



COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023

Name of the Department : Botany

NAME OF THE LECTURER : B. Nagarish Babu

Course / Group :

Subject / Page :

Sl.No.	Subject	Paper	Page No.
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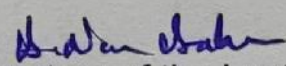
Teaching Plan / Lesson No.

Name of the Topic	Timely organization of apical meristems
Hours required	
Learning Objectives	To understand the structure and function of different types of tissues
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagrams & charts, ppt
Additional inputs	Black Board ICT PPT Slides
Teaching Aids used	↓ Black Board ICT, ppt, slides
References cited	Text books - Vivek publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Apical meristems occur at the growing shoot and root tips. Root apical meristem - root cap - tunica - cambium theory - Histogen theory. Study the arrangement of the different zones of cells in shoot & root apical region.

B. Arun Babu
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Tissue system
Hours required	
Learning Objectives	To understand the tissues present in plants
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black Board, ICT, ppt slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Each plant organ in turn is made from three tissue systems: ground tissue system, dermal tissue system and vascular tissue system. ground tissue system - cortex - Endodermis. epidermal → epidermis - stomata cuticle. Vascular T.S → Xylem & phloem.


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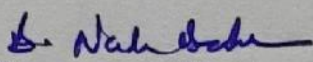
Teaching Plan / Lesson No.

Name of the Topic	Types of vascular bundles
Hours required	
Learning Objectives	To understand the types of vascular bundles
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black board, T.C.T, PPT slides
References cited	Text book, Viven publishing
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) There are 4 types of vascular bundles:- → collateral, → bicollateral → concentric and radial vascular bundles conducting food & water

B. Nakh Bah
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Anomalous growth in Boerhaavia
Hours required	
Learning Objectives	To understand the structure of Boerhaavia
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black board, TCT, PPT slides
References cited	Text books, online publishing
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) In Boerhaavia, it is anomalous growth derived from the accessory cambium along with banyan villae. several cambia arise successively in centrifugal direction. Each cambium produces xylem and conjunctive tissues to the inside and phloem & conjunctive tissue to the outside


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	<u>Anomalous secondary growth in Dracaena</u>
Hours required	
Learning Objectives	To understand the stem structure of <u>Dracaena</u>
Previous knowledge to be reminded	Recall the information from previous <u>knowledge</u>
Examples / Illustrations	<u>Diagrams and charts</u>
Additional inputs	
Teaching Aids used	<u>Blackboard, ICT: PPT slides</u>
References cited	<u>Text book, various publications</u>
Student Activity Planned after the teaching	<u>Test</u>
Activity planned outside the class room, if any	
Any other activity	<u>Assignment</u>
Topic Synopsis	(Continue on the reverse side if needed) Dracaena shows a particular kind of secondary growth as a result of the cambial layer forming in the sub epidermal area and also slightly outside the vascular bundles. Cambium is derived from the pericycle & deep layers of cortex.

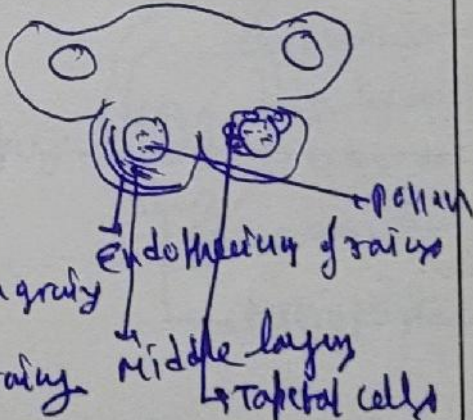
B. N. N. N.
Signature of the Lecturer

Teaching Plan/ Lesson No.

Name of the Topic	Timber yielding plants
Hours required	
Learning Objectives	To understand the structure of importance of timber yielding plants
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram and charts
Additional inputs	
Teaching Aids used	Black board, ICT, ppt slides
References cited	Text, book, Vivake publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Timber plants are usually medium to large trees which are cut to extract the wood. it is also known as "lumber" in US and Canada. Timber trees are broadly classified into trees of soft, semi-hard and hard woods. Hard wood is derived from angiosperms (mainly dicotyledonous) plants.

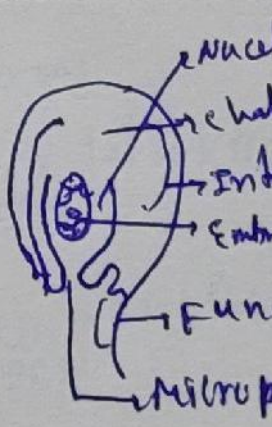
S. Nandani
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	structure of anther
Hours required	
Learning Objectives	To understand the structure of Anther
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram and charts
Additional inputs	
Teaching Aids used	Black board, ICT & ppt slides
References cited	Textbook, vivake publications
Student Activity Planned after the teaching	test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) ① Epidermis - stomium cells ② Endothecium ③ Middle layers ④ Tapetum → food for pollen grains ⑤ Sporogenous tissue → pollen grains 

S. Nagesh Babu
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	structure and types of ovule.
Hours required	
Learning Objectives	To understand the structure and different types of ovules
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram and charts
Additional inputs	
Teaching Aids used	Black board, ICT & PPT Slide
References cited	Text book, viva publication
Student Activity Planned after the teaching	test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Six types of ovules orthotropous - anatropous - hemianatropous - campylotropous - amphitropous & circinotropous ovule. 

B. Nadeem
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	process of fertilization
Hours required	
Learning Objectives	To understand the structure process of fertilization.
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram and charts
Additional inputs	
Teaching Aids used	Black Board. ICT & ppt/slides
References cited	Text book, various publications
Student Activity Planned after the teaching	test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Double fertilization - in angiosperms I. $\text{♂} + \text{♀} \xrightarrow{\text{Syngamy}} \text{zygote} \rightarrow \text{1st fertilization}$ male gamete egg cell II. $\text{♂} + \text{♀} \xrightarrow{\text{Triple fusion}} \text{PEN} \rightarrow \text{2nd fertilization}$ male gamete central cell (1x) (2x) $\text{syngamy + triple fusion} \rightarrow \text{double fertilization}$

B. Ashish Bhat
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	structure of Mushroom
Hours required	
Learning Objectives	To understand the structure of Mushroom
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black Board, ICT, PPT/Slide
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) The fruiting body may contain a cap, stalk, ring, volva and gills. The cap normally houses the spore producing surface of the fruiting body. 

B. W. B. B.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Life cycle of mushroom
Hours required	
Learning Objectives	to understand the life cycle of mushroom
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black Board, ICT & PPT slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) There are four basic stages to the life cycle of a mushroom. Spore germination, colonisation, fruiting and sporulation <pre> graph TD Mushroom --> sporophore sporophore --> grow[grow into hyphae] grow --> hyphae[hyphae meet & combine] hyphae --> mycelium mycelium --> knot[Hyphal knot] knot --> pinhead[pin head (baby mushrooms)] pinhead --> Mushroom </pre>

Dr. Nagar Bahu
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	nutritional value of Mushrooms
Hours required	
Learning Objectives	To understand the structure of different plant cell and between edible and poisonous mushroom. value of mushroom
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black board, ICT & ppt slides
References cited	Textbook, Vivake publication
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Mushroom contain proteins, vitamins, minerals and antioxidants. mushroom also contain a small amount of vit D. Dietary fiber may help manage a number of health conditions, including type 2 diabetes

B. Nagesh Babu
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	cell wall
Hours required	
Learning Objectives	to understand the structure of plant cell wall
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black Board, ICT & ppt slides
References cited	Textbook, vivake publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) cell wall is protective layer consist of three layers <pre> graph TD A[cell wall is protective layer consist of three layers] --> B[Middle lamella] A --> C[Primary cell wall] A --> D[secondary cell wall] B --> E[cementing layer] E --> F[pectin] C --> G[cellulose] D --> H[pectin] </pre>

