism process they are called non essential elements Ex; H, C, Si, N, O etc.
Haemoglobin; is the red pigment in the red blood cells.
Iron in Fe^{+2} state, is essential constitute of haemoglobin
Functions; In the body haemoglobin combines with oxygen to form unstable oxy haemoglobin. $Hb + O_2 \longrightarrow HbO_2$ oxy haemoglobin
chlorophyl; Molecular formula $C_{55}H_{72}O_5N_4Mg$.
Functions:- chlorophyl $\xrightarrow{light}$ chlorophyl* (Activated chlorophyl)

$$6CO_2 + 6H_2O \xrightarrow[\text{chlorophyl}]{\text{sunlight}} C_6H_{12}O_6 + 6O_2\uparrow$$

Role of Ca in biological system;- calcium and phosphorous are the most building materials.
Functions: calcium in growth, blood coagulation, activation of enzymes, cell permeability.

Examples / illustrations

Essential elements: Na, K, Ca, Mg, V, Cr, Mn, Fe, Co, Cu, Zn etc

Non Essential elements: Ex: Li, Ce, Si, N, O, P, S, Se, F, Cl, Br, I

Additional Inputs

Essential and Non Essential elements Functions and Applications.

Teaching Aids used

Black Board & chalk

References cited

Concise coordination chemistry by Gopalan and Ramalingam.

coordination chemistry by Basolo and Johnson

Student Activity planned after teaching

discussion, doubts clarification

Activity planned outside the class Room, if any

Write the structure and functions of Haemoglobin, Chlorophyll.

Any other activity

Assignment.

Signature of the Lecturer

October 2021

LESSON PLAN

Name of the Lecturer: Lakshmi Ramesh Name of the Department: Chemistry

Name of the Topic: Chemical Kinetics

Hours required: 03

Learning Objectives: Order of reaction, various methods used for determining the order of reaction, first, second order reactions, pseudo molecular reactions, collision theory, Activation energy, threshold energy, rate of reaction and factors

Previous Knowledge to be reminded: First second order reactions, pseudo molecular reactions, collision theory, Effect of temperature on rate of reaction, Order, Molecularity.

Teaching Strategies: **Order of reaction**: the order of reaction is given by the number of atom(s)/ molecules whose concentrations alter during the chemical change.

Eg: $H_2O_2 \longrightarrow H_2O + \frac{1}{2}O_2$, $H_2 + I_2 \longrightarrow 2HI$

Methods of determining the order of a reaction:-

1. Integration or substitution method, 2. Graphical method, 3. Half life Method, 4. Ostwald's isolation method.

First order reaction: $C_{12}H_{22}O_{11} + H_2O \xrightarrow{H^+} C_6H_{12}O_6 + C_6H_{12}O_6$

Glucose Fructose

Acid catalysed hydrolysis of ester is first order.

$CH_3COOC_2H_5 + H_2O \xrightarrow[\text{Ester}]{H^+} CH_3COOH + C_2H_5OH$

Second Order reaction: SN^2 reaction is second order.

$CH_3-Cl + OH^- \longrightarrow CH_3-OH + Cl^-$

Zero order reaction: Photo synthesis in plants is zero order reaction.

$6CO_2 + 6H_2O \xrightarrow[\text{chlorophyll}]{\text{Sunlight}} C_6H_{12}O_6 + 6O_2$.

Molecularity: the number of molecules taking part in the rate determining step of a reaction is known as its molecularity.

Examples / Illustrations

Order of reaction [illegible]

Additional Inputs

Arrhenius equation, Activation energy, threshold energy

Teaching Aids used

Black Board & chalk

References cited

Text book of Physical chemistry by (Atkins) & Glasstone

Advanced Physical chemistry by Gurudeep Raj

Student Activity planned after teaching

Question And Answer, discussion

Activity planned outside the class Room, if any

Write an essay on Methods of determing the order of reaction.

Any other activity

Short notes on Second order reaction, Order and Molecularity differences.

Signature of the Lecturer

October - 2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prameela Name of the Department: Chemistry

Name of the Topic : Chemical Kinetics

Hours required : 08

Learning Objectives : pseudo molecular reactions. Collision theory, Activation energy, Threshold energy, rate of reaction Factors that influence the rate of reaction.

Previous Knowledge to be reminded
Effect of temperature, catalyst on rate of reaction, zero order reaction and examples.

Topic Synopsis: collision Theory; the colloiding molecules must posses minimum energy in order that their collision lead to the formation of the products. It is called threshold energy.
Activation energy; the additional energy required by the molecules to attain threshold energy is called Activation energy
Rate of reaction and Factors: Nature of reactants. concentration Temperature, catalyst.
Effect of temperature on reaction of rates;

Temperature coefficient $= \frac{K_{35^\circ C}}{K_{25^\circ C}} = 2$ to 3

Arhenious gives a equation for relation between rate constant and temperature. $K = Ae^{-Ea/RT}$

Where K = rate constant, R = gas constant,
T = absolute temperature, Ea = Activation energy.

Then we can write the relation in log $\frac{K_2}{K_1} = \frac{Ea}{2.303R}\left[\frac{T_2 - T_1}{T_1 \cdot T_2}\right]$

Examples / illustrations

Pseudo molecular reactions; Examples:

$CH_3COOC_2H_5 + H_2O \xrightarrow{Acid} CH_3COOH + C_2H_5OH$

$C_{12}H_{22}O_{11} + H_2O \xrightarrow{Acid} C_6H_{12}O_6 + C_6H_{12}O_6$

Additional Inputs

Zero order reactions, Pseudo unimolecular reactions and examples.

Teaching Aids used

Green Board & chalk

References cited

Advanced Physical chemistry by Atkins

A Textbook of Physical chemistry by puri and sharma

Student Activity planned after teaching

doubts clarification, question and Answers.

Activity planned outside the class Room, if any

write notes on Rate of reaction and factors effect.

Any other activity

Assignment.

Signature of the Lecturer

October - 2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Praneela Name of the Department: Chemistry

Name of the Topic : Photochemistry

Hours required : 05

Learning Objectives : Stark - Einsteins law of photochemical equivalence, Grothus - Draper law, Quantum yield Jablonski diagrams. Photo sensitization.

Previous Knowledge to be reminded

Laws of photochemistry, photosynthesis and Mechanism, photochemical reactions, Thermal reactions, Fluorescence, Chemiluminiscence.

Topic Synopsis:

Stark - Einsteins law: Each molecule which takes part in a chemical reaction absorbs one Quantum of light which induces the reaction.

$$\therefore E = Nh\nu = \frac{N \cdot h \cdot c}{\lambda}$$

Grothus - Draper law of photochemical activation: when light falls on any substance only the absorbed light should be effective in causing chemical action.

Quantum yield (or) Quantum efficiency:

The quantum yield (ϕ) is given by

$$\phi = \frac{\text{Number of moles reacting in a given time}}{\text{Number of quanta absorbed in the same time.}}$$

Photochemical reactions

Some chemical reactions undergoes by means of light are called Photochemical reactions.

$$H_2 + Cl_2 \xrightarrow{h\nu} 2HCl$$

Thermal reactions.

Some chemical reactions are influence by temp, Concentration of reactants, Presence of catalyst.

$$N_2 + 3H_2 \rightleftharpoons 2NH_3.$$

Examples / illustrations

Photo sensitization reaction Examples:

$$\text{Chlorophyll} \xrightarrow[\text{Sun light}]{h\nu} \text{Chlorophyll}^*, \quad 2O_3 \xrightarrow[h\nu]{Cl_2} 3O_2$$

Additional Inputs

Thermal and photochemical reactions and Examples

Energy Transfer Processes.

Teaching Aids used

Black Board & chalk

References cited

Advanced physical chemistry by Gurudeep Raj

Text book of physical chemistry by S Glasstone

Student Activity planned after teaching

doubts clarification, Question and Answers.

Activity planned outside the class Room, if any

State and explain the photochemistry laws.

Any other activity

Assignment

Signature of the Lecturer

November - 2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prasad   Name of the Department: Chemistry

Name of the Topic : Hetero cyclic compounds

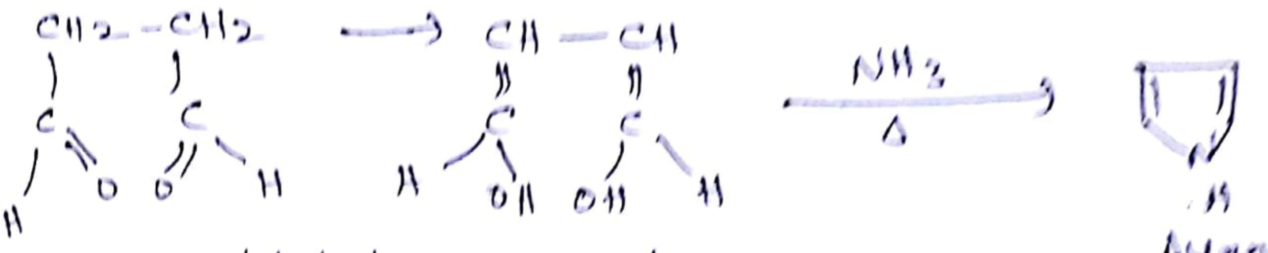
Hours required : 07

Learning Objectives : Types of Hetero cyclic compounds, five, six membered hetero cyclic compounds. Preparation methods pyrrole, Furan, Thiophene.

Previous Knowledge to be reminded

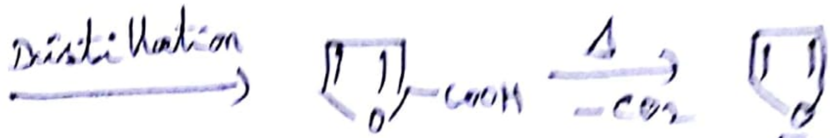
Five & six membered hetero cyclic compounds, examples, Huckel Rule and examples.

Topic Synopsis: Pyrrole Preparation methods; paal Knorr synthesis, Succinaldehyde is heated with ammonia to give pyrrole.



Succinaldehyde Aldoform   Enol form   Pyrrole.

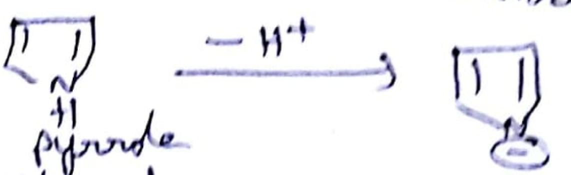
Furan;

$HOOC-(CHOH)_4-COOH$ —Distillation→ 

Mucic acid   Furoic acid   Furan

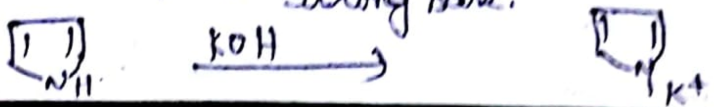
Thiophene; $2HC\equiv CH + H_2S$ —red hot tube→  Thiophene.

Acidic character of Pyrrole; According to Bronsted theory Proton donar is acid



pyrrole   pyrrol anion

Pyrrole gives salt with strong base.

Pyrrole  Potassium salt of pyrrole.

Examples / illustrations

Five membered hay heterocyclic compounds Ex:

Additional Inputs

comparisons with pyrrole, Pyridine, Furan, and Thiophene.

Teaching Aids used

Black Board & chalk

References cited

Organic chemistry by G. Marr Loudan, purdue Univ

A Text book of Physical chemistry by puri and Sharma

Advanced Physical chemistry by Gurudeep Raj

Student Activity planned after teaching

Question and Answers

Activity planned outside the class Room, if any

write the Preparation methods of Pyrrole and Furan and explain the chemical properties of Pyrrole, Furan.

Any other activity

Write and explain the Thiophene Preparation and Properties.

Signature of the Lecturer

November – 2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prameela Name of the Department: Chemistry

Name of the Topic : Hetero cyclic compounds

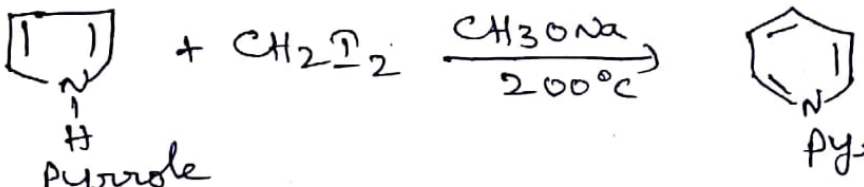
Hours required : 07

Learning Objectives : Electrophilic substitution of pyrrole takes place easily at α (2nd rather than β (3rd) position. Pyridine Preparation methods and properties.

Previous Knowledge to be reminded

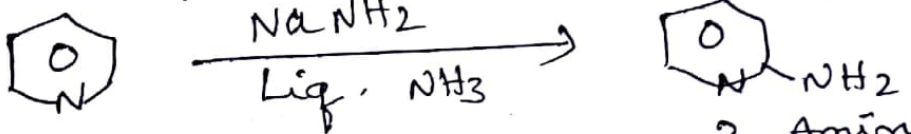
Acidic Nature of Furan. Basic character of pyrrole Nucleophilic substitution reaction in pyridine.

Topic Synopsis: pyridine; Heating of pyrrole and methylene Iodide in Presence of Sodium methoxide at 200°C.



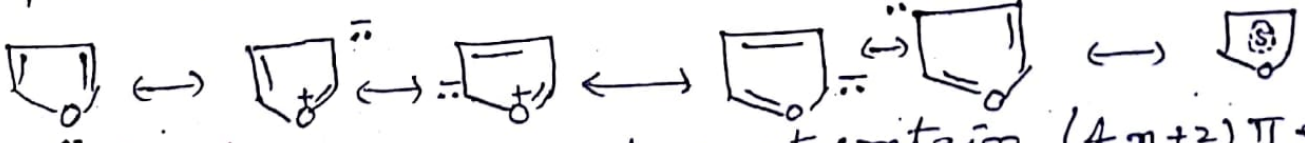
Pyrrole Pyridine

Chichibabin reaction:- When pyridine is heated with sodamide in liq. NH_3, It is nucleophilic substitution reaction.



2. Amino Pyridine.

Acidic Nature of Furan:- Furan  behave like benzene, it is an unsaturated compound. Furan donot participate in addition reaction. The resonance structure can be represented as



Hucket's rule: The compound must contain $(4n+2)\ \pi$ electrons where n (integer) indicates the number of rings.

It n=1 the no: of electrons must be 6.

Examples / Illustrations Six membered heterocyclic compounds:

Additional Inputs

Nucleophilic substitution reaction and Examples.

Teaching Aids used

Black board & chalk

References cited

Organic chemistry by G. Marc Loudan, Purdue univ

A Text book of Organic chemistry by Bahl and Arun Bahl

Student Activity planned after teaching

doubts clarification. discussion

Activity planned outside the class Room, if any

write the Preparation methods of Pyridine and Properties.

Any other activity

Assignment

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prameela Name of the Department: Chemistry

Name of the Topic : Carbohydrates.

Hours required : 08

Learning Objectives : Classification of carbohydrates, Structure of Glucose, Structure of Fructose, Mutarotation, Epimers - Epimerisation.

Previous Knowledge to be reminded

Sugars, non-Sugars, mono saccharides, oligo saccharides, di saccharides. Tests for carbohydrates.

Topic Synopsis: Structure of Glucose, Molecular formula of glucose is $C_6H_{12}O_6$.

→ Glucose is reacted with acetic anhydride given penta acetate derivative.

$C_6H_{12}O_6 \xrightarrow{(CH_3CO)_2O} C_6H_7O(OCOCH_3)_5$

Acetic anhydride

Structure of fructose: Molecular formula $C_6H_{12}O_6$.

$C_6H_{12}O_6 \xrightarrow{Conc\ HNO_3}$ Glycolic acid + Oxalic acid + Tartaric acid + Trihydroxy glutaric acid

Mutarotation:- The specific rotation of an aqueous solution of glucose (which was crystallised from water) gradually falls from $+112°$ to $52.7°$, the specific rotation of an aqueous solution of glucose (which was crystallised from Pyridine) gradually increases from $+19°$ to $52.7°$. The change in specific rotation of either α-D form of glucose until a constant value obtained is called mutarotation.

Summary / Conclusion

Monosaccharides are simple carbohydrates cannot be hydrolysed

Ex Glucose, Fructose, Arabinose.

Additional Inputs

Stereoisomerism of monosaccharides Arabinose

ie D-Glucose, D-mannose.

Teaching Aids used

Black board & chalk

References used

1 Text book of Organic chemistry by I.L Finar vol I

Organic Chemistry by G. Marc London, purdue univ

Student Activity planned after teaching

discussion, Question and Answers

Activity planned outside the class room, if any

Assignment on Structure of Fructose.

Any other activity

write short notes on Mutarotation, Carbohydrates classification.