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Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Transcription & Translation
Hours required	
Learning Objectives	To understand the Transcription & Translation in protein synthesis
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Blackboard, ppt Slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) The process by which DNA is copied to RNA — transcription and that by which RNA is used to produce proteins — Translation

B. Narasimhan
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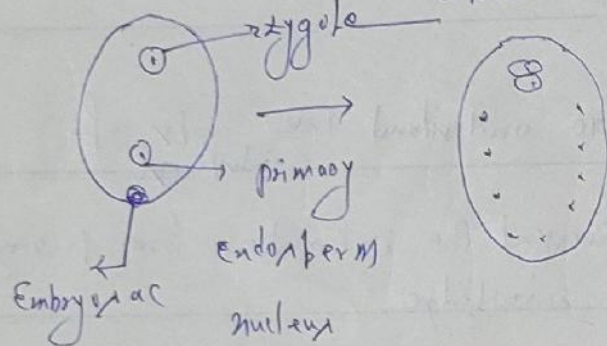
Teaching Plan / Lesson No.

Name of the Topic	Types of Endosperms
Hours required	
Learning Objectives	To understand the types of Endosperms
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black Board, ICT & ppt slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Types of endosperms <pre> graph TD A[Types of endosperms] --> B[Cellular] A --> C[Nuclear] A --> D[Helobial] </pre> Endosperm - nutritive tissue

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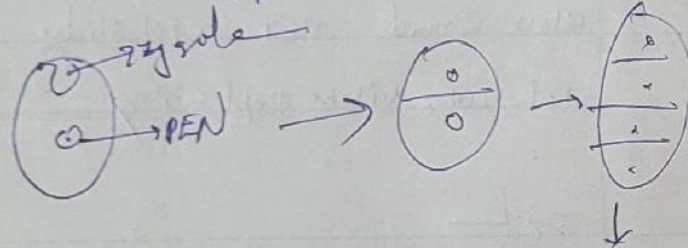
→ plays main role - diff of human beings

① Nuclear ES



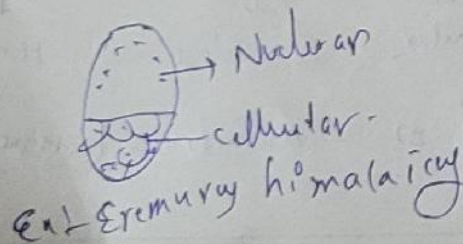
En: Limbatic

cellular endosperm



En: Drimys winteri

Helobial endosperm

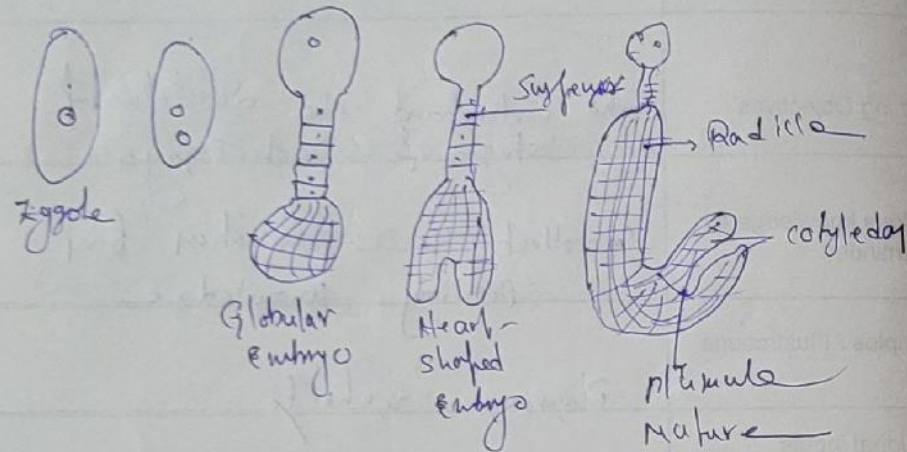


Teaching Plan / Lesson No.

Name of the Topic	Development of dicot embryo
Hours required	
Learning Objectives	the understand the developmental stages of Dicot Embryo
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagram & charts
Additional inputs	
Teaching Aids used	Black Board - TCT & PPT Slides
References cited	Text books, vivare publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Dicot Embryo En: caprilla-buxa-pastoris The embryogenesis of a dicot seed is a multi-stage process in which a zygote develops into a proembryo, a quadrant, an octant, a pre-embryo, and eventually

[Signature]
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a full embryo



- Two cotyledon, embryonal axis
- epicotyl & hypocotyle → plumule & radicle
- basal cell - proembryo - micropyle - terminal cell
- proembryo → quadrant stage
- four cells → eight cell involution - octant stage
- Lower tier → tip, upper tier → hypocotyl.
- The suspensor swell stem haustoria.
- hypothysis → root and the root cap

Teaching Plan / Lesson No.

Name of the Topic	Ecology branch & significance
Hours required	
Learning Objectives	To understand the meaning and branch of Ecology and its significance
Previous knowledge to be reminded	Recalled the information by previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black Board, ICT & ppt slides
References cited	Text book, vivake publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) " The study of the reciprocal relationship between living organisms and their environment" Branches:- Autecology - study of individual species

B. N. S. S. S.
Signature of the Lecturer

Synecology - study of community

Habitat Ecology - population Ecology - community

Ecology - Ecosystem Ecology - Resource ecology -
- production ecology - Radiation ecology -
- Palaeoecology.

- Ecology - enriching our world and is crucial
for human wellbeing and prosperity.

Teaching Plan / Lesson No.

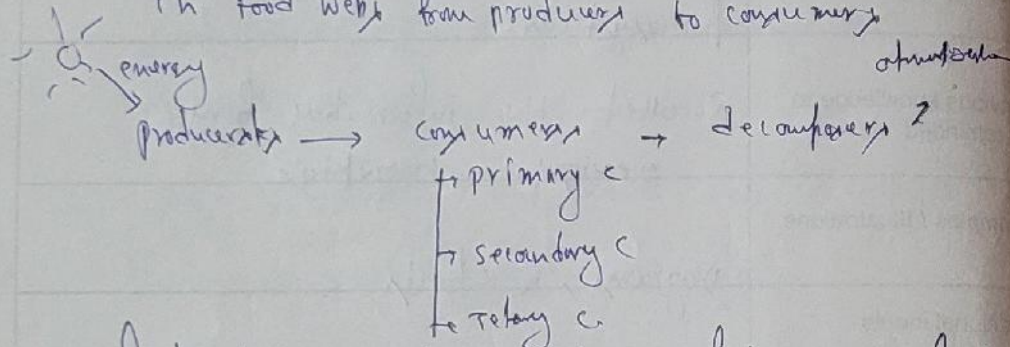
Name of the Topic	Ecosystem
Hours required	
Learning Objectives	To understand the meaning and of Ecosystem.
Previous knowledge to be reminded	Recollect the information from previous knowledge.
Examples / Illustrations	Diagrams, & charts
Additional inputs	
Teaching Aids used	Black board, JCT & ppt slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Ecosystem components <pre>graph TD EC[Ecosystem components] --> B[Biotic components] EC --> A[Abiotic components] B --> B1[Ent: plants] B --> B2[animals] B --> B3[decomposers] A --> A1[Ent: air] A --> A2[water] A --> A3[soil]</pre>

B. Rajesh Kumar
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→ Energy flow in Ecosystem

→ Energy transferred between organisms

in food web from producers to consumers



→ A food chain is a linear network of links in a food web starting from producer organisms and ending at an apex predator species, detritivory

→ A food web is the natural interconnection of food chains and a graphical representation of what-eats-what in an ecological community. — consumer-resource system.