Signature of the Lecturer

November -2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prameela Name of the Department: Chemistry

Name of the Topic : Carbohydrates

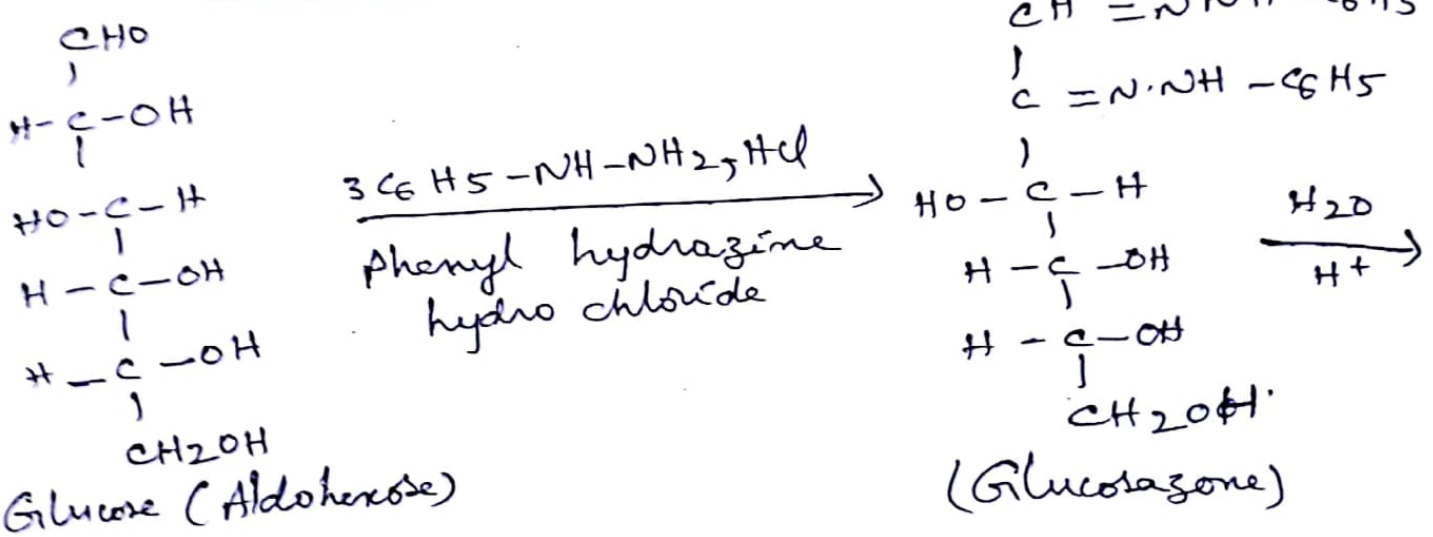
Hours required : 08

Learning Objectives : Kilianí - Fischer synthesis, conversion of Glucose to Arabinose (Ruff's degradation method) Anomers.

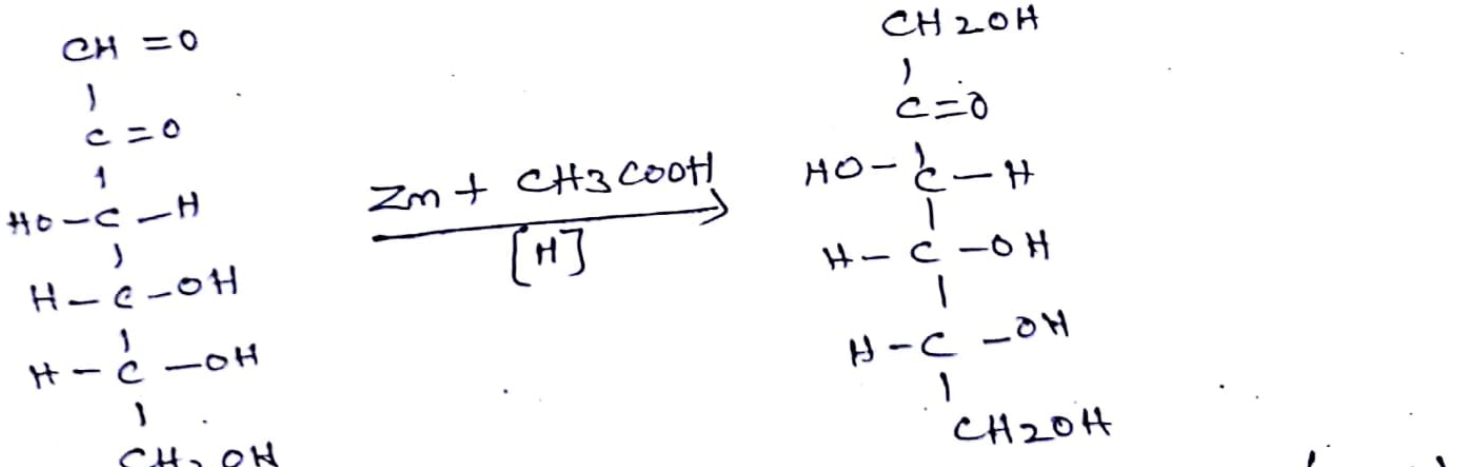
Previous Knowledge to be reminded

conversion of fructose to Glucose, conversion of Glucose into fructose.

Topic Synopsis: Glucose - Glucosazone - fructose : conversion



Glucose (Aldohexose) (Glucosazone)



Fructose (Keto hexose)

Examples / illustrations

Oligosaccharides < Disaccharides Ex: Sucrose, Maltose, Lactose
Trisaccharides Ex: Raffinose

Additional Inputs

Glucose to Fructose and Ketohexose to Aldohexose.

Teaching Aids used

Green Board and chalk

References cited

A Text Book of organic chemistry by Bahl and Arun Bahl
A Text Book of Organic chemistry by I.L. Finar - Vol-I

Student Activity planned after teaching

doubts clarification, Question and Answers

Activity planned outside the class Room, if any

write an essay on structure of Glucose.

Any other activity

Assignment.

Signature of the Lecturer

December - 2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Pramoda Name of the Department: Chemistry

Name of the Topic : Amino Acids and Proteins.

Hours required : 07

Learning Objectives :

classification of Aminoacids, tests for the detection of amino acids, various methods of preparation of α amino acids.

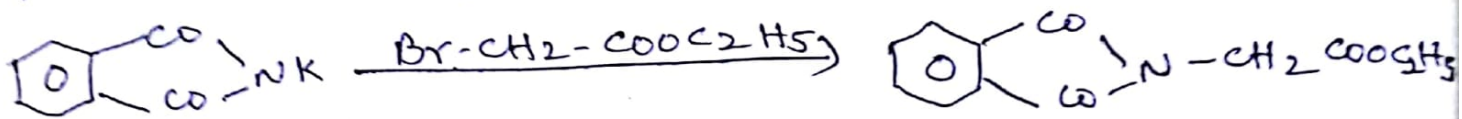
Previous Knowledge to be reminded

Amino acids and Examples, Types of amino acids

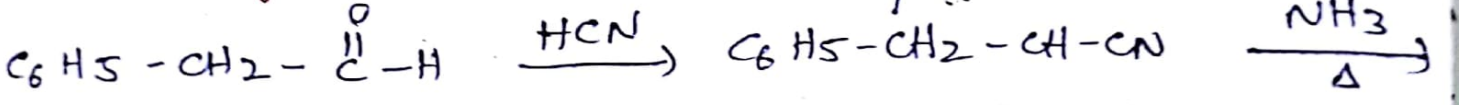
Amino acids Preparation and properties.

Topic Synopsis: Various methods of Preparation of amino acids:-

Gabriel Synthesis: potassium phthalimide is reacted with α-bromo acetic ester to give a compound, which on hydrolysis gives glycine and pthalic acid.

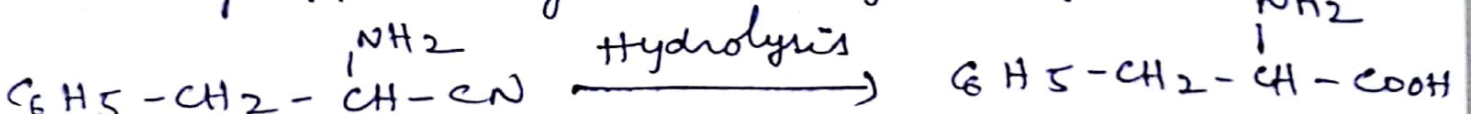


Strecker Synthesis of phenyl alanine;



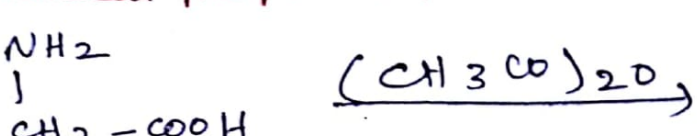
α-Phenyl Acetaldehyde

cyano hydrin



Phenyl alanine.

Chemical properties;



Examples / illustrations

classification based on function of amino acid;
Ex: Valine, Leucine, Isoleucine, Phenyl alanine,
Nonessential amino acids; Ex; Glycine, Alanine, Tyrosin

Additional Inputs

General reactions due to amino acid and carboxyl groups examples.

Teaching Aids used

Green Board & chalk

References cited

Organic chemistry by G. Marc loudan, purdue univ
A Text book organic chemistry by I L Finar Vol-I

Student Activity planned after teaching

discussion, doubts clarification

Activity planned outside the class Room, if any

Write an essay on Preparation methods aminoacids.

Any other activity

Short notes on chemical Properties on amino acids,
classification of Aminoacids.

Signature of the Lecturer

December - 2021

LESSON PLAN

Name of the Lecturer: K. Lakshmi Prameela Name of the Department: Chemistry

Name of the Topic : Amino acids and Proteins

Hours required : 07

Learning Objectives :
Chemical properties of amino acids, Tests for amino acids, Zwitter ion, Iso electric point.

Previous Knowledge to be reminded
Amino acids properties. Tests for amino acids.

Topic Synopsis: Zwitter ion: Aminoacids are having both acidic and basic groups. so it can form as inner salt in the solid state. It gives a double charged ion is called as Zwitter ion (or) ampholyte or dipolar ion.

$$NH_2-CH_2-COOH \rightleftharpoons \overset{+}{N}H_3-CH_2-COO^-$$

Amino acid   Zwitter ion

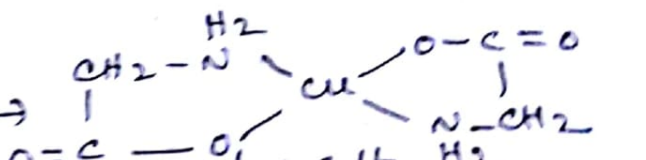
Iso electric point: The addition of a proton to an amino acid converts it into cation while the addition of a base converts it into an anion.

$$R-\underset{\substack{|\\ \overset{\oplus}{N}H_3}}{CH}-COOH \underset{NaOH}{\overset{HCl}{\rightleftharpoons}} R-\underset{\substack{|\\ \overset{\oplus}{N}H_3}}{CH}-COO^- \underset{HCl}{\overset{NaOH}{\rightleftharpoons}} R-\underset{\substack{|\\ NH_2}}{CH}-COO^-$$

Cation   Zwitter ion   Anion

Tests for amino acids: Amino acids is reacted with cupric oxide in water to form deep blue coloured complex.

$$2\,NH_2-CH_2-COOH + Cu^{+2} \longrightarrow$$



Complex salt.

Examples / illustrations

Neutral amino acids Ex Glycine, Alanine

Acidic amino acids : Glutamic Aspartic acid

Basic amino acids : Lycine, Arginine

Additional Inputs

nomenclature of peptides and Proteins Examples.

Teaching Aids used

Green Board & chalk

References cited

A Text book of organic chemistry by I L Finar Vol-I

A Text book of organic chemistry Bahl and Arun Bahl

Student Activity planned after teaching

Question and Answers, doubts clarification

Activity planned outside the class Room, if any

Explain zwitter ion, Iso electric point.

Any other activity

Assignment.

Signature of the Lecturer

semister -II paper -II

LESSON PLAN

Name of theLecturer : K. Lakshmi Krishna Rao Name of the Department : Chemistry

Name of the Topic : Carbon - carbon sigma bonds (ALKANES AND CYCLO ALKANES)

Hours required : 12 h

Learning Objectives :

Methodes of preparation of Alkanes
chemical properties of ALKANES
conformational Analysis of ALKANES
BAYER Strain theory
conformations of cyclohexane and mono substituted cyclo hexane

Previous knowledge to be reminded :

IUPAC Nomenclature and isomerism of ALKANES

Topic Synopsis : The open chain hydro carbons, in which the carbon atoms are linked with one another as well as with hydrogen atoms by sigma bonds are called Alkanes.

Various methodes of preparations:

Wurtz reaction, sabatier - senderen reaction, Wurtz - Fittig reaction, corey - HOUSE Reaction, Kolbeys electrocysis

Alkanes usually undergo substitution reactions such as Free radical substitution reactions viz Halogenation of Alkanes

Halogenation of Alkanes is a Free radical substitution reaction and involves chain initiation, propagation and termination.

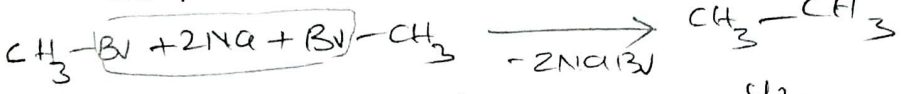
Alkanes exhibit different conformations. It can have three types of conformations like Eclipsed, Staggard and Skew. In case of Butane, anti conformation is most stable.

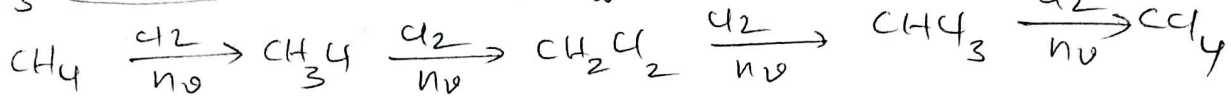
The relative stabilities of cyclo alkanes can be explained by Bayer strain theory

$d = \frac{1}{2}(109^{\circ}28' - \alpha)$ α is bond angle in case of alkane.

Cyclohexane has more stable chair conformation.

Examples / Illustrations





conformations of Ethane

Additional Inputs

conformations of chlorocyclohexane are discussed

Importance of ALKANES

Teaching Aids used

Chalk and Black board, stereo chemical methods

References cited

I.L. Finar vol-I organic chemistry, sixth edition

Unified chemistry vol-I OP Agarwal

Student Activity planned after teaching

Asked to know about different types of alkanes that are commonly used in our daily life

Activity planned outside the Class Room, if any

Asked to read the reference books, names of different types of Hydro Carbons

Any other activity

Assignment was given

K.L. Krishna Rao

Signature of the Lecturer

LESSON

Name of theLecturer : Kolakshmi Krishnarao Name of the Department : Chemistry

Name of the Topic : Carbon - Carbon π bonds (Alkenes and Alkynes)

Hours required : 12

Learning Objectives :

Methodes of preparation of Alkenes
properties of Alkenes
methodes of preparation of Alkynes
Properties of Alkyne

Previous knowledge to be reminded :

IUPAC Nomenclature and isomerism in Alkenes and Alkynes

Topic Synopsis :

Alkenes are the compounds of carbon and Hydrogen having general Formula C_nH_{2n}, containing a (C=C) double bond.

General methodes of preparation of Alkenes :-

a) By dehydration of Alkonds b) By dehydrohalogenation of Alkyl halide saytzeff and hoffmann eliminations

c) From vicinal dihalides d) From Alkynes.

Chemical Properties of Alkenes :-

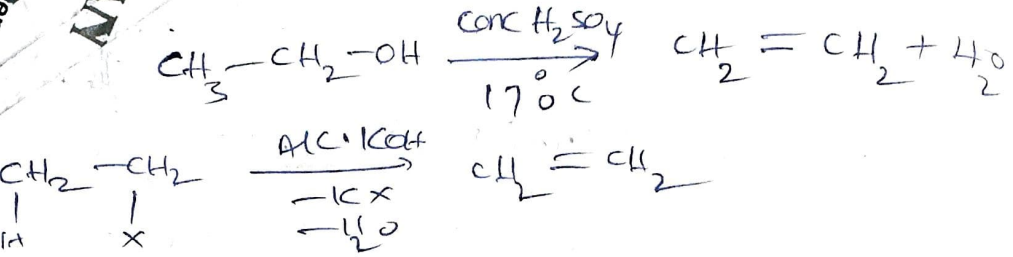
Addition of H_2, Electrophilic addition reaction Markonikoffs Rule, Anti markonikoffs rules mechanism Syn addition and Anti addition, oxymercuration - demercuration, hydroboration - oxidation, Ozonolysis, Hydroxylation

Alkadienes, Diels - Alder reaction 1,2 addition and 1,4 addition

Methodes of preparation of Alkynes - Electrophilic addition, Nucleophilic addition

Acidic nature of Alkyne

Examples/illustrations



Additional Inputs

Importance of Ethylene for ripening fruits, and in the synthesis of polymers discussed. uses of Acetylene in welding process is discussed.

Teaching Aids used

CHALK and BLACK BOARD

References cited

A text book of Organic Chemistry by IL FINAR VOL-I
Unified Course in Chemistry VOL-I, OP Agarwal

Student Activity planned after teaching

Asked to name different substituted alkenes, Alkynes and to learn importance of conjugated alkenes as source for colour of the compound

Activity planned outside the Class Room, if any

Suggest to read different reference books

Any other activity Assignment was given

K.L. Krishna Rao
Signature of the Lecturer

Semister -III, paper -III
Organic chemistry and spectroscopy

LESSON PLAN

Name of the Lecturer : K. Lakshmi Krishna Rao Name of the Department : Chemistry

Name of the Topic : Chemistry of Halogenated hydro carbons

Hours required : 06

Learning Objectives : Alkyl halides, methodes of preparation and properties; Aryl halides preparation and properties; Relative reactivity of alkyl, Allyl, Benzyl vinyl, Aryl halides

Previous knowledge to be reminded :

Types of reactions

Nucleophilic substitution reactions

Topic Synopsis :

preparation of Alkyl halides From Alcohols:-

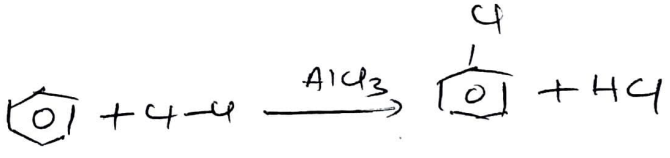
Alcohols react with HCl and anhydrous $ZnCl_2$ & give Alkyl halides

$$R-OH + H-X \xrightarrow{\text{Anhydrous } ZnCl_2} R-X + H_2O$$

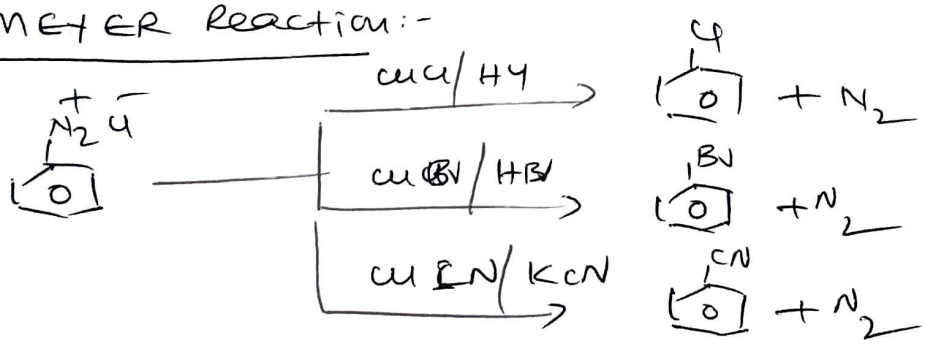
$$C_2H_5-OH + H-Cl \xrightarrow{\text{Anhydrous } ZnCl_2} C_2H_5-Cl + H_2O$$

preparation of Aryl halides:-

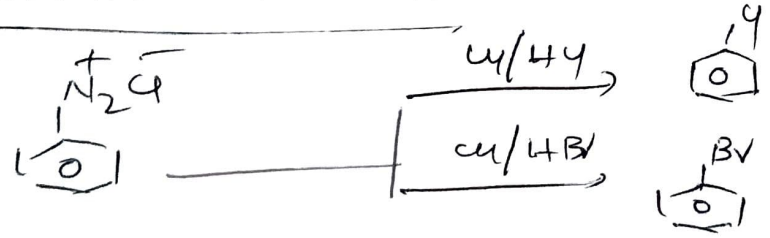
Halogenation of Benzene:-



SANDMEYER Reaction:-



GATTERMANN reaction:-



Examples / Illustrations

Aryl halide ex: 

Vinyl halide : $CH_2=CH-Y$

Allyl halide : $CH_2=CH-CH_2-Y$

Aryl alkyl halide: 

Additional Inputs

classification of carbon-Halogen compounds

Teaching Aids used

Black Board and chalk

References cited

A Text book of organic chemistry by Bahl and Arun bahl

Organic chemistry by Bruice

Student Activity planned after teaching

Doubts clarification

Activity planned outside the Class Room, if any

Write an essay on mechanism, stereochemistry of SN^1 and SN^2 reactions

Any other activity

NOTES on elimination reactions

K.L. Krishna Rao

Signature of the Lecturer

LESSON PLAN

Name of theLecturer : K. Lakshmi Krishna Rao Name of the Department : Chemistry

Name of the Topic : ALCOHOLS AND PHENOLS

Hours required : 06

Learning Objectives : Preparation, properties and relative reactivity of 1^0, 2^0, 3^0 Alcohol

Previous knowledge to be reminded :

Classification of Alcohol based on no. of OH groups

Classification of Alcohol into 1^0, 2^0, 3^0

Topic Synopsis :

methods of preparation of Alcohol:-

1. From hydrolysis of Alkyl halides:-

Alkyl halides on hydrolysis with aq NaOH / aq KOH give Alkohol

$$R-X + Na-OH \xrightarrow{(aq)} NaX + R-OH.$$

2. Bouveault-Blanc reduction:-

Aldehyde and ketone on reduction with Na and ethyl alcohol give Alcohol.

$$CH_3-CHO + 2[H] \xrightarrow{Na-C_2H_5OH} CH_3-CH_2-OH$$

Ethyl Alcohol

$$CH_3-\underset{\underset{O}{\|}}{C}-CH_3 + 2[H] \xrightarrow{} CH_3-\underset{\underset{OH}{|}}{CH}-CH_3$$

3. Hydroboration-oxidation reaction:-

$$CH_2=CH_2 \xrightarrow[H_2O_2,\ OH^-]{BH_3,\ THF} CH_3-CH_2-OH$$

4. From hydrolysis of Esters:- $CH_3-COO-C_2H_5 + H-OH \xrightarrow{H^+} CH_3-COOH + C_2H_5OH$

Examples / Illustrations

$C_{12}H_{22}O_{11} + H_2O \xrightarrow{\text{Invertase}} C_6H_{12}O_6 + C_6H_{12}O_6$

Glucose Fructose

$C_6H_{12}O_6 \xrightarrow{\text{Zymase}} 2C_2H_5OH + 2CO_2$

Additional Inputs

Preparation of Ethyl alcohol from molasis by fermentation process.

Teaching Aids used

Black Board and chalk

References cited

Organic Chemistry by B V Rao

A text book of organic chemistry by Bahl and Arun bahl

Student Activity planned after teaching

doubt clarification.

Activity planned outside the Class Room, if any

Any other activity

How to identify 1°, 2°, and 3° Alcohol.

K. L. Krishna Rao

Signature of the Lecturer

Govt. College for Women

GUNTUR - 522 001

LESSON PLAN

2020-21

Name of the Lecturer : Dr. M. Hanumanta Raju

Department : Zoology

B.Sc I yr - I Sem - Animal Diversity - Nonchordates

LESSON PLAN

Name of the Lecturer : M. Hanumantha Rao Name of the Department : Zoology

Unit - I

Name of the Topic : Brief history, significance of diversity of non-chordates

Hours required :

Learning Objectives : classification of animals

Previous Knowledge to be reminded : previous knowledge at basic level and +I level is to revised and more details to be given

Topic Synopsis : classification of animals.

The animal kingdom is basically divided into three phyla.

protozoa, — acellular animals (protozoans)

parazoa & — cellular and the body is of many cells. (sponges)

Metazoa — more advanced and formed into tissues.

These can be divided into — Radiata - the body into two identical halves in more than one plane (or) axis

(basing on the symmetry of the body) — Bilateria - the body into 2 identical halves only in one plane

Bilateria is again divided into 3 groups basing on coelome or body cavity into

1. pseudocoelomates : The body cavity betwn. ectoderm & endoderm and is not lined by mesoderm.

Ex: Rotifers & Nematodes

2. coelomates : A body cavity which is present out-side the digestive track and is lined by meso-derm externally & internally. (Eucoelomates)

3. Schizo coelomates : The body cavity is formed by spliting of mesoderm layer into 2 layers leaving a space in between them.

Examples / illustrations ⇒ Explanation

contd from previous page

4. Enteric coelomates: The mesoderm is formed into pouches during the development and these pouches develop later in the cavity (or) coelome. Ex: Echinoderms & vertebrates.

Additional Inputs

= Among the invertebrates are divided into Major phyla & Minor phyla

Major phyla — 15

Protozoa — Echinodermata

(9)

Teaching Aids used – Black Board / chalk

References cited

Invertebrate zoology — Dhami & Dhami

Invertebrate Zoology. Young

A.P Academi Text books

Student Activity planned after teaching

To know the Concept of invertebrate phyla, distribution

Activity planned outside the Class Room, if any

To observe the nature and see atleast two the phy. Annelida & Echinodermata

Any other activity

MH Rao

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : ..... Name of the Department .....

Unit - I 1.2

Name of the Topic : protozoa

Hours required :

Learning Objectives : To learn unicellular animals and their body organisation and its body systems

Previous Knowledge to be reminded : To revise the previous knowledge and know more

Topic Synopsis : protozoa

Introduction to protozoa

General characters of protozoa

classification of protozoa upto classes & order with examples.

Elphidium (type study) - protozoa
cl. - Rhizopoda
G- Elphidium
S: crysprum

Habit & habitat

Structure

Nutrition

Life cycle

(a) Asexual life cycle (Schizogony) - microsphere forms undergo asexual reproduction (by multiple fission)

(b) Sexual life cycle (Gamatogony) - by syngamy (or) conjugation.

(megalosphere forms undergo sexual reproduction)

=

Examples / illustrations — Charts, models, Diagrams on board

Additional Inputs —

Teaching Aids used — Black board / chalk

References cited
Invertebrate zoology – Dhami & Dhami
Invertebrate zoology – Jordan & Verma
Invertebrate zoology – Parker & Haswell

Student Activity planned after teaching
To go through the text book on the study material and ask any queries

Activity planned outside the Class Room, if any
To observe the nature and see the invertebrate species & collect any paper cuttings

Any other activity

M L/Rao
Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : ..... Name of the Department .....

Name of the Topic : Unit - I 1.3 porifera

Hours required :

Learning Objectives : To learn poriferans usually multicellular organisms which are packed together loosely

Previous Knowledge to be reminded :
To remind the previous knowledge and to learn knowledge more

Topic Synopsis : porifera - These are the first animals to attain multicellular nature of the body.

The multicellular may be necessary for diffusion of oxygen from the surrounding medium & diffusion of metabolic wastes from the body.

1. History of phy porifera
2. General characters
3. classification
4. Type study of porifera - Sycon

Phy: Porifera
cl: Calcaria
o: Sycon
s: gelatinosum.

(a) Occurrence
(b) Structure
(c) canal system - characteristic feature of sponges (canal system creates water currents which bring food material inside)
(d) Types of canal system - Ascon type
Sycon type &
Leucon type.

Contd. -

Examples / illustrations

(a) different cells in Sycon
b) Skeleton in Sycon
(c) Reproduction in Sycon
asexual & — Budding & Regeneration
Sexual — Sycon is a hermaphrodite
Fertilization of ovum & sperm.

Additional Inputs

—

Teaching Aids used

charts, Slides are used as examples
diagram on black board are used as
examples during the class. Students are
instructed to draw the different canal system
in Sycon.

References cited

Student Activity planned after teaching

To go through the text book (or) notes and draw the
diagram which are necessary to understand the
lesson and to ask questions.

ctivity planned outside the Class Room, if any

To observe the nature and to
observe invertebrate & vertebrate
animals. To collect paper cutting
related to science articles (or)
animal biodiversity

other activity

Signature of the Lecturer

LESSON PLAN

Name of the Lecturer : Dr.G.MALLIKARJUN **Name of the Department : ECONOMICS**
Class: BA V SEM **Month : Nov 2021**

Name of the Topic : DISINVESTMENT, FDI AND SERVICE SECTOR IN INDIA

Hours required : 15

Learning Objectives :

1. Discuss about the disinvestment and Foreign Direct Investment in India
2. To know about the service sector in India
3. To know about reforms in banking and insurance sectors

Previous knowledge to be reminded :

1. By asking questions to know about disinvestment, Foreign Direct Investment
2. By giving examples to know about service sector role and development in India

Topic Synopsis :

Disinvestment in India: Disinvestment in India is a policy of the Government of India, wherein the Government liquidates its assets in the Public sector Enterprises partially or fully. The decision to disinvest is mainly to reduce the fiscal burden and bridge the revenue shortfall of the government. The key engine in achieving growth in India during post-independence was played by Public Sector Enterprises (PSE). By the end of the 1980s, the growth of the PSE's had turned into, as expressed by some commentators, an "end in itself". These factors became an obstacle to the growth of India. Therefore, the poor performance of the PSE's called for reforms to address the weakness in India's development. After the change of Government in 1991, among many economic reforms launched; privatization was one, which focused on the efforts required to be taken to curtail the fiscal burden of the state by reducing public sector borrowings and bring in fiscal austerity.

Foreign Direct Investment: Foreign Direct Investments are commonly made in open economies that have skilled workforce and growth prospect. FDIs not only bring money with them but also skills, technology and knowledge. **FDI in India -** FDI is an important monetary source for India's economic development. Economic liberalisation started in India in the wake of the 1991 crisis and since then, FDI has steadily increased in the country. India, today is a part of top 100-club on Ease of Doing Business (EoDB) and globally ranks number 1 in the greenfield FDI ranking. **FDI inflow -** During the fiscal ended March 2019, India received the highest-ever FDI inflow of $64.37 billion.

Service Sector in India : India's services sector covers a wide variety of activities such as trade, hotel and restaurants, transport, storage and communication, financing, insurance, real estate, business services, community, social and personal services, and services associated with construction. The service sector in India has the highest employment generation among all sectors. So it has the potential for great growth and capability to provide highly productive jobs, thus resulting in revenue generation. In order to overcome the problem of job creation, the Skill India program aims to provide market-relevant skills to about 40 crores of people by 2022. It aims to do this mainly by adopting private sector initiatives in skill development programs, and by providing them with the necessary funding.

Examples / Illustrations :

General examples

Additional Inputs :

Teaching Aids used :

2. Black Board 2. PPTs 3.Charts 4. Tables

References cited :

1. Indian Economy by VK Misira & SK Puri
2. Indian Economy by RC Dutt and KPM Sundaram
3. Indian Economy by Telugu Academy

Student Activity planned after teaching :

1. Conducted discussions
2. Asked Questions
3. Doubts clarifications

Activity planned outside the Class Room, if any :

1. Collect data from internet

Any other activity :

1. Conduct slip test
2. Given Assignment

Signature of the Lecturer

Signature of the Incharge

Signature of the Principal

PRINCIPAL
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GUNTUR.

LESSON PLAN

Name of the Lecturer : Dr.G.MALLIKARJUN **Name of the Department : ECONOMICS**
Class: BA V SEM **Month : October 2021**

Name of the Topic : INDIAN AGRICULTURE

Hours required : 15

Learning Objectives :

1. To know the importance of agriculture in India and
2. To know the agrarian structure and relations in India
3. Discuss the what are the factors determining productivity in agriculture
4. List out the agriculture infrastructure and rural credit sources in India
5. To know about the micro finance and Self Help Groups and crop insurance
6. Explain about the agricultural price policy and food security

Previous knowledge to be reminded :

1. By asking questions to know about importance of agriculture and factors determining productivity, agricultural infrastructure facilities and what are rural credit sources in India.
2. By giving examples to know about the micro finance, self help groups, crop insurance and agricultural price policy.

Topic Synopsis :

Importance of Agriculture in India : India is mainly an agricultural economy. Even though there is rapid industrialisation for the last 75 years still agriculture occupies an important place. The following points explain the importance of agriculture in India. A) Share of agriculture in national income B) Employment C)Food supply D) Agriculture and industrialisation E)Demand for industrial goods E)Development of transport sector F) International Trade G) Government budget.

Factors determining productivity : The following are some of the factors determining productivity -A) Implementation of Land Reforms B) Provision of irrigation facilities C) Development of various institutions D) Infrastructural facilities E) Farm mechanization F) Literacy programmes G) Provision of credit and marketing facilities H) Agricultural research.

Agricultural Infrastructure : The infrastructure facilities are mainly determining productivity in agriculture. The following are the main infrastructure in agriculture- A)Irrigation B)Marketing facilities C)Electricity D)Ware housing facilities E) Transportation

Rural Credit Sources : In India most of the farmers are small and marginal farmers. So they do not have own money. Hence they are go for credit. Rural credit sources are divided into Institutional Credit sources and Non institutional Credit Sources. Commercial banks. Cooperative Banks, Regional Rural Banks, NABARD etc are under comes Institutional Credit. Money Lenders, Traders, Commission agents, relatives, friends and land lords are comes under Non institutional credit sources.

Examples / Illustrations :

General Examples

Additional Inputs :

Land Reforms, Green Revolution

Teaching Aids used :

1. Black Board 2. PPTs 3.Charts 4. Tables

References cited :

1. Indian Economy by VK Misira & SK Puri
2. Indian Economy by RC Dutt and KPM Sundaram
3. Indian Economy by Telugu Academy

Student Activity planned after teaching :

1. Conducted discussions
2. Asked Questions
3. Doubts clarifications

Activity planned outside the Class Room, if any :

1. Collection of data from internet

Any other activity :

1. Conduct slip test
2. Given Assignment

V.R. [illegible]

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GUNTUR.

Signature of the Lecturer

Signature of the Incharge

LESSON PLAN

Name of the Lecturer : Dr.G.MALLIKARJUN
Class: BA V SEM

Name of the Department : ECONOMICS
Month : Oct/Nov 2021

Name of the Topic : INDIAN INDUSTRIAL SECTOR

Hours required : 10

Learning Objectives :

1. To know the structure and growth of Indian industry
2. Discuss about the various industrial polices like 1956 and 1991.
3. List out the problems and prospects of small scale industries in India

Previous knowledge to be reminded :

1. By asking questions to know about industrial sector structure, growth of Indian industry and various industrial polices in India
3. By giving examples to know about the problems and prospects of small scale industries in India.

Topic Synopsis :

Structure and growth of Indian industry: Industrial development has been given top priority in India's economic plans especially from the second five year plan onwards. As a result of conscious and deliberate efforts, industrialisation made rapid strides. The growth of Indian industries is A) The public sector outlays on industries has been increased B)Growth rate is increased C)Diversification of industry D)Attained Self sufficiency E)Export promotion F)Import substitution F)Increased in installed capacity G)Growth of infrastructure H)Increase in the share of the industrial sector in GDP J) increase in Capital output-ration.

1956 Industrial Policy: Industrial Policy Resolution of 1956 (IPR 1956) is a resolution adopted by the Indian parliament in April 1956. ... According to this resolution the objective of the social and economic policy in India was the establishment of a socialistic pattern of society. It provided more powers to the governmental machinery. The Industrial Policy of 1956 adopted the classification of industries into three categories viz., **(i) Schedule A**, which contained 17 Industries. All new units in these industries, such where their establishment in the private sector has ready been approved, would be set up only be the state. **(ii) Schedule B** which contained 12 industries, such industries would be progressively state owned, but private enterprise is expected to supplement the efforts of the state in these fields. **(iii) Schedule C.** All remaining industries fell in this category; the future development of these industries had been left to the initiative and enterprise of the private sector.

1991 Industrial Policy: The New Industrial Policy of 1991 comes at the center of economic reforms that launched during the early 1990s. The Policy has brought comprehensive changes in economic regulation in the country. As part of the policy, the role of public sector has been redefined. A dedicated reform policy for the public sector including the disinvestment programme were launched under the NIP 1991.
The policy has brought changes in the following aspects of industrial regulation:
1. Industrial delicensing 2. Deregulation of the industrial sector 3. Public sector policy (dereservation and reform of PSEs) 4. Abolition of MRTP Act 5. Foreign investment policy and foreign technology policy.