→ An ecological pyramid is a graphical representation showing the relationship between different organisms in an ecosystem.

- pyramid of number
- pyramid of Biomass
- pyramid of Energy

Teaching Plan / Lesson No.

Name of the Topic	Plants and Environment
Hours required	
Learning Objectives	To understand the plants and environment
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & PPT Slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Environmental factors — light, temperature & soil factor. Facultative heliophytes, Facultative sciophytes, short day plants - 12-14 hours

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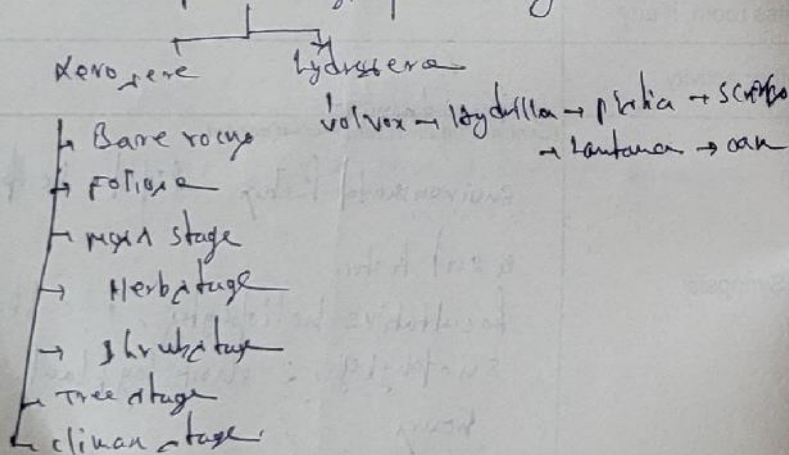
long day plants - 12-14 h: *Syrphidoxylon* *rostrata*

Day neutral plants - *cucumis sativus*

Temperature is the master factor in the distribution of vegetation over the earth, though its action is always interwoven with those of light and water. Temperature influences almost all activities of plants - photosynthesis, respiration, absorption of water, transpiration, germination, growth and even reproduction.

- Soil acts as a substrate that provides mechanical support to plants and as a reservoir of water and nutrients for plants.

- Ecological succession - change in the species that make up an ecological community over time



Teaching Plan / Lesson No.

Name of the Topic	Population, community and production ecology
Hours required	
Learning Objectives	To understand the population ecology
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram and charts
Additional inputs	
Teaching Aids used	Black board, TGT & PPT slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Natality - rate of birth per unit area of people per unit of time. Mortality - in the number of deaths of organisms in a population of a particular location over time

B. Nayak
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growth curves,
Two types

J curve

S curve

An exponential
growth pattern
occurs in an ideal,
unlimited environment

A logistic growth
pattern (S curve) occurs
when environmental
pressures slow the rate of
growth.

ecology & ecology → species are adapted to a range of
↓
environmental conditions
population of
organisms that have adapted to a specific set of environ-
mental conditions

Teaching Plan / Lesson No.

Name of the Topic	Community Ecology
Hours required	
Learning Objectives	To understand the community Ecology
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, JCT & ppt slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Frequency → number of times a plant species occurs in a given number of quadrats Density → the number of individuals of a given species that occurs within a given sample unit or study area.

B. Nafiseh Jahan
Signature of the Lecturer

like forms → foundation species, keystone species
and invasive species

biological spectrum.

↓
is made up of various organisational
levels, starting with the cell and its genes and
progressing through tissue, organ, and organism.

Teaching Plan / Lesson No.

Name of the Topic	concept of productivity
Hours required	
Learning Objectives	To understand the concept of productivity
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram, charts
Additional inputs	
Teaching Aids used	Black Board, ICT, ppt slide
References cited	Text book, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) productivity → The percentage of energy that enters the ecosystem in the form of biomass at a particular trophic level

B. N. Saha
Signature of the Lecturer

GPP $\rightarrow$ The rate at which solar energy is captured in sugar molecules during photosynthesis

NPP $\rightarrow$ the difference between the energy fixed by autotrophy and their respiration

community respiration $\rightarrow$ to the total amount of CO_2 that is produced by individual organisms in a given community

secondary production: The production of organic matter by the consumers.

P/R ratio: the relationship between gross production and total community respiration.

Teaching Plan / Lesson No.

Name of the Topic	Biodiversity
Hours required	
Learning Objectives	To understand the community Biodiversity
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & ppt slides
References cited	Text book, vivata publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Biodiversity $\rightarrow$ variety and variability of life on earth convention on biodiversity $\rightarrow$ convention on the conservation of migrating species of

B. Nishu Shah
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wild animals Vienna convention for the protection of the ozone layer

Earth Summit → are decennial meetings of world leaders, organized since 1972 with help of the United Nations, to help defining ways to stimulate sustainable development at the global level.

Teaching Plan / Lesson No.

Name of the Topic	Level of Biodiversity & values.
Hours required	1 hour
Learning Objectives	To understand the levels of Biodiversity
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & PPT slides
References cited	Text book, Vivane publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Biodiversity three levels • Genetic diversity • species diversity • Ecosystem diversity

B. Singh
Signature of the Lecturer

Biodiversity fundamental value

- Environmental value - social value
- Ecosystem services - Economic value
- value of consumptive use - Moral and ethical value - Aesthetic value.

Teaching Plan / Lesson No.

Name of the Topic	Threats to Biodiversity
Hours required	
Learning Objectives	To understand the threats to Biodiversity
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagram & charts
Additional inputs	
Teaching Aids used	Black board, FCT & ppt slides
References cited	Textbook, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Threats to Biodiversity. climate change pollution, habitat loss. over exploitation of species and

D. Akshay
Signature of the Lecturer

invasive species have been identified
of the five major threats to Biodiversity
globally.

Teaching Plan / Lesson No.

Name of the Topic	Biodiversity hot spots
Hours required	
Learning Objectives	To understand the Biodiversity hot spots
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram & charts
Additional inputs	
Teaching Aids used	Black board, TET & ppt slide
References cited	Textbook, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Biodiversity hotspots - regions that contain a high level of species diversity, many endemic species - (species not found anywhere else in the world)

B. N. Singh
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and significant number of threatened (or)
endangered species

Four of the world's 36 biodiversity hotspots

are located in India:-

The Himalayas

western ghats,

Indo - Burma area, and Sundaland

Teaching Plan / Lesson No.

Name of the Topic	Biodiversity conservation
Hours required	
Learning Objectives	To understand the biodiversity conservation
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & PPT slide
References cited	Text book, Vivake publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) The practice of protecting and preserving the wealth and variety of species, habitats, ecosystems, and genetic diversity on the planet.

B. Naghwa
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Teaching Plan / Lesson No.

is important for our health, wealth, food, fuel, and services we depend on.

In-situ:- conservation of habitats, species and ecosystems where they naturally occur
e.g. National Parks and wildlife sanctuaries.

Ex-situ:- The conservation of elements of biodiversity out of the context of their natural habitats

e.g. Botanical gardens, zoological gardens, gene banks, DNA Banks

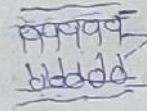
Name of the Topic	plasma membrane
Hours required	
Learning Objectives	To understand the plasma membrane
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & PPT slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) plasma membrane - lipid bilayer - Semi-Permeable - regulates the transport of materials entering and exiting the 

B. N. N. N.
Signature of the Lecturer

cell.