Examples / Illustrations :

General Examples

Additional Inputs :

All Industrial policies

Teaching Aids used :

1. Black Board 2. PPTs 3.Charts 4. Tables

References cited :

1. Indian Economy by VK Misira & SK Puri
2. Indian Economy by RC Dutt and KPM Sundaram
3. Indian Economy by Telugu Academy

Student Activity planned after teaching :

1. Conducted discussions
2. Asked Questions
3. Doubts clarifications

Activity planned outside the Class Room, if any :

1. Collection of data from internet

Any other activity :

1. Conduct slip test
2. Given Assignment

Signature of the Lecturer

Signature of the Incharge

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GOVERMENT COLLEGE FOR WOMEN-GUNTUR

LESSON PLAN

2020 - 2021

Name of the Lecturer : M. Kamala Karuna

Department : chemistry

LESSON PLAN

Name of the Lecturer: M.KAMALA KARUNA Name of the Department: CHEMISTRY

Name of the Topic : Photochemistry III B.Sc V Sem

Hours required : 6hrs.

Learning Objectives : To understand the Interaction of light with matter - chemical and Physical process that occur when light is absorbed.

Previous Knowledge to be reminded Electromagnetic spectrum
Properties of light waves;

Topic Synopsis:
- laws of Photochemistry Grothus & Draper law
Stauch-Einstein law
- Photochemical Process: Primary Process -
Absorption of light by A $\longrightarrow$ A^* excited A.
- Secondary Process: The excited $A^* + A^* \longrightarrow$ Products.
- Quantum yield ϕ = $\frac{\text{Total no of molecules reacted}}{\text{Total no of quanta absorbed}}$
- Reasons for high and low Q. Yield.
- Photo sensitised reactions: Photosynthesis.
- Photophysical Process: Jablonsky Diagram.
Fluorescence and Phosphorescence
Chemi luminiscence.

Examples / illustrations

Photochemical: Photosynthesis.

Fluorescent colours, lights, Phospholescent materials, Sign boards on roads, fire flies, luminiscent fish in sea.

Additional Inputs

Solar cells – working

Teaching Aids used

Blackboard & chalk, Fluorecents and phospholescent materials.

References cited

Essentials of Physical chemistry – Madan Mohan Tuli

OP Agarwal – unified course in chemistry TII

Student Activity planned after teaching

To observe the photophysical Bocesses in daily life.

Activity planned outside the class Room, if any

To observe the difference between Fluolescence and Phosphlescence.

To observe the fluolescent colours in organic reactions with phenols - Liberman Test

Any other activity

V.R.

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Signature of the Lecturer

LESSON PLAN

Name of the Lecturer: KAMALA KARUNA Name of the Department: Chemistry

Name of the Topic : Chemical Kinetics. III B.Sc V Sem.

Hours required : 8 hrs.

Learning Objectives : To understand the Rate of a chemical reaction, methods to calculate Rate const. K. Factors effecting the Rate
Theory behind the Rate of a chemical reaction.

Previous Knowledge to be reminded

Endothermic and Exothermic reactions, chemical equilibrium, Kinetic theory of gases.

Topic Synopsis:

- Rate of the reaction $= \frac{dx}{dt}$
- Rate equation $R = K[\text{reactants}]$
- order of a reaction: Sum of the powers of conc. terms in rate equation. Based on
- this reactions may be First order, second order etc.
- Methods to determine the rate constant
  1. Integration method
  2. Half life Method, Graphical Method

Effect of temperature on reaction rate.
collision theory of Reaction rates
Arrhenious equation $K = A e^{Ea/RT}$

Ea = Activation energy $\propto \frac{1}{\text{Rate}}$ A = collision factor or Pre exponential

Examples / illustrations

End Point of Titration Fast reaction
ripening of Fruits. - chemical reactions at elevated temperatures.

Additional Inputs

Factors effecting the Rate of chemical reaction

Teaching Aids used

Black board + chalk.

References cited

Essentials of Physical chemistry Madan, Malik, Tuli

Student Activity planned after teaching

Numericals on Rate of the reaction, Order.

Activity planned outside the class Room, if any

To observe the effect of temperature in the reaction b/w KMnO4 and oxalic acid.

Any other activity

V.R.

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Signature of the Lecturer

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LESSON PLAN

2020-21

SEMESTER V

Name of the Lecturer: *Dr. N. MANJULA BHARATHI, Lecturer in Physics*

Name of the Topic:Electric field intensity and potential:

Hours required: 05

Learning Objectives:

- To understand Electric Field Intensity & Electric Potential
- To understand the applications of Gauss Law
- To calculate electric field intensity at a point due to different charge carriers

Previous Knowledge to be reminded:

Coulomb's Law

Topic synopsis:

Gauss's law statement and its proof- Electric field intensity due to Uniformly charged sphere and Infinite plane sheet of charge, differential form of Gauss law-Electric Potential- Equipotential surfaces

;

Examples/Illustrations: *Coulomb's Law*

- **Additional Inputs**:
- Electric Potential due to charged spherical shell

Teaching Aids used: *Digital board ,PPT*

Reference cited:

1. *BSc Physics, Vol.3,* Telugu Akademy, Hyderabad.
2. *Electricity and Magnetism,* D.N. Vasudeva. S. Chand & Co.
3. *Electricity, Magnetism with Electronics,* K.K.Tewari, R.Chand& Co.,
4. *Principles of Electronics,* V.K. Mehta, S.Chand& Co.,
5. *Digital Principles and Applications,* A.P. Malvino and D.P.Leach, McGrawHill Edition.

Student activity planned after teaching: *Practise related problems*

Any other activity: *To Practise related problems*

N.M. Bhavale

Signature of the Lecturer

Name of the Topic: Dielectrics

Hours required: 05

Learning Objectives:

- To understandDielectrics
- To differentiate conductors & dielectrics
- To draw the relationship between D,P, E

Previous Knowledge to be reminded: Electric field Intensity

Topic synopsis:

Electric dipole moment and molecular polarizability- Electric displacement D, electric polarization P – relation between D, E and P- Dielectric constant and susceptibility. Gauss law in dielectrics

Examples/Illustrations: Dielectrics

Additional Inputs: Magnetic dipole moment, Types of polarization
Teaching Aids used: *Digital board, ppt*

Reference cited:
1. BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.
3. Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand& Co.,
4. Principles of Electronics, V.K. Mehta, S.Chand& Co.,
5. Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.

Student activity planned after teaching: *Practise the relevant problems*

Any other activity: *To Practise related problems*

N·M·Bharathi
Signature of the Lecturer

Name of the Topic: Electric and magnetic fields

Hours required: 05

Learning Objectives:

- To understand Electric and magnetic fields
- To differentiate Electric and magnetic fields

Previous Knowledge to be reminded:

Definitions of Electric and magnetic fields

Topic synopsis:

Biot-Savart's law, explanation and calculation of B due to long straight wire, a circular current loop– Particle accelerators- cyclotron. Hall effect and its applications

Examples/Illustrations: Electric and magnetic fields

Additional Inputs: B of solenoid using Biot- Savart law

Teaching Aids used: *Digital board, PPT*

Reference cited:

1. BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.
3. Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand& Co.,
4. Principles of Electronics, V.K. Mehta, S.Chand& Co.,
5. Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.

Student activity planned after teaching: *Practise the relevant problems*

Any other activity: *To Practise related problems*

N. M. Bharathi
Signature of the Lecturer

Name of the Topic: Electromagnetic induction

Hours required: 05

Learning Objectives:

- To understand Electromagnetic induction
- To know about applications of Electromagnetic induction

Previous Knowledge to be reminded:

Electricity m& Magnetism definitions

Topic synopsis:

Faraday's law-Lenz's law- Self and mutual inductance, calculation of self inductance of a long solenoid,.Transformer (basic ideas only)

Examples/Illustrations: Step up & Step Down Transformer

Additional Inputs ;Power in ac circuits.Energy stored in magnetic field

Teaching Aids used: *Digital board. PPT*

Reference cited:

1. *BSc Physics, Vol.3, Telugu Akademy, Hyderabad.*
2. *Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.*
3. *Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand& Co.,*
4. *Principles of Electronics, V.K. Mehta, S.Chand& Co.,*
5. *Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.*

Student activity planned after teaching: Differentiate the transformers

Any other activity: *To* apply the Faraday's & Lenz's laws in daily activities

N. H. Bhavathi

Signature of the Lecturer

Name of the Topic:Maxwell's equations

Hours required: 05

Learning Objectives:

- To understand Maxwell's equations
- To know about applications ofMaxwell's equations

Previous Knowledge to be reminded:

Gauss Law in Electrostatics, Gauss law in magnetism, Ampere's Law, Biot-Savart's Law

Topic synopsis:

Idea of displacement current - Maxwell's equations (integral and differential forms) (no derivation), Maxwell's wave equation (with derivation), Transverse nature of electromagnetic waves.Pointing theorem (statement only),

Examples/Illustrations: Transverse Waves

Additional Inputs ;Pointing theorem proof

Teaching Aids used: *Digital board,*

Reference cited:

1. BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.
3. Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand& Co.,
4. Principles of Electronics, V.K. Mehta, S.Chand& Co.,
5. Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.

Student activity planned after teaching: *Problem solving with* Maxwell's equations

Any other activity: Practising differerent problems

N. M. Bharatti

Signature of the Lecturer

Name of the Topic:Basic electronics

Hours required: 08

Learning Objectives:

- To understand Semiconductors
- To know about PN diode, zenerdiode,transisters
- To differentiate PNP & NPN transisters

Previous Knowledge to be reminded:

Basic knowledge about Semiconductors

Topic synopsis:

PN Diode- IV Characteristics, Zener Diode – its IV characteristics -PNP and NPN transistors, CB, CE and CC configurations – Relation between α, β and γ–PNP transistor (CE) characteristics

Examples/Illustrations: PN diode, zenerdiode,transisters

Additional Inputs ;Types of Semiconductors, majority carriers movement

Teaching Aids used: *Digital board*PN diode, zener diode,transisters

Reference cited:

1. BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.
3. Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand& Co.,
4. Principles of Electronics, V.K. Mehta, S.Chand& Co.,
5. Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.

Student activity planned after teaching: *Practise the working of* PN diode, zenerdiode,transisters

Any other activity: *To draw the characteristics of* PN diode, zenerdiode,transisters.

N. M. Bharathi

Signature of the Lecturer

Name of the Topic:Digital electronics

Hours required: 07

Learning Objectives:

- To understand concept Digital Electronics
- To know about different Number Systems
- To know the truth tables of different Logic Gates

Previous Knowledge to be reminded: Basic Number Systems

Topic synopsis:

Number systems - Conversion of binary to decimal system and vice versa.). De Morgan's laws-statement and proof, Basic logic gates, NAND and NOR as universal gates, exclusive- OR gate, Half adder and Full adder,

Examples/Illustrations: Logic gates trainer boards

Additional Inputs ;Laws of Boolean algebra
Binary addition and subtraction (1's and 2's complement methods)

Teaching Aids used: *Digital board,* Logic gates trainer boards

Reference cited:

1. *BSc Physics*, Vol.3, Telugu Akademy, Hyderabad.
2. *Electricity and Magnetism*, D.N. Vasudeva. S. Chand & Co.
3. *Electricity, Magnetism with Electronics*, K.K.Tewari, R.Chand& Co.,
4. *Principles of Electronics*, V.K. Mehta, S.Chand& Co.,
5. *Digital Principles and Applications*, A.P. Malvino and D.P.Leach, McGrawHill Edition.

Student activity planned after teaching: Practise the working of Logic gates trainer boards

Any other activity: To verify the truth tables of Logic gates

N. M. Bharathi
Signature of the Lecturer

V.R. [illegible]
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GOVT. COLLEGE FOR WOMEN
GUNTUR

Government College for Women, Guntur
Department of Computer Science, Lesson Plan for V Unit(2020-21)

Name of the Department : Computer Science	
Name of the Lecturer : N.Rajyalakshmi	
Group / Course : II BSC., Semester III	
Paper : Object oriented programming with java	
Name of the Topic	Applet programming, managing input/output files in java
Hours Required	10
Learning Objectives	local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams, Reading and writing files.
Previous Knowledge to be reminded	Classes and objects and packages,
Topic Synopsis	**APPLETS** • Applets are small Java applications that can be accessed on an Internet server, transported over Internet, and can be automatically installed and run as a part of a web document. • After a user receives an applet, the applet can produce a graphical user interface. It has limited access to resources so that it can run complex computations without introducing the risk of viruses or breaching data integrity. • Any applet in Java is a class that extends the java.applet.Applet class. • An Applet class does not have any main() method. It is viewed using JVM. The JVM can use either a plug-in of the Web browser or a separate runtime environment to run an applet application. • JVM creates an instance of the applet class and invokes init() method to initialize an Applet. **Applet Life Cycle:** Every Java applet inherits a set of default behaviors from the Applet class. As a result, when an applet is loaded, it undergoes a series of changes in its state. The applet states include: 1. Born or initialization state 2. Running state 3. Idle state 4. Dead or destroyed state

	Streams: A stream is a sequence of data. In Java, a stream is composed of bytes. It's called a stream because it is like a stream of water that continues to flow. **Character Stream**: In Java, characters are stored using Unicode conventions Character stream automatically allows us to read/write data character by character. For example FileReader and FileWriter are character streams used to read from source and write to destination. **Byte Stream:** Byte streams process data byte by byte (8 bits). For example FileInputStream is used to read from source and FileOutputStream to write to the destination.
Thrust Areas	File system, memory concepts
Skills to be learnt by Students	programming skills
Examples / Illustrations	Example programs to copy data from one file to file using streams, Example programs to import packages and create packages
Additional Inputs	Problems to practice
Teaching Aids Used	Blackboard & Chalk
References Cited	**Programming with Java: A Primer** by E Balaguruswamy
Student Activity Planned after Teaching	Problem solving, Assignments
Any other Activities	Exam.

Signature of the lecturer

Lecturer in-charge
COMPUTER DEPARTMENT
Govt. College for Women
GUNTUR.

Government College for Women, Guntur

Department of Computer Science, Lesson Plan for III Unit - 2020

Name of the Department : Computer Science	
Name of the Lecturer : N.Rajyalakshmi	
Group / Course : II B.Com., Semester III	
Paper : **Office Automation Tools**	
Name of the Topic	Charts and Macros
Hours Required	15
Learning Objectives	**Charts:** Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis **Macro:** Meaning and advantages of Macros, creation, editing and deletion of macros, Creating a macro, how to run, how to delete a macro.
Previous Knowledge to be reminded	Computer Fundamentals, Excel fundamentals
Topic Synopsis	A Chart is a graphical representation of data. Charts are visually attractive and make it easy for users to see comparisons, patterns, and trends in data, rather than having to analyze several columns of worksheet numbers. EXCEL offers 14 different types of charts each of which shows data in different manner. They are Area, Column, Bar, Line, XY (Scatter), Pie, Doughnut, Bubble, Radar, Surface, Cone, Cylinder, Diamond and Stock some of these chart have sub-types. Sorting: Sorting means, arranging the data in a particular order i.e. either in ascending or in descending order. In EXCEL, we can arrange the data based on a field (column heading) using Data Sort menu option. We can also arrange the data in more than one field, but maximum of three fields. Steps to Sort Data: 1. Select the data that we want to sort or place the cell pointer anywhere in the data source then. 2. Select Data Sort menu option; it will invoke Sort dialog box then 3. Choose field on which data are to be sorted and 4. Choose the sorting order i.e., Ascending or Descending and 5. If necessary, select another field and order.

	6. Click OK to sort the selected data. **Subtotals:** This option is used to automatically summarize data by calculating subtotal and grand total values in a list. To use automatic subtotals, the list must contain labeled columns and the list must be sorted on the columns for which we want subtotals. This method is a simple way to create subtotals based on a field. When we insert automatic subtotals, EXCEL outlines the list by grouping detail rows with each associated subtotal row, and grouping subtotal rows with the grand total row. **Filtering:** Filter is the process of extracting the rows that matches the criteria. In EXCEL, there are two ways to do filter data. AutoFilter. Advanced Filter. **Macros:** Microsoft Excel will record and Playback command macros for repetitive tasks.
Thrust Areas	To communicate data graphically To present the business reports visually
Skills to be learnt by Students	Able to draw the various types of charts in EXcel.
Examples / Illustrations	Represent Student results using charts
Additional Inputs	Demo on Goal Seek - What if Analysis
Teaching Aids Used	Black Board, Chalk, Projector, System.
References Cited	1.Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008) 2.Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007) 3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications
Student Activity Planned after Teaching	Quiz, JAM, Assignments, Group Work to practice it in lab
Any other Activities	Exam

Signature of the lecturer

Lecturer In Charge
COMPUTER DEPARTMENT
Govt. College for Women
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TEACHING DIARY 2021 – september.

Name of the Lecturer K. Nikhitha chowdari Name of the Department / Subject physics

Sl. No.	Date	Day	Class	Period / Time	Medium	Theory / Practical	Topic Covered	Methodology Adopted	No. of Students Attended	Teaching Aids used	Student Activity Conducted	Remarks
	6/9/21	mon day	3BSc 2SEM	10:11	E.M	Theory	Introduction of Electricity, Gauss law	lecture	NO	Blackboard	Done the given problem.	
				11:12			Gauss law writing notes for students (Statement, proof) paper-I					
			1BSc	12:1			Revision for internal exam-1					
			2nd 3 BSc	2:4		practical	logic gates experiment.			operators	Q/A	
	7/9/21	Tue	.	10:11			prepare for 2,5 sem timetable-	HM				
				11:12			Modified timetable for 2,5 sem.					
				12:1			prepairy for next class 3 BSc.					
			1BSc	2:4		practical	3 BSc A(Batch)2 logic gate Experiment.					
	8/9/21	wed	3BSc	10:11			Introduction to digital electronics	L/M		Blackboard	Q/A	
			1BSc	11:12			Revision for Mid exam.					
			1BSc	12:1			Mid exam conducted for 2 sem.					
				2:4		Experim.	logic gate (A_2)					
				4:5			admition calls.					
	9/9/21	~~Thu~~	3BSc	10:11			prepare ment class. 2 sem Reading new book	HM.				Q/A
				11:1			admition list writing					
				2:4:30		practical	DeMorgans laws experiment ~~(Ganesh festival)~~	demonstration.		operators		Q/A
							10, 11, 12 Ganesh ~~festival~~ (Holidays)					

13/9/21	Mon	3BSc	10:11			Basic logic gates.	Lecture		Black board	Done the problem
			11:1			admission calls				
			2:4:30			Half adder, Full adder.				
14/9/21	Tue	3BSc	1 to 2			DeMorgans law theory				
			2 to 5	E/M	practical	Half adder, full adder.				
15/9/21	wed	3BSc	10 to 11			Half adder full adder theory	lecture	H2	Black board	Done the given problem
		MPE	12 to 2			polarisation Introduction,				
15/9/21	wed	3rd batch	2 to 5		practical	Half adder full adder experiment	D/M.		operators	
16/9/21	Thurs		10 to 1			admition calls				
16/9/21	Thurs		2 to 5		practical	Full adder experiment	Demonstration		operators	
17/9/21	Fri		10 to 11		Theory	Exam - DeMorgan's theorem				
			11 to 1			admition calls				
			2 to 4		practical	Full adder experiment.	D/M		operators	Q/A
			4 to 5			SDC - Solar radiation into Heat				
18/9	Sat	MPE	10 to 11			admition calls				
18/9	Sat	MPE	12 to 2			polarisation,	L/M.		Blackboard.	Q/A
18/9			2 to 4			admition's doings in Library				
18/9			4 to 5			SDC exam (solar pond)	.			
20/9.	Mon		11 to 1.			application Done - 2				
20/9	.	3BSc	10 to 12			unit - 4 - Junction Diod				
20/9.		3BSc	2 to 4.		practical.	practical - Junction - Diod.				

Sunday

TEACHING DIARY 2021 september

Name of the Lecturer K. Nikhitha Chowdari Name of the Department / Subject physics

Sl. No.	Date	Day	Class	Period / Time	Medium	Theory / Practical	Topic Covered	Methodology Adopted	No. of Students Attended	Teaching Aids used	Student Activity Conducted	Remarks
	21/9	Tue	3BSc	10to11	EM	Theory	· ~~Unit~~ - 4 Zoretion Diode Stcout	L/M		Blackboard	Q/A	
				1Hto2			· admition registration calls					
				2to5		practical	A1 Batch (2) lab Exam → Logic gates, Full/Half adder			Operators.	Exam.	
	22/9.	Wed	3rd BSc	10to12			Exam, Number System.					
				1Hto2.			online registration → admition					
				2to4		practical	A2 Batch Exam → Half, full adder	Demonstration			Exam.	
	.			4to5			admition Calls					
	23/9.	Thu		10to01			online admition calls.					
				2to4		practical	A1 Batch (2), universal gates.					
	23/9			4to5			admition calls					
	24/9	Fri		10to01		Theory	I-V characteristics of a Diode	L/M		Blackboard	Q/A	
	24/9			1Hto2			preparation for class					
				12to1			Ruby laser, He-Ne laser.					
				2to4		practical	A1 Batch (2) universal gates					
	24/9	Fri	A6,A9	4to5			SDC class					
	25/9	Sat	MPZ	9to01		Theory	Einstein coefficients	L/M		Blackboard	Q/A	
				10to12			preparing class, admition calls.					
				2to4								

			2to4			admition calls.				
		3BSC	12to1			A2 Batch (2) universal gate,				
	Sat	A6A9.	2to5 ~~A6A9~~		Theory	SDC class solar radiation	Demonstration		operators	
27/9						Bharath Bundh (Monday)				
28/9	Tue	3BSC	10to1.		theory	Exam and revision of 3 units				
			2to4		practical	A1 Batch (1) Junction Diod.				
			4to5			experiment, preparing for nextday.				
29/9	wed	3BSC	10to11		Theory	transistor	4M		Blackboard	Q/A.
			2to5			lab checking e/m instruments				
30/9	Thus		10to1			answering to admition calls.				
			2to5			designing photo cell experiment.				
1/10	Fri	3BSC	10to11		theory	CE, CB, CC configurations	4M		Blackboard	Q/A
		MPE	11to12			Exam conducted ~~to~~ HeNe, Ruby lasers				Exam
			2to4			rectify the photocell, e/m experiments				
	Fri	A6,A9	4to5		theory	Solar cookers,	4M.		Blackboard	Q/A
						Gandhi Jayanthi				
4/10	Mon	3BSC	10to11		theory	preparation for Exam (Unit - 4)				Si Exam.
			11to12			preparing for next class				
			12to1			Exam conducted Nicol prism				
			2to4:30			revision 4 practical (Logic, Demorgans; Half, Full adders)	Demonstration.		operators	Done.
5/10	Tue	3BSC	10to1			preparation for transistor characteristics				
		3BSC	2to5			practicals revision A1 (Batch (2))				
6/10	wed	3BSC	10to11		lecture	class on Transistor characteristic				

TEACHING DIARY October 2021

Name of the Lecturer ..... k. Nikhitha Chowdari ..... Name of the Department / Subject ..... physics .....

Sl. No.	Date	Day	Class	Period / Time	Medium	Theory / Practical	Topic Covered	Methodology Adopted	No. of Students Attended	Teaching Aids used	Student Activity Conducted	Rem
	6/10	web	~~web~~	1 to 4 3	EM		Revision A2 Batch practicals – 4					
	7/10	Thr	~~Thr~~	1 to 1			preparation for exam (writing stone unit-5)					
			3BSC	2 to 4		practical	Exam on 4 – practical A1 Batch (2)					
	8/10	Fri	3BSC	1 to 11			preparation for Mid Exam.					
	8/10			2 to 4			Exam practicals – 4 A1 Batch (2)					
	8/10	Fri		~~2 to 5~~		Theory	Solar Dryers, Solar cookers class	HM				
	9/10	Sat	(A9) 1BSC	1 to 11			Slip test on Interference.					
		Sat		1 to 2			web options					
				2 to 4			Exam practical 4 – A2 Batch					
			A6 A9	4 to 5		Theory	SPC, solar green house					
	11/10	Mon	3BSc	1 to 11			St on unit 4					
				2 to 4			revision for Mid 2					
				4 to 5			web option					
	12/10	Tue		1 to 2			web options					
							12 to 20 Dasara Vocation.					
	20/10	wed	3BSC	1 to 11 2			revision for Mid 1.					
				1 to 2			Application for Rcet					

					Revision for mid
			4 to 5		web option.
21/10	Thu	IBSc	10 to 1		ST on Diffraction, Interference
			2 to 4		revision for mid
22/10	Fri		10 to 11		Mid exam on unit 4, 5
			11 to 12		Notes writing for unit (1), Electronics
			12 to 1		ST on Diffraction.
			2 to 4		lab
		AGAq	4 to 5	theory	Solar energy unit (2)
23/10					Casual leave myself.
25/10	Mon		10 to 11		student not come becz of chem exam mid
		MPE	11 to 12		ST on lasers.
			2 to 4:30		practicals on A1 Batch (1) Junction diod.
26/10	Tue	3BSc	10 to 2		paper correction for Mid 1
			2 to 5		A1 Batch Junction Diod
27/10	Wed	3BSc	10 to 11	Theory	Gauss law
			2 to 5	~~2 to 5~~	A1 Batch (2) Junction diod.
28/10	Thu		10 to 1		Aq students preparation for II sem exam
			4 to 5		lab A1 (Batch (2))
29/10	Fri	3BSc	10 to 11		Exam and unit IV problems
			11 to 1		Time table setting (2 to 4:30) also.
			~~2 to 4~~		SDC class (4:5)

30/10 10 to 2 Note book writing
4 to 5 SDC class solar plate

TEACHING DIARY – November – 2021

Name of the Lecturer: K. Nikhitha Chowdari Name of the Department / Subject: physics

Sl. No.	Date	Day	Class	Period / Time	Medium	Theory / Practical	Topic Covered	Methodology Adopted	No. of Students Attended	Teaching Aids used	Student Activity Conducted	Remarks
	2/11	Mon day	3BSc	10to 11	EM	Theory	Electricity & Magnetism Class Gauss law Concept	lecture		Blackboard	Q/A.	
				1 Hto 2 12 to 1		admition	reporting 1st year students.					
			A1	2 to 4½			Halfadder & Fulladder Experiment A1 (Batch 1)					
	2/11	Tue day	3BSc	10to11			Uniformly charged sphere find $\vec{E}$?	LM		Blackboard	Q/A.	
				1 Hto 2 12 to 1			preparation for next class					
				2to 4½			practical lab A1					
3 →	Diwali Holiday					NOV 4 →	Diwali Holiday →					
	5/11	Fri day	3BSc	10to11 1Hto2			Time table comitee working – setting timetable					
				2to3:30			practical lab – junction diod 3:30 college End due to 1 student died on 3/Nov					
	6/11	← leave →					went T.T.D casual leave 7/11 sunday					
	8/11	Mon	3BSc	10to11		lecture Theory	electric field due to a infinitely charged sheet.					
				1to2 2to4:30			Timetable setting. Junction diod, zener Diod A1 Batch (1)					
	9/11	Tue	3BSc	12to1PM 1Hto2			Timetable setting preparation for APRCET					
				10to11 2to4:30			seminar conducted on unit IV practical – Zener Diod – A1 Batch (1)					
	10/11	Wed	3BSc	10to11 1Hto12			paper correction Mid I Time table setting					
				12to1 2to4:30			preparation for APRCET Invigilation. practical ~~physics~~ lab zener diod (A1 Batch 2)					
	11/11	Thrs	3BSc	10to1 2to4:30			Time table setting Zener diod A1 Batch (2)					

12/11	Fri	-	1 to 4			(Timetable setting) preparation for APRET
			2 to 5			Invigilation duty
						13 - second saturday 14 sunday 15 - ward elections, 17 ward election counting
16/11	Tue	3BSc	10 to 11 11 to 1		Theory	E due to a uniformly charged sphere preparation for APRET
			2 to 4 4 to 5			Timetable setting (II sem exams)
18/11	Thu		1 to 5			Reporting students 1st year seat allotment
22/21	~~19/11~~ Mon		1 to 11 11 to 1			Exam on verification of Gauss law paper correction for Mid (I)
			2 to 4 30			II sem exams No class afternoon, Timetable setting.
23/21	Tue		10 to 11 11 to 1			→ ~~Biot~~ - savart law → Timetable setting
			2 to 4			→ Invigilation duties
24/21	Wed	~~1~~ BSc 3BSc(A)	10 to 12 12 to 1			1st physics lab start. 3Bsc B due to a long straight conductor
		3BSc	2 to 4 4 to 5			practical lab → photocell experiment Collecting application forms
25/21	Thu	3BSc	10 to 12 12 to 1			preparation for class Biot savart law, B due to a wire
		3BSc	2 to 4 4 to 5			Inverse square law experiment preparation for next class
26/21	Fri		10 to 12 12 to 1			1st BSc MPCs vernier calliperse Introduction MPCs(A) V sem → B due to a coil
			2 to 4:30			all practicals revision in paper V
27/21	Sat		10 to 11 11 to 12		theory	Aq class Bridge course start preparation next class
			12 to 1 2 to 4:30		Theory	A2 V sem Hall effect, cyclotron practical lab - photocell observation.
29/21	Mon	3BSc	10 to 11 11 to 12			preparation for next class class V sem, Hall effect, cyclotron.
			12 to 1 2 to 5			Biometric papers submitting for students. Photocell, Inverse square law.
30/21	Tue	2nd BSc	10 to 12 12 to 1			3 sem practicals start. V sem revision for mid (II)
			2 to 5			preparation for next classes.

19 - 00, 20 - SL 21 Sunday

28 - Sunday

TEACHING DIARY – December 2021

Name of the Lecturer: K. Nikhitha chowdari Name of the Department / Subject: physics

Sl. No.	Date	Day	Class	Period / Time	Medium	Theory / Practical	Topic Covered	Methodology Adopted	No. of Students Attended	Teaching Aids used	Student Activity Conducted	Remarks
	2/dec	wed			E/M		DEC-2-2021 - wed.					
			~~BSC~~	10to11 11to12			10to11 > Biometric work 11to12					
			3BSC	12to1			12to1 → Preparation for 2nd Mid.					
			AIAN	2to5	E/M	practical	2to4:30 → Energy gap of semiconductor practical	demonstration		operators	Done the given experiment	
	2/dec	thr		10to12	E/M		DEC-2-2022 → Thr → 10to12 → reading for APRcet. 12to1 → Preparation for 2nd Mid 2to4 → Energy gap of semiconductor.					
	3/dec	Fri					DEC-3-2021 - Friday → 12to1 → Mid exam for MPCs 2to4 → Energy gap of semiconductors					
	4/dec	sat					DEC-4-2021 → Casual leave - sat					
	5/dec	sun					DEC-5-2021 → sunday					
	6/dec	Mon					DEC-6-2021 → Monday.					
		Casual leave		10to11 11to12			10to11 → MPCs class 11to12 → MPC - Alternating words					
			My self.				12to1 → 1st year class M.P.C.					
							2to4 → practical lab (revision) V					
	7/dec						DEC-7-2021					
							10to12 → reading for APRCET					
							12to1 → M.P.C Class taking for Alternating words					

				~~2to4 practical~~ admission finalise c
8/dec				Dec - 8 - 2021 → I attend APRcet exam
				Dec - 9 - 2021
				10 - 11 - 1st M.P.Cs ~~class~~ lab
				11 - 12 - MPC - A.C
				12to1 - MPCs (A2) III rd BSc class.
10/12	Fri	3	10:12	preparation for class (Alternating current.)
			12:1	M.P.C class (B due to a circuler loop)
			2to5	photo cell experiment.
				→ 11/12 12/12 second saturday Sunday →
13/12	Mon	A, V	12to1 / 10to12 / 11to12	correction 2 mid papers in sem V. Faraday law, lenz law.
		3BSC	2to4 / 4to5	paper V all practicals, revision. Meeting in Assembly hall
14/12	Tue		10to12 / 12to1	3 sem practicals, starts introduction class Faraday's law self, and Mutual inductence
			2to4 / 4to5	verification of kirchoff law checking.
15/12	Wed		10to12 / 12to2	1st BSC (MPC) (MPE) Batch practicals self inductence of a long solenoid.
		3BSC	2to5	verification of kirchoff laws
16/12	Thu	3BSC	10to12 / 12to1	ready to my Taxy sheet. Faraday law, lenz law
		A(2)	2to5	verification of kirchoff laws
17/12	Fri		10to12 / 12to1	M.PCs I sem practicals vernier callipers. self inductence, Mutual inductence.
		A(2) A2	2to5	verification of kirchoff laws
18/12	Sat	I sem	10to11	motion of rocket class
			11to12	preparation for next class

TEACHING DIARY – December 2021

Name of the Lecturer: K. Nikhitha Chowdari

Name of the Department / Subject: Physics

Sl. No.	Date	Day	Class	Period / Time	Medium	Theory / Practical	Topic Covered	Methodology Adopted	No. of Students Attended	Teaching Aids used	Student Activity Conducted	Remarks
	18/12	Sat	A_2(V)	12to1	E/M		self Inductence to a long solenoid.	Lecture		Blackboard		
				2to5	E/M		I given my tax sheet to A.O sir and I corrected the Mid papers for 2 Mid in sem V					
							19 — Sunday					
	20/12	Mon		10to12 / 12to1			preparing and writing the notes for V sem in unit II					
				1to2		Theory	Maxwell Eqn's, Transformer.	L/M		Black board	Q/A	
				2to5		practical	Energy gap of semi conductor.					
	~~21/12~~	~~Tue~~		~~10to12~~			~~3 sem — practical thermister~~	21 — Casual leave				
				12to1			~~poynting theorem, velocity~~ maxwell wave Eqn for	21 — CL myself				
				2to5			~~unit I part(2)~~ notes writing for V sem					
	22/12	wed		10to12		practical	MPCs lab vernier callipers reading taking					
				12to1		Theory	start Alternating currents connecting only L, R, C.	L/M.		Blackboard	Q/A	
				2to5		practical.	Energy gap of semiconductors					
						→	23, 24, 25, 26 christmas holidays					

27/12	Mon	A2	10to11		seminars for V sem	seminars
9		A1	11to12		seminars for V sem	seminars
			1to2		Biometric work	
			2to5		revision test for paper VI	
			5to6		Naac work.	
28/12	Tue		10to12	practical.	IIIrd sem practical lab Thermister.	
			12to2		seminars conducted M.P.Cs V sem.	
			2to5		paper prep. corrections for V sem 2 mids.	
			5to6		Naac work.	
29/12	Wed		10to12		1st sem practical lab taking vernier callipers readings	
			12to2		V sem A1 (MP.C) seminars conducted.	
			2to4:30		all practicals revision test for A1(1)	
			4:30to6		Naac work	
					30/31 Special causal leave myself.	

Sign
K. Nikhitha
Chowdary
8/2/22.

Incharge
8/2/22

V.R.
8/2/2022
PRINCIPAL
GOVT. COLLEGE FOR WOMEN (A)
GUNTUR.