Integral protein = transporter - anchors the cytoskeleton - render shape to the cell

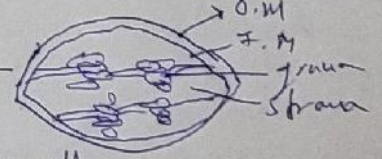
- components - phospholipids - cholesterol - carbohydrate

- Fluid mosaic model

 protein lipid
 sugar & nicotin

- unit membrane model - Robertson

- Sand which model (p-L-L-p) Danielli and Davson

Teaching Plan / Lesson No.

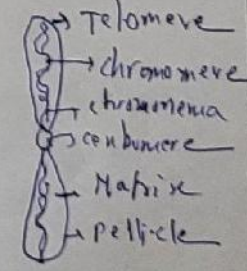
Name of the Topic	chloroplast
Hours required	
Learning Objectives	To understand the structure and function of chloroplast
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & PPT slides
References cited	Text book, vivare publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) - oval @ biconvex - double membrane cell organelle - photosynthetic cell organelle 

B. N. S. S. S.
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→ produce energy - oxygen - release process.
plant growth & crop yield.

→ biosynthesis → amino acid, phytohormone,
nucleotide, vitamins, lipids and
secondary metabolites.

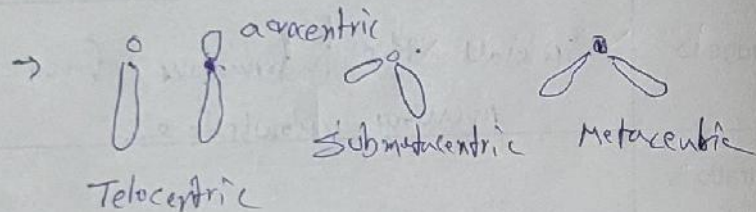
Teaching Plan / Lesson No.

Name of the Topic	Morphology of eukaryotic chromosome
Hours required	
Learning Objectives	To understand the morphology of chromosome
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ICT & ppt slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) - chromosome bear four transmission characters from generation to generation - vary in shape, size and number 

B. N. Singh
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- Property - self duplication, segregation and mutation.

- composed DNA, RNA & histone proteins



→ karyotype - arranged shape, size and structure

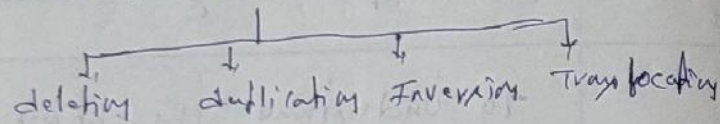
→ Idiogram - Karyotype of a cell

Teaching Plan / Lesson No.

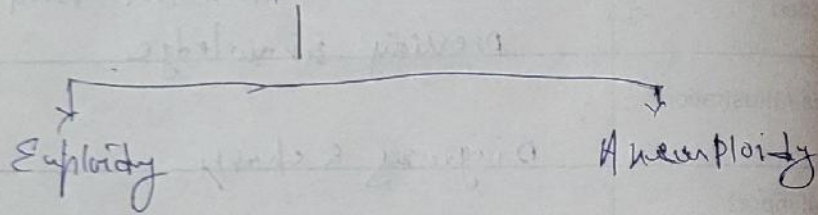
Name of the Topic	chromosomal aberration
Hours required	
Learning Objectives	To understand the chromosomal aberrations
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagram & charts
Additional inputs	
Teaching Aids used	Black board, ICT & ppt slides
References cited	Textbook, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Chromosomal aberration, is a disorder characterized by a morphological (a) Numerical alteration in single (b) Multiple chromosomy, affecting autosomy, sex chromosomy, or both

B. Nageshwar
Signature of the Lecturer

structural chromosomal aberrations



Numerical aberrations in chromosomy



Teaching Plan / Lesson No.

Name of the Topic	<u>Nucleosome</u>
Hours required	
Learning Objectives	To understand the structure of Nucleosome
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, PPT slides
References cited	Text book, vivas publication
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) A Nucleosome is a section of DNA that is wrapped around a core of proteins. Inside the nucleus, DNA forms

B. Subin
Signature of the Lecturer

a complex with proteins called chromatin, which allows the DNA to be condensed into a smaller volume. When the chromatin is extended and viewed under a microscope, the structure resembles beads on a string.

Teaching Plan / Lesson No.

Name of the Topic	Mendel laws
Hours required	
Learning Objectives	To know about the Mendel laws
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagrams Excharts
Additional inputs	
Teaching Aids used	Black board, ppt slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Text
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Mendel laws:- Law of dominance Law of Segregation Law of independent assortment

S. Nadeem
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Linkage & Crossing over
Hours required	
Learning Objectives	To understand about linkage & crossing over
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black board, ppt slides
References cited	Text book, vivare publication
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Crossing over is the phenomenon where the genetic material gets exchanged in the gametocyte. Genetic linkage is the tendency of genes to stay together in a chromosome.

B. Wadhwa
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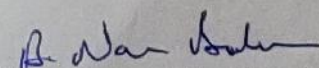
Teaching Plan / Lesson No.

Name of the Topic	DNA structure
Hours required	
Learning Objectives	To understand the structure of DNA
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams and charts
Additional inputs	
Teaching Aids used	Black board, ppt slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) A DNA molecule consists of two long polynucleotide chains composed of four types of nucleotide subunits. Each of these chains

B. N. S. S. S.
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Teaching Plan / Lesson No.

Name of the Topic	DNA replication
Hours required	
Learning Objectives	To understand the DNA replication & types
Previous knowledge to be reminded	Recall the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ppt slide
References cited	Text book, various publications
Student Activity planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) In molecular biology DNA replication is the biological process of producing two identical replicas of DNA from the one original DNA molecule. DNA replication occurs in all living organisms


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Teaching Plan / Lesson No.

Name of the Topic	Lac operon
Hours required	
Learning Objectives	To understand about the lac operon.
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ppt slides
References cited	Text books, online publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) The lactose operon (also known as the lac operon) is a set of genes that are specific for uptake and metabolism of lactose and is found in E. coli and other bacteria.

B. Nasser Khan
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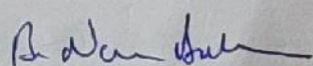
Teaching Plan / Lesson No.

Name of the Topic	plant breeding
Hours required	
Learning Objectives	To understand the plant breeding technology
Previous knowledge to be reminded	Recall the information from previous knowledge.
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ppt slide
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) plant breeding is the science of changing the traits of plants. In order to produce desired characteristics it has been used to improve the quality of nutrition in products

B. N. S. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Mass Selection
Hours required	
Learning Objectives	To understand the mass selection
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams & charts
Additional inputs	
Teaching Aids used	Black board, ppt slides
References cited	Text book, vivante publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Mass selection is the process in which the individuals are selected from a mixed population based on the phenotype. The next generation is grown by bulking the selected seeds.


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Teaching Plan / Lesson No.

Name of the Topic	clonal selection
Hours required	
Learning Objectives	To understand about the clonal selection
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams / charts
Additional inputs	
Teaching Aids used	Blackboard, ppt Slidy
References cited	Text book, vivake publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continued on the reverse side if needed) Selection of desirable clones from the mixed population of vegetative propagated crops is known as clonal selection. - method of improving vegetatively propagated crops like sugarcane

B. Nagesh Babu
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	hybridisation
Hours required	
Learning Objectives	To understand the hybridization
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams / charts
Additional inputs	
Teaching Aids used	Black board, ppt slide
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) plant hybridization

B. N. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Molecular breeding
Hours required	
Learning Objectives	To understand the importance of molecular breeding
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams / charts
Additional inputs	
Teaching Aids used	Black board, ppt Slides
References cited	Text book, various publications
Student Activity Planned after the teaching	test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Molecular breeding, or MAS refers to the technique of using DNA markers that are tightly linked to phenotypic traits to assist in a selection scheme for a particular breeding objective.