Government College For Women

Guntur

Lesson Plan

Name of the Department: Microbiology SEPTEMBER

Name of the Lecturer:N.PRAVEENA KUMARI

Class : IIIB.SC, MBC & III MZC

Programme/Course: Food and Industrial Microbiology

Name of the Topic :	**SPOILAGE OF FOOD MATERIALS**
Hours Required :	06
Learning Objectives :	Students will be able to -understand about the various sourcesfood spoilageand the role of microorganisms in food spoilage. -Describe various types of spoilage in different types foods and the responsible microorganisms.
Previous Knowledge to be reminded :	- Microorganisms are omnipresent in nature -Ease of spoilage of various food materials.
Topic Synopsis :	Foods can be classified basing on ease of spoilage. - Stable / Non-perishable foods - Semi perishable - Perishable foods **1.Spoilage of fruits and vegetables** Includes bacterial and fungal soft rots and dry rots caused by bacteria. **2.Spoilage of meat and meat products** **A) Spoilage under aerobic conditions** - Blooms- By bacteria and fungi

Mrs. N. PRAVEENA KUMARI
Head of the Department
Dept. of Microbiology
Govt. College for Women (A)
GUNTUR.

PRINCIPAL
GOVT. COLLEGE FOR WOMEN
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Government College for Women

Guntur

Lesson Plan

Name of the Department: Microbiology

Name of the Lecturer: N.PRAVEENA KUMARI OCTOBER

Class : III MSC & III MZC

Programme/Course: Food and Industrial Microbiology

Name of the Topic :	**Industrially Important microorganisms** **Screening And Strain Improvement**
Hours Required :	06
Learning Objectives :	Students will be able - gain the knowledge about different industrially important microbes -To apply the techniques in screening and strain improvement and their importance. -Recall the strain improvement techniques
Previous Knowledge to be reminded :	-Commercial products produced by microorganisms -Techniques of Isolation of microbes from natural sources
Topic Synopsis :	Industrially Important microorganisms –Bacteria, Fungi, Yeast, Actinomycetes. **Screening** is a process of highly selective procedures to detect and isolate a microbe yielding high quantities of desired product. Screening includes **I.Primary Screening –** To detect the microorganisms able to produce metabolites like acids, amino acids, vitamins, antibiotics, etc. **II.Secondary Screening** Both qualitative and quantitative. It involves 1) Determining types of microorganisms to

	facilitate their classification 2) To know whether they produce novel products 3) Detect genetic stability of microorganisms 4) To optimize growth conditions 5) To characterize physical, chemical, and biological properties. 6) To check the toxicity of the product **Strain improvement-**To produce genetically variable strains to enhance quality and quantity of the product .It is achieved through 1. Mutations 2. Protoplast fusion 3. Genetic recombination 4. Transposons 5. r DNA technology
Thrust areas :	The protocols of different screening techniques.
Skills to be learnt by the students	-To appreciate the role microbes in human welfare. -To recall and recognize the screening techniques.
Examples/Illustrations :	-Starch hydrolysis for amylase production -Crowded plate technique
Additional Inputs :	Transfection
Teaching Aids Used:	PPT
References Cited:	Industrial microbiology- A.H.Patel Industrial microbiology- Crueger&crueger
Student Activity Planned after teaching :	Q&A
Activity planned outside the classroom, if any :	Isolation of amylase producing organism from different soil samples
ICT/LMS tools/Blogs/ websites	https://www.slideshare.net/jeevaraj9/strain-improvement-techniques
Any other activity	Demonstration and study project

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Lesson Plan 2021-22

Name of the Department: Microbiology

Name of the Lecturer: N.PRAVEENA KUMARI **NOVEMBER**

Class : B.Sc (Microbiology Botany Chemistry)

Programme/Course: Introductory Microbiology And Microbial Diversity

Name of the Topic :	**IMPORTANCE AND APPLICATIONS OF MICROBIOLOGY**
Hours Required :	03
Learning Objectives :	- To understand about the applications of microbiology - To be able to appreciate the importance of microbiology
Previous Knowledge to be reminded :	- Useful and harmful microorganisms to mankind - Microorganisms used
Topic Synopsis :	Microbiology is a branch of science that deals with the invisible microscopic organisms. The importance of microbiology to human welfare s follows. **In Food industry:** To produce cheese, bread, alcoholic beverages like beer, wine and continental fermented foods like soya sauce. **In Dairy industry -** In treating milk, production of yogurt, paneer, cheese, flavored milks etc. **In agriculture:** For better soil crop management – PGPR, Bio fertilizerbio pesticides, SCP, Probiotics. **In jute industry:** Retting of coconut, hemp,flax etc done by clostridiumbutyricum which hydrolyze the pectin of plant substances. **Crop Management :**Bio pesticides like Bacillus thuriengiensis

	Microbes and environment : Microbes are responsible for biogeochemical sciences like N_2 , Fe, Cu, Carbon etc **Sanitation:** used in sewage and sludge disposal. **Eg:** Algae, fungi, bacteria, etc. clean environment by removing toxic chemicals like DDT and helps in bioremediation. **Bio mining:**used in extracting valuable minerals like Ch, Fe from mines. **Eg:** Thiobacillus **In Molecular genetics :** Neurospora, E.coli are used **In Medicine :** for producing antibiotics,vaccines, Hormonesetc As biofuels like ethanol, methanol etc.
Thrust areas :	In Medicine in view of pandemic COVID 19
Skills to be learnt by the students	To recognize and recall the applications of microbiology in different branches
Examples/Illustrations :	Fermented foods, bio fertilizers, BT cotton, Vaccines.etc.
Additional Inputs :	- Microbes in space Microorganisms for remediation of plastics - Microbial enzymes in bioremediation
Teaching Aids Used :	Photographs,BB
References Cited :	Telugu Academy, R.P.Singh
Student Activity Planned after teaching :	Peer teaching
Activity planned outside the classroom, if any :	To list out commercially available microbial products
ICT/LMS tools/Blogs/ websites	Face book postings, PPT
Any other activity	Debate

Government College for Women

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Lesson Plan 2021-22

Name of the Department: Microbiology

Name of the Lecturer:N.PRAVEENA KUMARI**NOVEMBER**

Class : III MBC& III MZC

Programme/Course: Food and Industrial Microbiology

Name of the Topic :	**Types of fermentation processes and Downstream processing**
Hours Required :	**06hrs**
Learning Objectives :	To acquire the knowledge of fermentation media
Previous Knowledge to be reminded :	-process of fermentation -Fermentations in bacteria
Topic Synopsis :	Different types of fermentation processes **Solid state fermentation** is a method that uses solid medium to culture mycelia and harvest enzymes of the substrate surface. **Solid-state fermentation** is used for the production of β-glucosidase by *Penicilllium* genus. **1.Liquid state fermentation** is the method in which

	microorganisms are cultured in liquid medium **2.Batch fermentation** is a process in which the nutrient medium is inoculated in batches for the maximum yield of product. **3.Fed Batch Fermentation** is the process that employees the intermittent supplement of nutrients to the Bioreactor in order reduce catabolite repression. **4.Continious Fermentation** is the process that includes the continuous supplement of the nutrients to the Bioreactor. **5.Design of a Fermentor** includes the body construction, usage of cooling jacket, head space, Areation system Inlets and Outlets (Drain system) of Bio reactor & To maintain the Temperature, pressure, pH etc... **Downstreaming**Process includes the recovery and purification of biosynthetic products. It includes the following steps 1. **Filtration** involves the separation of the Microbial cells from the medium. 2. **Centrifugation** involves the accumulation of the cells present in the liquid medium. 3. **Cell disruption** is used to isolate the Endoenzymes from the microorganism. 4. **Solvent Extraction** is processes of isolating the enzymes from the mixture of liquid media.
Thrust areas :	Understanding different fermentation process and their applications
Skills to be learnt by the students	-Define and differentiatedifferent fermentation process
Examples/Illustrations :	Fed batch fermentation , surface fermentation, solid state fermentation
Additional Inputs :	Growth pattern in bacteria in batch culture
Teaching Aids Used:	BB, Pictures

References Cited:	A.H.Patel- Industrial biotechnology Presott-Microbiology
Student Activity Planned after teaching:	Elicitation
Activity planned outside the classroom, if any :	
ICT/LMS tools/Blogs/ websites	
Any other activity	Exam

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Lesson Plan

Name of the Department: Microbiology**DECEMBER**

Name of the Lecturer:N.PRAVEENA KUMARI

Class : III MBC& IMZC

Programme/Course: Food and Industrial Microbiology

Name of the Topic :	**Industrial production of Penicillin and Vitamin B_{12}**
Hours Required :	3 hrs
Learning Objectives :	Student will describe the process of production of penicillin and vitamin B12
Previous Knowledge to be reminded :	-Microbes producing penicillin, Vitamin B12 -Ingredients of fermentation media and fermentations
Topic Synopsis :	**Penicillin** Microbes fungi Aspergillus species Penicillin – Alexander Felming form *Penicillimnotatum* Medium - A typical medium by Jackson or Sylvesterand coghills is used. Production: spores are inoculated into the media and incubated for 1 week at 24°C . Penicillin was extracted by solvent extraction method. **B12** **Rick and Smith** isolated Vitamin B12, sugar beet molasses Microbes; Propionibacterium sps Medium: Glucose as Carbon source Production: Used in 2 stage process and recovered by heat

	treatment.
Thrust areas :	Production process of the aforesaid products
Skills to be learnt by the students	-Name the steps in production, fermentation type and media -To draw schematic diagram of production process
Examples/Illustrations :	Corn steep liquor, penicillium
Additional Inputs :	Streptomycin production
Teaching Aids Used:	LMS video
References Cited:	Industrial microbiology- A.H.Patel Applied Microbiology –R.P.Singh
Student Activity Planned after teaching :	Brain storming
Activity planned outside the classroom, if any :	Assignment
ICT/LMS tools/Blogs/ websites	https://ccelms.ap.gov.in/rusa/login
Any other activity	Exam

Mrs. N. PRAVEENA KUMARI
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GUNTUR.

Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :I Semester	Course : Human physiology
Hours Required :	4 Hrs
Name of the Topic :	Human body constituents –Cells and Tissues
Learning Objectives :	-Insight on main constituents of human body forming the basis for deeps understanding of human body function. -Able to describe and understand the histology of cell, tissues and their functions.
Previous Knowledge to be reminded :	Structure and components together to form as tissue.
Synopsis of the Topic :	All the cells grouped together to form tissues. Every cell nucleus and organells called ribosomes, lysozomes, endoplasmic recticulum, mitochondria, golgi complex situated in the cytoplasm and each of which has specified function to perform.All tissues which has specialized function.Eg-Heart,brain,stomach. Different tissues are grouped to form system.Each system perform a particular function that contribute to the health of an individual. The group of tissues is found covering the body lining cavities and tubes etc.., The four types of tissues are to be covered 1.Eithelial tissues 2.Connective tissues 3.Muscular tissues 4.Nervous tissues and their functions with examples are to be dealt.
Examples/ Illustrations:	Cell structure Tissues and its types
Additional Inputs :	Collection of picture or images of cell, tissues from internet
Teaching Aids Used :	Charts ,flash cards, visual dictionary
References Cited :	Anatomy and physiology in health and illness-Ross and Wilson Anatomy and human physiology – Dr.N.Murgesh
Student Activity Planned after teaching :	Seminar Assignment Poster
Activity planned outside the classroom, if any :	Flash cards preparation on tissues
Any other activity :	

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Lesson Plan Dept. of Home science, GCW(A), Guntur

Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :I Semester	Course : Human Physiology
Hours Required :	4hrs/6hrs
Name of the Topic :	Blood/ Cardio vascular system
Learning Objectives :	Able to describe the composition and its cellular elements of blood. Describe the structure,function and formation of RBS's,WBC's and platelets and some of diseases associated with blood. Able to describe the structure and functions of arteries, capillaries, veins & venous etc.., Able to describe the structure of heart its pumping mechanism, types of blood circulation, cardiac cycle ,blood pressure etc..,
Previous Knowledge to be reminded :	Blood groups recap Important arteries & veins
Synopsis of the Topic :	Blood is a connective tissue and it provides one of the Means of communication between the cell of different parts of the body and the external environment.this unit covers the composition of blood and its constituents.functions,blood clotting factors and its clotting mechanism,blood groups and some of the disorders associated with blood. The cardio vascular system transport blood through several types of blood vessels ie; arteries, veins, arterioles, capillaries, venues etc. through systemic, pulmonary and portal circulation. the body is cardiac cycle, this unit has also covering the blood pressure and factors, ECG and some of the disorders associated with heart.
Examples/ Illustrations:	Heart chambers, cardiac muscle, pulmonary ,cardiac and portal types of blood circulation.
Additional Inputs :	Collection and observation of blood tests reports for checking all the cellular constituents and their normal range Vs infections/diseased condition. B.P Apparatus ECG reports of the patients suffering from mild stroke.
Teaching Aids Used :	Black board,charts,smear slide preparation for counting blood elements RBC,WBC, and platelets. CVD-Chart, blackboard, skeleton for locating the exact position of heart visual dictionary
References Cited :	Anatomy and physiology in health and illness-Ross and Wilson Anatomy and human physiology – Dr.N.Murgesh
Student Activity Planned after teaching :	Recording blood clotting time. Blood smear slide preparation for counting RBC,WBC,and platelets.

Charts
B.P estimation by spignomanometer,Models.

Activity planned outside the classroom, if any :

Any other activity : Seminar,Assignmen.,
Models,poster

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Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :I Semester	Course : Human physiology
Hours Required :	5hrs
Name of the Topic :	Respiratory system
Learning Objectives :	Able to locate the parts of respiratory system Able to relate the structure of each part of respiratory system with the respiratory mechanism & its function.
Previous Knowledge to be reminded :	Recap on respiratory organs
Synopsis of the Topic :	The respiratory system provides the route for supply of O2 to the cells of the body and route of excretion of CO2 from the cells to the external environment.the organs of respiratory system are nose, pharynx, larynx, trachea, two bronchi,bronchioles two lungs.each organ is having its own functions in respiration and continues as a cycle of respiration.this occur 12-15times/minute and consists of 3phases viz,inspiration,expiration and pause the disorders of the respiration are common cold,influenza,sinusitis, tonsillitis,acute and chronic bronchiltis etc...,
Examples/ Illustrations:	Lung
Additional Inputs :	Poster,chart,lung model,visual dictionary
Teaching Aids Used :	
References Cited :	Handbook of human physiology-vidya rattan jaypee 7th edition Anatomy,physiology and human health by N.Murugesh.
Student Activity Planned after teaching :	Counting of expiration,inspiration/minute Checking of lungs functioning for normal and diseased conditions by stesthscope
Activity planned outside the classroom, if any :	
Any other activity :	Seminar Assignment

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :I semester Course : Human physiology

Hours Required :	6 hrs
Name of the Topic :	Digestive system
Learning Objectives :	Able to list the organs of alimentary tract and accessory organs of digestion Able to related the role of each organ with the digestion procees
Previous Knowledge to be reminded :	The digestive enzymes & juices
Synopsis of the Topic :	The digestive system includes both the alimentary canal and some of the accessory organs. The alimentary canal begins at the mouth passes through the thorax,abdomen,pelvis and ends at the anus.it is breathing down the foods eaten until they are in o form suitable for absorption,.the parts of the alimentary tracts are 1.Mouth,tongue,teeth ,and salivary glands 2.Pharynx 3.Oesophagus 4.Stomach 5.Small intestine 6.Large intestine metabolism all the reactions occurring in the body by using absorbed nutrients to provide energy and to replace body substances.
Examples/ Illustrations:	Digestive system,mouth,teeth,tongue,large and small intestine etc..,,
Additional Inputs :	PPT
Teaching Aids Used :	Charts,posters,visual dictionary
References Cited :	Handbook of human physiology-vidya rattan jaypee 7th edition Anatomy,physiology and human health by N.Murugesh
Student Activity Planned after teaching :	
Activity planned outside the classroom, if any :	Assignment Seminar
Any other activity :	

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Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :I Semester Course : Human physiology

Hours Required :	10hrs/10hrs
Name of the Topic :	Nervous system & Reproductive system Female and male
Learning Objectives :	Able to describe the main structure comprising internal and external genital of female reproductive system. Understand the menstrual cycle,ovulation. Male reproductive system and its structure and functions
Previous Knowledge to be reminded :	Neuron structure recap Central nervous system – parts Menstrual cycle,organs of female reproductive system
Synopsis of the Topic :	The nervous system consists of a vast number of cells called neurons.The physiological units of nervous system are neurons,neurons create impulses that pass electrical charges.the types of nerves are sensory afferent nerves,motor and mixed nerves.the brain and spinal cord are covered by 3menings lying between the skull and the bran and between the veretebrae and spinal cord.The classification of nervous system are as follows: The central nervous system:Brain,cerebrum,mid brain,pons,medulla oblongata,cerebellum,spinal cord Peripheral nervous system – Spinal nerves -31pairs - Cranial nerves -12 pairs Autonomic nervous system – Sympathetic and parasympathetic The ability tto reproduce is the property of reproctive system.Which distinguish living from non-living matter.both male and female produces specialsied reproductive germ cells.Male gamets are spermatozoa and female gamets are ova.they contain genetic material which pass inherited teacts to the next generation.gamets are formed by meosis.when the ovum is fertilized by spermatozoa the resultant zygote contains 2-3pairs of chromosomes.zygote embeds in the walls of uterus,where it grows and develops during 40week gestational period.this unit covers both male and female reproductive organs,their functions and disorders and disease associated with this system
Examples/ Illustrations:	Structure of neuron

	Brain Spinal cord, spine Uterus Testes Menstrual cycle
Additional Inputs :	Book bank Question bank Health education on importance of personal hygenie
Teaching Aids Used :	Charts, posters, blackboard, human skeleton model Visual dictionary ,model
References Cited :	Handbook of human physiology- vidya ratan jaypee 7th edition Anatomy, physiology and human health by N.Murugesh.
Student Activity Planned after teaching :	Experiencing sensory nerve impulse by tickling the radio ulna joint bone. Class presentation Poster making Frames
Activity planned outside the classroom, if any :	Understanding, MRI, Scans of brain & spinal cord.
Any other activity :	Seminar Assignment

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Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester — Course : Diet Counselling

Hours Required :	8hrs
Name of the Topic :	Diet in fevers
Learning Objectives :	The understand the etiology,clinical signs & symptoms of the disease. Gain knowledge about the dietary principles and management.
Previous Knowledge to be reminded :	Recap of types of fevers, Diet principles7& dietary management.
Synopsis of the Topic :	Fever is an elevation of in body temperature above normal which may occur due exogenous and endogenous factors.
Types :	Short duration-cold, influenza, typhoid,tonsillitis. Chronic-TB and AIDS. Intermittent-malaria. Metabolic changes in fever. General dietary considerations. Typhoid- infections disease with an acute fever of short duration salmonella typhi s.scotmnlleri. Symptoms and signs. Principles of diet, dietary suggestions. Tuberculosis- clinical features Modification of nutrients Principles of diet and dietary management.
Examples/ Illustrations:	Pictures
Additional Inputs :	
Teaching Aids Used :	Ppt
References Cited :	Sri lakshmi,dietetics Devid son s.s and R. Passmore human health & dietetics
Student Activity Planned after teaching :	Flexs, pamphlets on fevers.

Activity planned outside the classroom, if any :	
Any other activity :	Assignment,seminars

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Lesson Plan Dept. of Home science, GCW(A), Guntur

Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester	Course : Diet Counselling
Hours Required :	10hrs
Name of the Topic :	Kidney diseases
Learning Objectives :	To be aware of etiology,clinical sings & symptoms of dfferent types of kidney disease The acquire knowledge about the dietary principles.
Previous Knowledge to be reminded :	Recap of types of kidney diseases and functioning
Synopsis of the Topic :	Kidney functions causes,symptoms,principles of dietary management and treatment of the glomerulonephritis,nephritic syndrome,acute and chronic renal failure,renal calculi,dialysis Dialysis-a procedure that replaces some of the kidneys normal function(heamodialysis & peritoneal dialysis). Urinary calculi-causes,types,symptoms,treatment & dietary management.(types of calculi's-calcium oxalate,uric acid,magnesium phosphate)
Examples/ Illustrations:	Kidney stones report
Additional Inputs :	
Teaching Aids Used :	Black board
References Cited :	Sri lakshmi,dietetics Devid son s.s and R. Passmore human health & dietetics
Student Activity Planned after teaching :	Assignments Seminars
Activity planned outside the classroom, if any :	Suggested to visit any kidney hospitals to study about biochemical and scanned reports.
Any other activity :	

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester Course : Diet Counselling

Hours Required : 10hrs

Name of the Topic : Obesity

Learning Objectives : To know about the etiology,clinical signs and symptoms
To understand the dietary principles involved.

Previous Knowledge to be reminded : Recap of types and classification of obesity studied in degree
Theories in obesity
Dietary Management of obesity

Synopsis of the Topic : Obesity is due to +ve energy balance;the intake of calories is more than the expenditure of energy.there is excessive accumulation of excess adipose tissues in the body.leading to morethan 20% of desired weight.
Etiology - genetic factors,age,sex,endocrine factors,trauma&civilsation.
Theories-fat cell theory,set point theory
Assessment-body weight,bmi,waist circumference,body fat,brokes index,ponderal index.
Types-grade-I,grade-II,grade-III OBESITY
Treatment-strategies for weight loss-physical exercise,pharmaco therapy,diet therapy,stress management,weight loss surgery.

Examples/ Illustrations:

Additional Inputs : BMI charts preparation
BMI caliculation

Teaching Aids Used : Board

References Cited : Sri lakshmi-dietetics textbook 7th edition.

Student Activity Planned after teaching : Assignments
Seminars
Bmi charts preparation, folders on obesity

Activity planned outside the classroom, if any :

Any other activity :

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur Name of the Lecturer : B.Swetha Rani Bai 2020 - 21

Semester :V Semester Course : Diet Counselling

Hours Required : 4hrs

Name of the Topic : Under weight

Learning Objectives : To understand the etiology,clinical signs and symptoms of disease.
To gain knowledge about the dietary principles and management.

Previous Knowledge to be reminded :

Synopsis of the Topic : Children who are subjective to socio economic & dietary constraints during the critical years of growth and development,endup with small body size.
Limitations of under weight
Etiology
Nutritional & food requirement
Dietary guidelines.

Examples/ Illustrations:

Additional Inputs : Growth charts preparation.

Teaching Aids Used : Board

References Cited : Sri lakshmi-dietetics textbook 7th edition.

Student Activity Planned after teaching :	Flex's preparation, seminar Assignments, growth charts, pamphlets on anemia
Activity planned outside the classroom, if any :	
Any other activity :	

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester Course : Diet Counselling

Hours Required :	5hrs
Name of the Topic :	Cancers
Learning Objectives :	To know about the etiology,signs & stmptoms of disease. To be aware of dietary principle and management
Previous Knowledge to be reminded :	
Synopsis of the Topic :	Cancer refers to malignant neoplasms or tumors,neoplasia cells in the tissue.proferate without the normal controls on growth. Types of cancers-carcinoma,sarcoma,leukaemia,lymphoma. Factors-heridity,environmental factors General systemic reactions-electrolyte imbalance,anemia,hypercalcemia,appetite changes,osteomalacia. Nutritional requirements and dietary management.
Examples/ Illustrations:	
Additional Inputs :	Guidance to students to prepare bulliten on cancers.
Teaching Aids Used :	Board
References Cited :	Sri lakshmi-dietetics textbook 7th edition.
Student Activity Planned after teaching :	Assignments Seminar

Bulliten on cancers

Activity planned outside the classroom, if any : Students visited bomidala cancer hospital on special interest. They interacted with cancer patients who are hospitalized.

Any other activity :

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester Course : Bakery & confectionary

Hours Required : 3hrs/4hrs

Name of the Topic : Introduction to baking science & tools and machinery used in baking

Learning Objectives : To gain knowledge in various bakery concepts
To understand the different types of baked products.
To acquire with different tools and machinery used in baking.

Previous Knowledge to be reminded :

Synopsis of the Topic : Baking is one of the most versatile methods of cooking techniques to achieve a variety of sensory properties in the foods,prepares about with same raw materials.during baking,many physical & biochemical changes occur,the starch gelatinizes,sugar caramelizes,water evaporates and the product gains volume texture,flavor in appearance.

Tools & machinery- baking needs different models of variety of equipments to get the finished product appearing and satisfactory.for that,before prepararion,should aware of usage of different types of equipments used in baking.
Large equipment- selection,maintenance ovens,dough mixers,juicer,waffle irons,wire wisk etc..
Small equipment-beaters,yolk separaters,dishes,bowls,stands,cookie sheet,knives,blenders,strainers,spice grinders etc..,

Examples/ Illustrations:

Additional Inputs :

Teaching Aids Used : Board
Ppt

References Cited : www.icar.org,in

Student Activity Planned after teaching : Assignement
Seminar

Activity planned outside the classroom, if any :

Any other activity :

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur **2020 - 21**

Name of the Lecturer : B.Swetha Rani Bai

Semester :V Semester Course : Bakery & confectionary

Hours Required : 10hrs

Name of the Topic : Basic material used in bakery& essential ingredients used in bakery

Learning Objectives : To understand the various basic ingredients and their role in baking
To understand the role of various flows essential ingredients and their role in baking
To gain knowledge in various bakery concepts.

Previous Knowledge to be reminded :

Synopsis of the Topic : Depending upon type of ingredient used in baking their functions,they are classified as-structure,tenderizers,drievers,flavours,moisteners.
Essential ingredients- flour,eggs,fat,sugar,liquids,leavening agents,flavouring ingredients.
Optional ingredients- mold inhibitors,mineral salt,malt products,dough improvers etc..,
Essential ingredients used in bakery- Commercially flour is obtained from hard & soft wheat.it is a mixture of protein,starch,sugar,fat and mineral salts.the protein determines the suitability of any flour for particular process.
Flour selection,properties,specification.-soft flour
Suitability of flours for baking products other flours.
Tests to evaluate the flour quality-Rheological [roperties.,ingredients influence physical characteristics of dough.

	Types of flours- rice flour,millet flour,corn flour,soya flour,malt or rye flour,potato flour Rheological properties- Alveo graph,extensive graph,farino graph,flour clour analysis,glutomatic,mixograph.
Examples/ Illustrations:	
Additional Inputs :	
Teaching Aids Used :	Board.
References Cited :	www.icar.org.in
Student Activity Planned after teaching :	Seminar & Assignment
Activity planned outside the classroom, if any :	
Any other activity :	

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur
Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester	Course : Baking and confectionary
Hours Required :	8hrs/6hrs
Name of the Topic :	Essential ingredients used in bakery & biscuits and cookies
Learning Objectives :	To be acquire of various ingredients used in bakery. To understand the difference between biscuits,cookies and crackers. To acquire,knowledge skill in dough mixing techniques.
Previous Knowledge to be reminded :	
Synopsis of the Topic :	Apart from flour other essential ingredients include eggs,fats and oils,sweeteners,salt,leavening agents,liquids,flavouring agents also have imp functions in baking. Content-role of eggs in bakery Role of fat in bakery Role of sugar in bakery Leavening agents Flavouring agents Other ingredients used in bakery. Biscuits and cookies- biscuits,cookies and crackers are some of the popular baked products.although,these terms are used synonimcously,are should understand the difference among these. Content- Role of ingredients in cookie preparation

Techniques of preparation(one stage method & creaming method)faults and remedies.

Examples/ Illustrations:

Additional Inputs :

Teaching Aids Used : Board

References Cited : www.icar.org,in

Student Activity Planned after teaching : Seminar
Assignments

Activity planned outside the classroom, if any :

Any other activity :

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur Name of the Lecturer : B.Swetha Rani Bai

2020 - 21

Semester :V Semester Course : Bakery and confectionary
Hours Required : 8hrs
Name of the Topic : Cakes

Learning Objectives : To acqaure skill in cake making techniques
To know how to prepare different types of cakes
To understand the role of ingredients in cakes.

Previous Knowledge to be reminded :

Synopsis of the Topic : Cake is a baked batter made from sugar,eggs,milk,shortenings,leavenings mixed together in such a way to produce a fulfuy,fine grained baked product.
Content – different types of cakes
Role of ingredients in cake making
Cake making techniques-sugar batter or creaming method,flour batter method,boliling method,blending method,all in high speed method continous cake making method.
General precautions in preparation cake faults & causes cake decoration.

Examples/ Illustrations:

Additional Inputs :

Teaching Aids Used : Board

References Cited : www.icar.org.in

Student Activity Planned after teaching : Seminar
Assignment

Activity planned outside the classroom, if any :

Any other activity :

Signature of the Principal **Signature of the Lecturer**

Lesson Plan Dept. of Home science, GCW(A), Guntur Name of the Lecturer : B.Swetha Rani Bai 2020 - 21

Semester :V Semester Course : Bakery and confectionary
Hours Required : 6Hrs
Name of the Topic : Bread

Learning Objectives : To gain knowledge about bread mixing methods,quality evaluation etc..,

Previous Knowledge to be reminded :

Synopsis of the Topic : Bread is a food essentially made from flour,water, and salt that has been kneaded,allowed to rise,shaped or molded,and baked in the oven.
Content-
Mixing methods- straight dough methods,sponge and dough method,continous method.
Some terms to know in bread making
Bread quality- external & internal characteristics
Bread faults,causes and remedies.

Examples/ Illustrations: Some pictures of breads

Additional Inputs :

Teaching Aids Used : Board

References Cited :	www.icar.org.in
Student Activity Planned after teaching :	Seminar Assignment
Activity planned outside the classroom, if any :	
Any other activity :	Group discussion

Signature of the Principal **Signature of the Lecturer**

Government College for Women, Guntur

Department of Computer Science, Lesson Plan (DATA STRUCTURES)UNIT-1(2020-21)

Name of the Department : Computer Science	
Name of the Lecturer : V.Padmavathi	
Group / Course : II BSC., Semester IV	
Paper : Data Structures	
Name of the Topic	Types of Data structures, Arrays, Linear list, Linked list
Hours Required	12
Learning Objectives	To learn Types of Data structures, Arrays, Linear list, Linked list and various operations can be performed on Data structures
Previous Knowledge to be reminded	Object oriented programming concepts, Datatypes, Arrays,
Topic Synopsis	A data structure is a collection of data values, the relationships among them, and the functions or operations that can be applied to the data. **Primitive Data Structures:** Primitive Data Structures are the basic data structures that directly operate upon the machine instructions.Integers, Floating point numbers, Character constants, String constants and Pointers come under this category. **Non-primitive Data Structures:** Non-primitive data structures are more complicated data structures and are derived from primitive data structures.They emphasize on grouping same or different data items with relationship between each data item.Arrays, Lists and Files come under this category. **Linear lists:** The elements are ordered within the linear list in a linear sequence. Unlike an array, a list is a data structure allowing insertion and deletion of elements at an arbitrary position of the sequence. **Arrays:** A set of homogeneous values. An array is a collection of items. Each slot in the array can hold an object or a primitive value. **Linked list:** an ordered set of data elements, each containing a link to its successor (and sometimes its predecessor).

Thrust Areas	Mathematical operations & Logical operations, Memory allocations
Skills to be learnt by Students	Logical thinking and programming skills
Examples / Illustrations	Programs to illustrate various data types & Data strucutres
Additional Inputs	Problems to practice
Teaching Aids Used	Blackboard& Chalk, LCD Projector
References Cited	Claasic Data Structurese, D Samnatha Data structures using C++ ,Sartazsahni
Student Activity Planned after Teaching	Problems solving. Assignement
Any other Activities	Exam

COMPUTER DEPARTMENT
Govt. College for Women

Signature of the lecturer

Government College for Women, Guntur
Department of Computer Science, Lesson Plan Unit-I(2020-21)

Basics & Services of cloud computing

Name of the Department : Computer Science	
Name of the Lecturer : V Padmavathi	
Group / Course : I BSC(A8) Semester I	
Paper : Basics & Services of Cloud Computing	
Name of the Topic	Computer Networks
Hours Required	9
Learning Objectives	To get knowledge on cloud services
Previous Knowledge to be reminded	Basic Computer Knowledge
Topic Synopsis	One way to categorize the different types of computer network designs is by their scope or scale. For historical reasons, the networking industry refers to nearly every type of design as some kind of *area network*. Common types of area networks are: • **LAN**: Local Area Network • **WAN**: Wide Area Network • **WLAN**: Wireless Local Area Network • **MAN**: Metropolitan Area Network • **SAN**: Storage Area Network, System Area Network, Server Area Network, or sometimes Small Area Network • **CAN**: Campus Area Network, Controller Area Network, or sometimes Cluster Area Network • **PAN**: Personal Area Network LAN and WAN are the two primary and best-known categories of area networks, while the others have emerged with technology advances.
Thrust Areas	Cloud Services
Skills to be learnt by Students	Applications of cloud services

Examples / Illustrations	Microsoft AZURE,Amezon web services
Additional Inputs	Google APP Engine
Teaching Aids Used	Blackboard& Chalk, LCD Projector
References Cited	Cloud Computing – An Introduction by SubuSangameswar
Student Activity Planned after Teaching	Assignment
Any other Activities	Seminar

Lecturer in-charge
COMPUTER DEPARTMENT
Govt. College for Women

Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Historical evolution of food processing technology
Hours Required	2 hrs
Learning objectives	• Students understand the history and evolution of food processing. • And know how their evolution was started
Previous knowledge to be reminded	Known pre historic evolution
Topic Synopsis	• Importance of food processing • Food preservation & processing history • Different methods of food processing • History of man kind science has searched in to realms of the unknown • As early as the beginning of the 19^{th} century, major breakthroughs in food preservation.
Thrust Areas	Fundamentals of food technology
Skills to be Learnt by the Student	Analysis, understand, practice
Examples & Illustrations	-
Additional Inputs	Importance of preservation of food.
Teaching Aids used	PPT
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Sum up points by students.
Activity Planned outside the classroom	Different types of food processing evolution
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	-

V. Kavya.
Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Cereals
Hours Required	3 hrs
Learning objectives	• Students understand the structure & composition, nutritional quality of various cereals • And know how they are processing
Previous knowledge to be reminded	Known how many types of cereals
Topic Synopsis	• The cereal grains are seeds of the grass family. • The word cereal is derived from ceres, the Roman Goddess of grain. • The principal cereal crops are rice, wheat, maize or corn, jowar, ragi and bajra. • The term cereal is not limited to these but also flours, meals, breads & alimentary pastes or pasta. • The ease with which grains can be produced & stored, together with the relatively low cost & nutritional contribution has resulted in widespread use of cereal foods. • They are the staple foods in the diets of most population groups.
Thrust Areas	Fundamentals of Food Technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	Cereals grains – importance
Additional Inputs	Storage of flours in food industry.
Teaching Aids used	PPT
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Drawing the cereal structures on board.
Activity Planned outside the classroom	Practicing the cereal structures
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Practicing & discussing the cereal structures.