B. N. Das
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Edible & Poisonous mushrooms
Hours required	
Learning Objectives	To understand the different types of mushrooms
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams / charts
Additional inputs	
Teaching Aids used	Blackboard, ppt slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continued on the reverse side if needed) First, is there any red anywhere on the mushroom including the cap, stem or base. If there is, treat the mushroom as poisonous. Secondly cut the mushroom in half vertically, if the flesh is immediately

B. N. S. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	nutritional value of mushroom
Hours required	
Learning Objectives	To know the value of mushroom
Previous knowledge to be reminded	recollect the information from previous knowledge
Examples / Illustrations	Diagrams / charts
Additional inputs	
Teaching Aids used	Blackboard, ppt slide
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) values of mushroom decrease the risk of cancer Lower sodium intake promote lower cholesterol

Dr. Nader Sam
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Layout of a mushroom farm
Hours required	
Learning Objectives	To understand the layout of a mushroom farm
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams/charts
Additional inputs	
Teaching Aids used	Blackboard / ppt slide
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) mushroom farm following units - composting unit - comprising of covered outdoor composting yard (or) an aerated bunker

B. N. N. N.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	
Hours required	Mushroom composting
Learning Objectives	TO understand the Mushroom composting
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagrams/charts
Additional inputs	
Teaching Aids used	Blackboard / ppt slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Mushroom composting - develops as the chemical nature of the raw ingredients is converted by the activity of microorganisms, heat

B. Narayan
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Teaching Plan / Lesson No.

Name of the Topic	spawning and casing
Hours required	
Learning Objectives	TO understand the spawning & casing
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagram/ charts
Additional inputs	
Teaching Aids used	Blackboard ppt Slides
References cited	Text book, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) spawning & casing in the spawn-production process mycelium from a mushroom culture is placed onto steam-sterilized grain

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and in time the mycelium completely grows through the grain. This grain mixture is called spawn, and spawn is used to "seed" mushroom compost.

- casing involving the covering of compost with a thin layer of sterile soil or materials like chalk powder to maintain moisture and gaseous exchange. The material used to cover the compost must be neutral or slightly alkaline.

Teaching Plan / Lesson No.

Name of the Topic	Button mushroom
Hours required	
Learning Objectives	To understand the life cycle of button mushroom
Previous knowledge to be reminded	Recalled the information from previous knowledge
Examples / Illustrations	Diagram / charts
Additional inputs	
Teaching Aids used	Blackboard / ppt / slide
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Button mushroom - Planting Maintain 22-25°C temp. and 80-85% humidity in the room.

B. V. Nambiar
Signature of the Lecturer

- spawn run takes place after 12-15 days of spawning and dark brown compost turns whitish. At this stage, application of casing soil is essential for fruiting.

- casing soil is an equal mixture of two years old farm yard manure and loam soil.

cultivation technology

spawn production

↓
compost preparation

↓
spawning

↓
SI Running

↓
casing

↓
fruiting

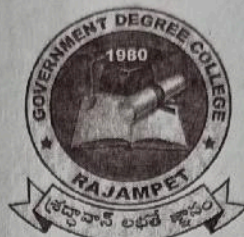
Teaching Plan / Lesson No.

Name of the Topic	Milky mushrooms
Hours required	
Learning Objectives	To understand about the cultivation of Milky mushrooms
Previous knowledge to be reminded	Recollect the information from previous knowledge
Examples / Illustrations	Diagrams / charts
Additional inputs	
Teaching Aids used	Black board / ppt / slides
References cited	Text books, various publications
Student Activity Planned after the teaching	Test
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) Milky mushrooms - Suitable for hot and humid climate - Throughout the year - Harvested 24-28 days after spawning

B. Nafiz Sultan
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COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023.

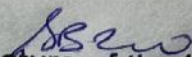
Name of the Department : Botany.
NAME OF THE LECTURER : S. Bhaskar Rao
Course / Group : BZC
Subject / Page : BOTANY

Sl.No.	Subject	Paper	Page No.
1	Plant Tissue culture.	VI	1-19

Tissue culture

Teaching Plan / Lesson No: 1

Name of the Topic	Plant tissue culture : Definition, history & scope & significance
Hours required	2.
Learning Objectives	To know the plant tissue culture history.
Previous knowledge to be reminded	To recollect previous knowledge of Intermediate study.
Examples / Illustrations	
Additional inputs	
Teaching Aids used	B.B.
References cited	Kalyan kumar (2001): An introduction to plant tissue culture.
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Definition: - plant tissue is a collection of techniques used to maintain or grow plant cells, tissues, or organ under sterile condition on a nutrient culture medium of known composition. It is widely used to produce clones of a plant in a method known as Micropropagation.


Signature of the Lecturer

Name of the Topic	Totipotency, Differentiation and Differentiation
Hours required	2.
Learning Objectives	To know comprehend the basic knowledge of tissue culture
Previous knowledge to be reminded	To collect the previous knowledge.
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black board, PPT.
References cited	An Introduction to Plant Tissue Culture K. G. Ramchandran
Student Activity Planned after the teaching	Seminar,
Activity planned outside the class room, if any	Assignment.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Totipotency: - The ability of plant cell to divide grow and produce a complete plants under controlled condition is called totipotency. (a) cellular potency: Somatic was used by Morgan

Name of the Topic	Different explants for tissue culture ^{vegetative}
Hours required	4
Learning Objectives	To know the culturing methods and culture of Root, shoot and leaflets etc
Previous knowledge to be reminded	To recollect the previous knowledge
Examples / Illustrations	Shoot tips, Leaf, Roots.
Additional inputs	
Teaching Aids used	Black board, PPT.
References cited	Kalyan Kumar :- An introduction to plant tissue culture
Student Activity Planned after the teaching	Seminar, Group discussion
Activity planned outside the class room, if any	Assignment.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Root culture :- the culture of excised radical tips : Kotte and Robbins first time cultured culture medium :- white synthetic medium. Importance :- (1) Root tip culture increase our knowledge of carbohydrate metabolism.

Name of the Topic	Explant for tissue culture (Anthers)
Hours required	4
Learning Objectives	Comprehend the basic knowledge of Explants for tissue culture
Previous knowledge to be reminded	To Recall the Previous knowledge
Examples / Illustrations	Anthers, ovules, ovary, endosperms
Additional inputs	
Teaching Aids used	PPT
References cited	Kalyan Kumar (2008): An Introduction to Plant Tissue Culture
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Anther Culture: Anther culture is a technique by which the development of anther into culture on nutrient medium. Anther culture was first carried out by Shimokawa (1934). Factors affecting anther culture: - Temperature, physiology of the donor plant, culture medium

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Teaching Plan / Lesson No. 5

Name of the Topic	Role of PGRs in plant tissue culture
Hours required	2
Learning Objectives	Understand the role of PGRs in plant tissue culture.
Previous knowledge to be reminded	To recollect the previous knowledge of nutrient medium for tissue culture.
Examples / Illustrations	Auxins, Gibberellins, cytokinins, ABA, ethylenes
Additional inputs	Chemical nature of phytohormones.
Teaching Aids used	PPT and Black board.
References cited	Nalayan Kumar: An introduction to plant tissue culture.
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment.
Any other activity	(Continue on the reverse side if needed)
Topic Synopsis	In tissue culture, plant growth regulators (PGRs) are added to basal growth media to stimulate development responses of these. Auxins and cytokinins are the most frequently used PGRs for most applications. Both are important for the organogenesis development in tissue culture plants.

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Teaching Plan / Lesson No. 6

Name of the Topic	<u>Tissue culture lab design.</u>
Hours required	<u>2</u>
Learning Objectives	Identify various facilities required to set up a plant tissue culture laboratory.
Previous knowledge to be reminded	To recollect the previous knowledge of tissue culture
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black board
References cited	Web sources
Student Activity Planned after the teaching	Group discussion
Activity planned outside the class room, if any	Assignment
Any other activity	(Continue on the reverse side if needed)
Topic Synopsis	Tissue culture laboratory: An ideal tissue culture laboratory should have at least two big rooms and a small room. one big room is for general laboratory work such as

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Name of the Topic	<u>Aseptic Conditions:</u>
Hours required	<u>2</u>
Learning Objectives	Acquire a critical knowledge of sterilization sterilization technique related to plant tissue culture
Previous knowledge to be reminded	To recollect the previous knowledge
Examples / Illustrations	
Additional inputs	
Teaching Aids used	<u>PPT</u>
References cited	<u>Kalpana Kumar (2001): An introduction to plant tissue culture.</u>
Student Activity Planned after the teaching	<u>Seminar</u>
Activity planned outside the class room, if any	<u>Assignment</u>
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Tissue culture should be done in completely aseptic condition. Care should be taken so that the tissue equipment, culture media and room.

Signature of the Lecturer

Teaching Plan / Lesson No. 8

Name of the Topic	Nutrient media
Hours required	2
Learning Objectives	Identify various facilities required to set a plant tissue culture.
Previous knowledge to be reminded	To recollect previous knowledge
Examples / Illustrations	MS media, White media, Nitro and Nitro(NN) medium LS medium
Additional inputs	
Teaching Aids used	PPT and B.B
References cited	Kalyan Kumar (2001): An introduction to Plant Tissue Culture.
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) plant tissue culture media usually contains inorganic elements, organic compounds and support matrix. Culture media provides the culture the necessary inorganic nutrient that are usually available from soil

Signature of the Lecturer

Teaching Plan / Lesson No. 9

Name of the Topic	M.S. culture medium preparation
Hours required	2
Learning Objectives	Comprehend the basic knowledge and application of plant tissue culture
Previous knowledge to be reminded	To Recollect previous knowledge of nutrient medium.
Examples / Illustrations	
Additional inputs	White medium.
Teaching Aids used	PPT and black board.
References cited	Kalyan Kumar (2001): An introduction to plant tissue culture
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) M.S. medium is a plant growth medium used in the laboratory for cultivation of plant cell culture. → It is widely used for micro-propagation, organ culture, callus culture

Signature of the Lecturer

Teaching Plan / Lesson No. 10

Name of the Topic	Callus culture
Hours required	2
Learning Objectives	Demonstrate skill of callus callus through hands on experiments
Previous knowledge to be reminded	To recollect previous knowledge.
Examples / Illustrations	plant cell, tissue or organs
Additional inputs	Significance of callus culture.
Teaching Aids used	PPT
References cited	Web sources
Student Activity Planned after the teaching	Quiz
Activity planned outside the class room, if any	Assignment
Any other activity	(Continue on the reverse side if needed)
Topic Synopsis	A callus culture is a unipolar undifferentiated, and unstructured mass of proliferating cells on agar medium treated to a grow a callus in plant tissue culture

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Teaching Plan / Lesson No: 11

Name of the Topic	Micropropagation
Hours required	2
Learning Objectives	Demonstrate skill of callus culture through hand on experience.
Previous knowledge to be reminded	To recollect the plants knowledge of plant tissue culture.
Examples / Illustrations	Meristem culture, callus culture, embryo culture
Additional inputs	Amputation & Micropropagation
Teaching Aids used	PPT
References cited	Kalyan Kumar (2004): An introduction to plant tissue culture.
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment.
Any other activity	(Continue on the reverse side if needed)
Topic Synopsis	Micropropagation is the artificial process of producing plants vegetatively through tissue culture (a) cell culture technique :)

Signature of the Lecturer

Name of the Topic	Somatic Embryogenesis and Synthetic Seeds
Hours required	24
Learning Objectives	Comprehend the basic knowledge and application of somatic embryogenesis and synthetic seed.
Previous knowledge to be reminded	TV or collect the previous knowledge
Examples / Illustrations	Indiano bread wheat, white, rice barley.
Additional inputs	Limitation of somatic embryogenesis
Teaching Aids used	Black board
References cited	
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Somatic embryogenesis is the process wherein somatic cell differentiate into somatic cell Somatic embryogenesis procedure is a three steps 1) Induction of embryogenesis 2) development of the embryo 3) embryo maturation

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Teaching Plan / Lesson No: 13

Name of the Topic	Green house hardening unit operation.
Hours required	2
Learning Objectives	To understand the green house hardening unit operation.
Previous knowledge to be reminded	To recollect the previous knowledge.
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT
References cited	Kalyan Kumar (2001): An Introduction to Plant Tissue Culture
Student Activity Planned after the teaching	Group Discussion
Activity planned outside the class room, if any	Assignment-
Any other activity	
Topic Synopsis	The effective production under greenhouse, the following environmental operation and their regulation. (Continue on the reverse side if needed)

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Name of the Topic	Types of in vitro systems for secondary metabolites	
Hours required	24	
Learning Objectives	Understand the biotransformation techniques for production of secondary metabolites	
Previous knowledge to be reminded	To recollect the previous knowledge of tissue culture.	
Examples / Illustrations		
Additional inputs		
Teaching Aids used	PPT, Black board.	
References cited	Kalyan Kumar (2009): An introduction to plant tissue culture.	
Student Activity Planned after the teaching	Seminar	
Activity planned outside the class room, if any	Assignment	
Any other activity		
Topic Synopsis	(Continue on the reverse side if needed) plant secondary metabolites are classified by their chemical structure and can be divided into to 4 major classes ① terpenes ② phenolics ③ polyketides ④ Alkaloids.	

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Name of the Topic	Germplasm Conservation, Cryopreservation method
Hours required	3
Learning Objectives	To understand the germplasm conservation, cryopreservation method.
Previous knowledge to be reminded	To recollect the previous knowledge.
Examples / Illustrations	Brintal, tomato, Brinjal, cowpea, Pea.
Additional inputs	Gene banks for various crops, go India
Teaching Aids used	PPT and Black board
References cited	Vikas Publication
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Germplasm broadly refer to the hereditary material transmitted to the offspring through germ cells. Germ plasm provides the raw material for the breeder to develop various crops. There are two to germ plasm conservation. ① In-situ conservation. ② ex-situ conservation.

Name of the Topic	Protoplast isolation, culture fusion & hybrids
Hours required	3
Learning Objectives	To understand the protoplast isolation culture fusion and hybrids
previous knowledge to be reminded	To recollect the previous knowledge
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black board
References cited	Kalyan Kumar (2001): An introduction to plant tissue culture
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) The culture of protoplast in an aseptic liquid media is known as protoplast culture. Protoplast is a cell without a cell wall in liquid.

Name of the Topic	Plants transformation technique.
Hours required	2
Learning Objectives	To understand the plant transformation technique
previous knowledge to be reminded	To recollect the previous knowledge
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black board, PPT
References cited	Kalyan Kumar Rao: An introduction to Plant tissue culture
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) The uptake of foreign DNA by cell is called transformation. This technique incorporates a new DNA fragments into a host cell. Therefore incorporated cell will get extra trait/improved one of the trait

[Signature]
Signature of the Lecturer

Name of the Topic	Transgenic plants gene transfer method.
Hours required	4.
Learning Objectives	Comprehend the basic knowledge and application of Transgenic plants, gene transfer method.
previous knowledge to be reminded	To recollect the previous knowledge
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT and Black board
References cited	Kalyan Kumar (2002). An introduction to plant tissue culture.
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) A transgenic plant is a modified organism where genes are transferred from one organism to another through genetic engineering technique. The purpose of producing a transgenic plant is obtained a species that has ideal trait high yield and etc.