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Toxic Constituents in pulses - Lathyrogens
Hours Required	2 hrs
Learning objectives	• Students understand in which types of pulses are contains toxic constituents. • And known their effects.
Previous knowledge to be reminded	Known pulses like red gram dhal, green gram dhal, lathyrus sativus.
Topic Synopsis	• Some pulses contain chemical constituents having toxic properties. • They are present in red gram dhal, bengal gram, cow pea, double beans, soyabean, lathyrus sativus & peas. • Lathyrism is a nervous disease that cripples man. • Throughout the country, its is known by the common name "Kesari Dhal". • The disease now known to result from an excessive consumption of this pulse. • It affects young men between the age of 15 to 45 years.
Thrust Areas	Fundamentals of Food Technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	Structure of Kesari Dhal.
Additional Inputs	Stages of Lathyrism.
Teaching Aids used	Downloaded the various stages of lathyrism in youtube.
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Sum up points by students, writing the stages of Lathyrism.
Activity Planned outside the classroom	Writing the various stages of Lathyrism.
ICT/LMS Tools/ Blogs/Websites	Downloaded the various stages of lathyrism in youtube.
Any Other Activity	-

V. Kavya
Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Oils.
Hours Required	2 hrs
Learning objectives	• Students understand how oils are refined. • Various types of oil refining. • Types of Rancidity.
Previous knowledge to be reminded	Different types of oils used for cooking
Topic Synopsis	• Most oil-bearing plants store their fat as triacylglycerols in the seed endosperm. • Seed oils can also be important sources of carotemids, tocopherols & plant sterols. • Seed oils that are dietary importance are generally those in which the predominant fatty acids. • They are concentrated sources of energy. • Weight for weight, they furnish 2.25 times more energy than proteins. • All oils & fats except butter give 900 kilocalories per 100 grams.
Thrust Areas	Fundamentals of Food Technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	Types of oils
Additional Inputs	Importance of oils and its control temperature.
Teaching Aids used	PPT
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Sum up points by students.
Activity Planned outside the classroom	Practicing the structure of fatty acids.
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Group discussion

V. Kavya.

Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Classification of vegetables
Hours Required	2 hrs
Learning objectives	• Students will understand the general composition & classification of vegetables. • And know how they are classified.
Previous knowledge to be reminded	• Roots- Potato, beetroot • Leafy vegetables- Spinach, Amaranth.
Topic Synopsis	• Vegetables are classified according to the parts of the plant consumed or colour of the vegetable or according to their nutritive values. • Nutritionally they are classified in to 3 groups – Green leafy vegetables, Roots & tubers & other vegetables. • Green leafy vegetables are good sources of vitamins & minerals, they are excellent in carotenes which are converted to vitamin A. • Roots & tubers give more calories compared to green leafy vegetables because they contain more starches. • Carrots contain high amount of carotene through this amount is lower when compared to the content present in green leafy vegetables. • Other vegetables they contain high amount of moisture & hence they are highly perishable.
Thrust Areas	Fundamentals of Food technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	-
Additional Inputs	Importance of vegetables in nutrition
Teaching Aids used	PPT
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Discussion by students
Activity Planned outside the classroom	Perishable vegetables like cucumber, tomato etc..
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Preparation of chart according to their perishable, semi perishable & non perishable food items.

V. Kavya.
Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Pigments
Hours Required	3 hrs
Learning objectives	• Students identify the sources of pigments. • And their various of pigments present in Fruits & vegetables.
Previous knowledge to be reminded	Known pigments like carotenoids, lycopene
Topic Synopsis	• The bright colours of many vegetables contribute much to their appeal. • The colour result from the various pigments contained in their tissues. • Most of the pigments occur in plastids-specialised biodies lying in the protoplasm of the cell. • Sometimes, the water-soluble pigments are dissolved in the vacuoles and not generally distributed throughout the cell. • The chief pigments of vegetables & fruits can be classified as water insoluble & water soluble.
Thrust Areas	Fundamentals of food technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	Various pigments
Additional Inputs	Importance of pigments in fruits & vegetables.
Teaching Aids used	Downloaded various pigments in youtube.
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	Refer the various pigments present in fruits & vegetables.
ICT/LMS Tools/ Blogs/Websites	Downloaded various pigments in youtube.
Any Other Activity	Group discussion

V. Kavya.

Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I Programme: I B7	Course: I – Fundamentals of Food technology (FT 1319) Teacher: V. Kavya
Name of the Topic	Physical properties of milk
Hours Required	2 hrs
Learning objectives	• Students understand what are physical properties of milk. • Examples Acidity, viscosity & freezing point.
Previous knowledge to be reminded	• Milk acidity
Topic Synopsis	• Physically, milk is a dilute emulsion, colloidal dispersion & true solution. • Fresh milk has a pH of about 6.5-6.7 at 2.5^0 C. • As a milk stands exposed to air, its acidity decreases slightly because of the loss of carbon dioxide. • Factors affecting viscosity of milk are state & concentration of the protein & fat, temperature of milk, age of milk. • The freezing point of milk is -0.55^0C, freezing point is affected by the soluble constituents , lactose & ash which are constant. • Milk boils at 100.2^0C at which temperature all organisms are destroyed.
Thrust Areas	Fundamentals of food technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	Milk pH
Additional Inputs	Demonstration of milk pH
Teaching Aids used	PPT
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Group discussion
Activity Planned outside the classroom	Determining the various milk products pH values.
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Discussing the various milk products pH values.

V. Kavya.

Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Composition of milk
Hours Required	2 hrs
Learning objectives	•Students understand the composition & nutritive value of milk •And known the importance of enzymes.
Previous knowledge to be reminded	• Milk sugar – Lactose
Topic Synopsis	• Milk is one food for which there seems to be no adequate substitute. • Milk is a complex mixture of lipids, carbohydrates, proteins & many other organic compounds & inorganic salts dissolved or dispersed in water. • The most variable component of milk is fat followed by protein. • The composition of milk varies with the species, breed, diet, lactation period & interval between milking. • Buffalo's milk contain 6.5% fat. • Cow' milk contains 4.1% fat.
Thrust Areas	Fundamentals of food technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	• Milk sugar lactose
Additional Inputs	-
Teaching Aids used	PPT
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Discussion with the students.
Activity Planned outside the classroom	Practicing structure of fat globule membrane in milk.
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Discussing about the structure of the fat globule.

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Programme: I B7	**Semester: I**	**Course: I – Fundamentals of Food technology (FT 1319) Teacher: V. Kavya**
Name of the Topic		Structure of hen's egg
Hours Required		2 hrs
Learning objectives		• Students will understand the concepts of egg structure. • And known its whole structure & composition.
Previous knowledge to be reminded		Known eggs of all birds.
Topic Synopsis		• India is one of the largest egg producer in the world. • Although eggs of all birds may be eaten, the egg of chicken is used more often than any other. • The natural function of an egg is to provide for the development of the chick. • Shell it forms the protective covering of the inner contents of the egg along with the two membranes. • The white of the egg consists of three layers, two areas of thin white encompassing one area of thick white. • The yolk of the egg is enclosed in a sac called the vitelline membrane.
Thrust Areas		Fundamentals of food technology
Skills to be Learnt by the Student		Understanding
Examples & Illustrations		Structure of the egg
Additional Inputs		PPT
Teaching Aids used		Downloaded candling test of egg from youtube.
References Cited		Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching		Sum up points by students.
Activity Planned outside the classroom		Practicing the egg structure
ICT/LMS Tools/ Blogs/Websites		PPT
Any Other Activity		Discussing the structure of an hen's egg.

V. Kavya.
Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: I **Programme: I B7**	**Course: I – Fundamentals of Food technology (FT 1319)** **Teacher: V. Kavya**
Name of the Topic	Quality of egg
Hours Required	2 hrs
Learning objectives	• Students understand quality of the egg. • And known the characteristics of an good quality egg.
Previous knowledge to be reminded	Known the size & weight of the egg which is purchased frm the market.
Topic Synopsis	• Egg is an excellent food and hence its quality is of very great importance. • Fresh eggs have best quality. • Quality of egg can be determined by many factors. • By weight we can find out the quality, the normal weight of an egg is 40-70g. • In the Indian market, eggs are classified as big (52-60 g), medium (40-52 g) & small (<40 g). • The weight depends on the inheritance, stage of laying, age, diet & health of the bird.
Thrust Areas	Fundamentals of food technology
Skills to be Learnt by the Student	Understanding
Examples & Illustrations	Egg size, shell & air cell
Additional Inputs	Demonstration of Candling test of the egg
Teaching Aids used	Downloaded candling test of egg from youtube.
References Cited	Food Science – B. Sri Lakshmi
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	To watch animations and write notes.
ICT/LMS Tools/ Blogs/Websites	Downloaded candling test of egg from youtube.
Any Other Activity	Group discussion.

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Programme: I B7	**Semester: II**	**Course: II – Technology of Food Preservation (FT 2319) Teacher: V. Kavya**
Name of the Topic		Classification of microorganisms based on temperature
Hours Required		2 hrs
Learning objectives		• Students will understand the how micro organisms are classified. • And the micro organisms reactions in food products.
Previous knowledge to be reminded		Known micro organisms like bacteria, yeast & moulds.
Topic Synopsis		• Microbes cannot regulate their internal body temperature. • Changes in temperature effect their enzyme activity. • Based on temperature, microbes classified in to 3 types. • Thermophilies- microbes survive at extreme heat. • Mesophilies- microbes grow at moderate temperature. • Psychrophiles- microbes grow at extreme low temperature.
Thrust Areas		Technology of Food Preservation
Skills to be Learnt by the Student		Understanding.
Examples & Illustrations		Micro organisms like yeast, fungi & moulds etc..
Additional Inputs		Identify the important pathogens and spoilage micro organisms in food.
Teaching Aids used		PPT
References Cited		Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching		Quiz
Activity Planned outside the classroom		To watch animations of food micro organisms
ICT/LMS Tools/ Blogs/Websites		PPT
Any Other Activity		Discussion about various types of harm full micro organisms present in the food products.

V. Kavya.

Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Programme: I B7	**Semester: II**	**Course: II – Technology of Food Preservation (FT 2319) Teacher: V. Kavya**
Name of the Topic		Typical growth curve of micro organisms
Hours Required		2 hrs
Learning objectives		• Students will understand the growth curve of micro organisms. • And know the different phases of micro organisms.
Previous knowledge to be reminded		Known about micro organisms
Topic Synopsis		• Growth is essential component of microbes because microbial cell has only a finite life span. • Microbes growth curve has 4 stages. • Lag phase - No increase of number of cells. • Log phase - No. of cells increase geometrically growth occurs maximum rate • Stationary phase - Both growth rate & death rate occurs simultaneously. • Death phase – No. of cells death increases.
Thrust Areas		Technology of Food Preservation
Skills to be Learnt by the Student		Analysis, Understanding Practice.
Examples & Illustrations		Growth curve of micro organisms
Additional Inputs		Demonstration of growth curve of micro organisms
Teaching Aids used		Diagram
References Cited		Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching		Sum up points by students
Activity Planned outside the classroom		Practicing growth curve of micro organisms
ICT/LMS Tools/ Blogs/Websites		Diagram
Any Other Activity		Practicing growth curve of micro organisms

V. Kavya

Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Commercial heat preservation methods
Hours Required	3 hrs
Learning objectives	• Students will classify various thermal treatments based on methods. • And known the best thermal treatments for processing different foods.
Previous knowledge to be reminded	Known heat preservation methods like solar drying, microwave heating etc..
Topic Synopsis	• Sterilization it is controlled heating process used to completely eliminated all living microbes, including thermo resistant spores & others. • Commercial sterilization is destruction of all pathogenic & spoilage organisms that can grow in food. • Pasteurization is a process in which packaged & non-packaged foods are treated with mild heat. • Pasteurization usually to less than 100^0c to eliminate pathogens & extend shelf life. • Blanching it is a cooking process in which a food like vegetables/fruit is scaled in boiling water, removed after a time interval.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Understanding.
Examples & Illustrations	Heat preservation methods like sterilization, pasteurization.
Additional Inputs	-
Teaching Aids used	PPT
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Quiz
Activity Planned outside the classroom	To watch heat preservation methods in youtube
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Group discussion

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Thermal processing
Hours Required	2 hrs
Learning objectives	• Students will understand various thermal treatments based on temperature. • And know the best thermal treatment for processing different foods
Previous knowledge to be reminded	Thermal treatments like sterilization
Topic Synopsis	• It is a combination of temperature & time required to eliminate a desired number of micro organisms from food product. • It is a basic purpose is to destroy microbial activity. • Thermal processing is food sterilization technique in which the food. • The specific amount of time required depends upon the specific food & the growth habits of the enzymes or microbes.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Understanding.
Examples & Illustrations	Canned foods
Additional Inputs	Heat preservation methods
Teaching Aids used	PPT
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	Heat preservation methods animation in youtube
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Discussion the thermal processing methods.

V. Kavya

Signature of the Lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Refrigeration
Hours Required	2 hrs
Learning objectives	• Students will understand the importance of refrigeration in food preservation. • And their mechanism of refrigeration system.
Previous knowledge to be reminded	Known refrigeration, freezing
Topic Synopsis	• Refrigeration preservation of food is vital processing step in food processing. • It is a system which maintains temperature by removing excessive heat. • The refrigeration means cooling a space, substance or system to lower maintain its temperature below the ambinent one. • The absorption of the amount of heat necessary for the change of state from liquid to a vapour by evaporation.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Understanding.
Examples & Illustrations	House hold refrigerators
Additional Inputs	Total cooling capacity of refrigerators at rated conditions.
Teaching Aids used	PPT
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	Group discussion
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	-

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Freezing curve
Hours Required	2 hrs
Learning objectives	• Students will understand about freezing curve • And know the freezing temperatures.
Previous knowledge to be reminded	• Preservation of food in a freezer for a long time.
Topic Synopsis	• The temperature evolution with time during the freezing process is called freezing curve. • AS: The food is cooled below its freezing point of 0^0c. • At point S, which corresponds to a temperature below freezing, the water remains liquid. • At BC temperature constant heat remove by temperature forming ice
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Understanding.
Examples & Illustrations	Importance of freezing in food industry for the preservation of the food products.
Additional Inputs	Freezing – Delays spoilage of food & keeps foods safe
Teaching Aids used	Diagram
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Writing the freezing curves on board by students.
Activity Planned outside the classroom	Practicing the freezing curves.
ICT/LMS Tools/ Blogs/Websites	Writing the freezing curves on board by students.
Any Other Activity	Practicing & discussing about freezing curves.

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Normal drying curve
Hours Required	2 hrs
Learning objectives	• Students will understand about normal drying curve • And known the typical drying rate curve for a constant drying conditions.
Previous knowledge to be reminded	• Sun drying, drying time
Topic Synopsis	• Drying curve usually plots the drying rate versus drying time contents. • Three major stages of drying can be observed in the drying curve. • Transient early stage, during which the product is heating up. • Constant rate period, in which moisture is comparatively easy to remove. • Falling rate period, in which moisture is bound or held within the solid matrix.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Analysis & understanding
Examples & Illustrations	The curve is extremely valuable in understanding associated with the drying of each unique product
Additional Inputs	Importance of drying for the removal of moisture content in food.
Teaching Aids used	Diagram
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	Practicing the curves
ICT/LMS Tools/ Blogs/Websites	Diagram
Any Other Activity	Practicing the curves

V. Kavya
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Programme: I B7 **Semester: II**	**Course: II – Technology of Food Preservation (FT 2319) Teacher: V. Kavya**
Name of the Topic	Drying as a means of preservation
Hours Required	2 hrs
Learning objectives	• Students will understand the various drying as a means of preservation. • And know how to dry food
Previous knowledge to be reminded	• Sun drying, oven heating.
Topic Synopsis	• Drying basically dehydrates or removes the moisture from the food. • This simple action inhibits the growth of micro organisms. • Drying removes the water from the food, the weight of the food item also reduces. • Drying involves extracting the moisture from the food items. • There are several ways of drying foods- in the sun, in an oven.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Analysis & understanding
Examples & Illustrations	Commercial dehydrators- sun drying & oven heating.
Additional Inputs	Importance of drying in preserving the food products.
Teaching Aids used	PPT
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Quiz
Activity Planned outside the classroom	To write the notes
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Group discussion

V. Kavya.
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Food irradiation
Hours Required	3 hrs
Learning objectives	• Students will understand the Quality and safety of irradiated food. • And know the importance of food irradiation.
Previous knowledge to be reminded	• Irradiations like X- rays, gamma rays
Topic Synopsis	• Food irradiation is a process of food preservation in which food is exposed to ionizing energy. • Ionizing energy- radioisotope cobalt-60 & cesium-137. • High energy electrons & x-rays generated by machines using electricity are increasingly used for food irradiation. • The biological effect of radiation occurs as a result of discrete changes in the atomic & molecular structure of irradiated material.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Analysis & understanding
Examples & Illustrations	Importance of food irradiation for safety of food products.
Additional Inputs	Theories of food irradiation
Teaching Aids used	PPT
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	To write the notes
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	Group discussion

V. Kavya
Signature of the lecturer

Lesson Plan for the year – 2020-2021

Class: I B. Sc; Semester: II **Programme: I B7**	**Course: II – Technology of Food Preservation (FT 2319)** **Teacher: V. Kavya**
Name of the Topic	Unit of food irradiation
Hours Required	2 hrs
Learning objectives	• Students will understand about unit of food irradiation. • And known about absorption of energy
Previous knowledge to be reminded	• Importance of food irradiation in preserving the food products.
Topic Synopsis	• The radiation is now adopted internationally as a unit of measure of radiation. • One radiation is equivalent to the absorption of energy of 100 ergs per gram of irradiated material. • The bigger units are Kilo radiation = 10^3 rads. • Larger amount of radiation is required to inactivate the enzymes and the food may become completely unacceptable.
Thrust Areas	Technology of Food Preservation
Skills to be Learnt by the Student	Analysis & understanding
Examples & Illustrations	To extend the shelf life of food products by using food irradiation methods.
Additional Inputs	Importance of food irradiation to avoid the use of harmful chemical compounds like methyl bromide.
Teaching Aids used	PPT
References Cited	Food Processing and Preservation – B. Sivasankar
Student Activity Planned after Teaching	Sum up points by students
Activity Planned outside the classroom	To watch food irradiation in you tube
ICT/LMS Tools/ Blogs/Websites	PPT
Any Other Activity	To watch food irradiation in you tube

V. Kavya.

Signature of the lecturer