Signature of the Lecturer

Name of the Topic	BT cotton, BT mustard
Hours required	27
Learning Objectives	Acquire a critical knowledge on BT cotton and BT mustard
previous knowledge to be reminded	To know the previous knowledge of plant tissue culture.
Examples / Illustrations	
Additional inputs	Plavous Sava tomato
Teaching Aids used	PPT, Block board.
References cited	
Student Activity Planned after the teaching	Seminar
Activity planned outside the class room, if any	Assignment.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <i>Bacillus thuringiensis</i> crops. ① BT cotton: - The plants are genetically engineered to possess endotoxin which prevent the action of various pest that belong to the Nematode of —

COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2021 -2022 ², 2022

Name of the Department : CHEMISTRY

NAME OF THE LECTURER : B. SAILA A

Course / Group : IBSc, U BSc

Subject / Page : CHEMISTRY

Sl.No.	Subject	Paper	Page No.
1	Inorganic, Organic Chemistry	I	1-4, 11-15 18, 19
2	Inorganic organic Chemistry	II	20-23
3	Organic & Current Chemistry	III	5-7, 11, 16, 17
4			

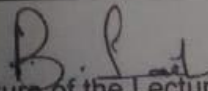
Teaching Plan / Lesson No. 20

Name of the Topic	Alkenes & cycloalkenes.
Hours required	
Learning Objectives	alkenes & cycloalkenes: preparation, properties of physical & chemical propert.
Previous knowledge to be reminded	To be reminded - the students basic knowledge of organic chemistry.
Examples / Illustrations	Write the structures of alkenes & cycloalkenes.
Additional inputs	PPTS
Teaching Aids used	virtual class room.
References cited	O.P. Aggarwal, Arunbahl.
Student Activity Planned after the teaching	Seminars, Assignments.
Activity planned outside the class room, if any	Slip test.
Any other activity	organic structure of web site.
Topic Synopsis	(Continue on the reverse side if needed) → Preparation of alkenes. → Properties of physical alkenes. → Chemical properties of alkenes. → Preparation of cycloalkenes → Properties of cycloalkenes (physical) → Baeyer strain theory.

B. P. Patil
Signature of the Lecturer

Teaching Plan / Lesson No. 21

Name of the Topic	Cycloalkenes Alkenes & Alkynes.
Hours required	8 hours
Learning Objectives	To be overcome ^{prepare} the students basic knowledge of alkenes & alkynes & properties ^{properties} .
Previous knowledge to be reminded	To be overcome ^{prepare} the students basic of alkenes.
Examples / Illustrations	Write the equations at blackboard
Additional inputs	Text books. Study material.
Teaching Aids used	virtual class room.
References cited	O.P Agarwal, Arunachal,
Student Activity Planned after the teaching	Ship test
Activity planned outside the class room, if any	Assignments.
Any other activity	Seminar.
Topic Synopsis	(Continue on the reverse side if needed) → preparations of alkenes. → properties of alkenes (physical, chemical) → Diels Alder reaction → preparations of alkynes → properties of alkynes (physical, chemical)


Signature of the Lecturer

Name of the Topic	Chemical Bonding
Hours required	10 hours
Learning Objectives	Construction of homonuclear atoms and heteronuclear atoms
Previous knowledge to be reminded	To be reminded the hybridisation, types of hybridisation, covalent bonds.
Examples / Illustrations	Write the structure of B_2H_6 and H_2O .
Additional inputs	Virtual class room
Teaching Aids used	PPT
References cited	O.P Agrawal, Advanced Text book
Student Activity Planned after the teaching	Self test.
Activity planned outside the class room, if any	Assignment.
Any other activity	Practice the H.O diagram
Topic Synopsis	(Continue on the reverse side if needed) → Types of Bonding → hybridisation → Valency Bond theory → H.O theory → H.O diagrams of homo and hetero molecules.

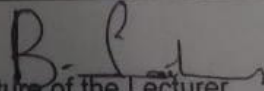
B. S. Sastri
Signature of the Lecturer

Name of the Topic	HSAB
Hours required	4 hours
Learning Objectives	Hard acid, Soft acids, Hard Base, Soft Base H-H interaction, S-S interaction, Pearson's rule.
Previous knowledge to be reminded	To reminded the relation, Ligand ion hardness, Base.
Examples / Illustrations	Write examples in Black Board.
Additional inputs	Virtual Classroom.
Teaching Aids used	Black Board.
References cited	O.P Agrawal, Academic text book.
Student Activity Planned after the teaching	Student PPT.
Activity planned outside the class room, if any	Slip test.
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) → Introduction of HSAB → Hard acids → Hard Bases. → Soft acids, Soft Bases. → H-H, S-S interaction, Pearson's rule. → Applications of HSAB.

A.A
B. Sivaraj
20/8/22

B. Sivaraj
Signature of the Lecturer

Teaching Plan / Lesson No. 29	
Name of the Topic	Surface Chemistry
Hours required	8 hours
Learning Objectives	colloids definition, Adsorption, Types of Adsorption.
Previous knowledge to be reminded	To be reminded the solution, solvent & solute compare to colloids.
Examples / Illustrations	Draw the diagrams in Black Board
Additional inputs	PPT, Charts.
Teaching Aids used	Virtual classroom.
References cited	O.P Agrawal, Kalejani
Student Activity Planned after the teaching	Assignments, Seminars
Activity planned outside the class room, if any	Self test.
Any other activity	Assignments.
Topic Synopsis	(Continue on the reverse side if needed) → Introduction of surface chemistry. → Types of colloids. → Types of Adsorption. → Applications of adsorption.


 Signature of the Lecturer

Teaching Plan / Lesson No. 25	
Name of the Topic	Stereo Chemistry of Carbon compounds
Hours required	8 hours.
Learning Objectives	→ Introduce to molecular representations. → Optical isomerism → Chiral molecules
Previous knowledge to be reminded	To be reminded the three dimensional of molecule structures.
Examples / Illustrations	Write the structures in Black Board.
Additional inputs	Study material
Teaching Aids used	Black Board, virtual classroom
References cited	Academic book, O.P Agral
Student Activity Planned after the teaching	Assignments
Activity planned outside the class room, if any	Seminars
Any other activity	Self test.
Topic Synopsis	(Continue on the reverse side if needed) → Molecular Symmetry → Optical isomerism → Chiral molecules. → D-L, R-S, E-Z configuration with examples. → Racemic mixture.

B. S. Sarker
Signature of the Lecturer

Teaching Plan / Lesson No.

Aug-2023

name of the Topic	Financial accounting Introduction to modules
Hours required	5 hours
Learning Objectives	For every transaction in a business there is a balance that is happening between the three elements of the accounting equation
Previous knowledge to be reminded	Rules of debit and credit 1) personal A/c 2) Real A/c 3) Nominal A/c
Examples / Illustrations	Andhra Bank, SBI
Additional notes	None
Teaching Aids used	Chart paper, Black Board
References cited	Kalyan Publisher
Student Activity Planned after the teaching	Assignments
Activity planned outside the class room, if any	Library
Any other activity	Home work to be given
Topic Synopsis	(Continue on the reverse side if needed) Financial accounting is a Branch of accounting in which an organisation records, summarises, and reports their Business transactions over a certain time period.

It is a primary responsibility
company to review the performance
needs for improvement of the
next year.

Principles :-

- (1) personal accounting
- (2) Real accounting
- (3) Nominated accounting

Accounting :-

"Debit the Receiver
credit the giver"

Accounting :-

"Debit what comes in
credit what goes out"

Accounting :-

"Debit all expenses losses
credit all incomes gains"

A Ledger in accounting refers to a book that contains different accounts where records of transactions pertaining to a specific

ledger A Ledger in accounting refers to a book

Andra Bank

Newspaper

check peck, Black Board

Kalger publisher

Assignments

Library

Home work has to be given,

(Continue on the reverse side if needed)

A Ledger in accounting refers to a book that contains different accounts where records of transactions pertaining to a specific account is stored. It is also known as the book of final entry or principal book of accounts. It is a book where all transactions

Following features:-

In Ledger each Account will have its heading
A special table is used to keep track of
accounts transactions

Each ledger contains a two-amount column

In both sides of the Account there is
a column where you may write the reference

Subsidiary Books

Subsidiary books are books of original e
In the normal course of business a mass
of transactions are either relate to so
(1) purchases Book (2) Sales Book (3) purchases
returns Book (4) Sales returns Book (5) cash
(6) Bills Receivable Book (7) Bills payable Book (8) etc

Andra Bank

Newspaper

check peace, Black Ba

Kedyan publisher

Assignment

Library

Home work 12/15 to me

(Continue on the reverse side if needed)

In big organizations
transactions going on is
transactions it is not
maintain a record

Business affairs whi

Different types of subsidiary books :-

(1) purchases Book

(2) Sales Book

(3) purchases return Book

(4) Sales return Book

(5) cash Book

(6) Bills Receivable Book

(7) Bills payable Book

(8) Journal proper Book

Teaching Plan / Lesson No.

Nov-2023

Name of the Topic	Cash Book
Hours required	
Learning Objectives	A Cash Book can be defined as a Financial Journal which contain all the cash receipts and disbursements
Previous knowledge to be reminded	Cash Book three types (1) simple cash Book (2) Two column cash Book (3) Three column Cash Book
Examples / Illustrations	Archa Bank
Additional inputs	New paper
Teaching Aids used	black piece Black Board
References cited	Kalyan publisher
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Library
Any other activity	Home work has to be given
Topic Synopsis	(Continue on the reverse side if needed) 1) simple cash Book 2) Two column cash Book 3) Three column cash Book The Cash Book can be defined as


Signature of the Lecturer

1 of the general ledger in
each transaction during a period
is recorded. The cash book is recorded in
chronological order.

There are three common types
1. Single column, double column, and
2. column.

Black Board

Kalyan publisher's

Problem given for calculation

Libreray

Home work has to me given

(Continue on the reverse side if needed)

Self-balancing system is a system where by separate Trial Balance can be taken out from each ledger. General ledger adjustment account will be maintained in each of the sales and bought ledger.


Signature of the Lecturer

In General ledger:

(1) Sales ledger Adjustment account (same as debtors A/c)

Purchase ledger Adjustment account (same as Total creditors A/c)

General ledger Adjustment account (shadow of Sales ledger adjustment account with the sides transposed)

Purchase ledger Adjustment account (shadow purchase ledger adjustment account with the sides transposed)

Teaching Plan / Lesson No. 2023

-Accounting for share capital
5 hour's

-Accounting for share capital: Issue and for feiture of shares. examples TOPPR.

The accounting of such transactions is special and involves the share capital account.

Accounting for share capital

News paper

chalk piece ; Black Board

Kalyan Publisher's

assignment

Library

home work has to given

(Continue on the reverse side if needed)

Share capital is the money a company raises by issuing common or preferred stock. The amount of share capital or equity financing a company has can change over time with additional public offerings.

Capital:-

the shares a company elects
is called its issued share
value of the issued share capital
value of the authorized share
capital depending on where
the company is located and the number of shares

Valuation of Goodwill

5 hours

The valuation of goodwill is a presumption acquired by the valuer considering the firm's reputation, customer's loyalty and extensive business links.

methods of goodwill:- 1. Average profit method. 2. Normal profit method.

Super profit method, capitalization method, Annuity method.

News paper

Black Board, chalk piece.

Kalyan publisher's

assignment

assignment, Library.

Home work has to given

(Continue on the reverse side if needed)

Goodwill is the value of the reputation of a firm built over time with respect to the expected future profits over and above the normal profits.

Accounting method:-

1. Average profit method

$$\frac{\text{Total profit}}{\text{Number of profit years}}$$

2. Normal profit method

$$\text{Capital Employed} \times \frac{\text{Normal rate}}{100}$$

3. Super profit method

Average profit - Normal profit

Additional inputs	News paper
Teaching Aids used	Black Board Chalk piece
References cited	Kalyan publisher's
Student Activity Planned after the teaching	assignment
Activity planned outside the class room, if any	Library
Any other activity	Home work has to given
Topic Synopsis	(Continue on the reverse side if needed) What briefly the salient features of incomplete records:- 1. It is unsystematic method of recording transactions. 2. It is very common to keep only personal a/c's 3. It avoids real and nominal accounts 4. This system lacks uniformity.


 Signature of the Lecturer

$\text{Capital at the end} + \text{Drawings} - \text{Additional Capital} = \text{Adjusted Capital} - \text{Capital at the beginning.}$

Hours required	5 hours
Learning Objectives	When a Person admitted into business a Partner immediately he acquires two rights. 1) Share in Profit loss 2) A share in Asset and liability of the business.
Previous knowledge to be reminded	1) A New Profit sharing ratio. 2) Distribution of accumulated Profit or loss and Reserve. 3) Revaluation of Assets and Liabilities. 4) Adjustment of Partner's Capital.
Examples / Illustrations	1) Revaluation Account 2) Capital account. 3) Cash account 4) Good will account 5) New balance sheet.
Additional inputs	News paper
Teaching Aids used	Chalk paper piece Black Board
References cited	Kalyan publisher's
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Library
Any other activity	Home work has to given
Topic Synopsis	(Continue on the reverse side if needed) When two or more Persons enter into an agreement to carry on business and share, its Profit or loss is called Partnership admit When a Person admitted into business, a Partner immediately he acquires two rights.

Admission of Partner.

There are five types of Partnership admission.

- 1) Revolution account
- 2) Capital accounts.
- 3) cash account
- 4) Good will account
- 5) new balance sheet

Partnership retirement.

5 hours

A Partner retires from the firm as agreed with the consent of all other partners and in case of Partnership at will by giving 20 days

Notice writing to all other partners that means a partner comes out the firm and received from the firm any amount due to him.

- 1) Revolution account & Capital account.
- 2) Partner loan account & new balance sheet.

News paper

Chalk piece, Black Board

Kalyan publishers

assignment

Library

Home work has to given

(Continue on the reverse side if needed)

A Partner retires from the firm as agreed with the consent of all other partners and in case of Partnership at will by giving 20 days.

Notice writing to all other partners, that means a partner comes out the firm and received from the firm any amount due to him.

RETIREMENT of Partner.

There are four types of a/c.

1, Revolution a/c.

2, Capital a/c.

3, Partner loan a/c.

4, New balance sheet.

Depreciation

5 Hours.

Depreciation is the Permanent and gradual decrease the value of fixed asset.

1, straight line method 2, Reducing balance method 3, Annuity method 4, depreciation fund method 5, Insurance Policy method.

The main cause of depreciation are.

- 1, wear and tear 2, Depletion
- 3, Passage of time 4, accident.

News Paper

Chalk, Piece, black board

Kalyan Publisher's

AssignmentLiberty

Home work as to given.

(Continue on the reverse side if needed)

Depreciation is the permanent and gradual decrease the value of fixed assets.

Causes of depreciation.

- 1, wear and tear.
- 2, Depletion
- 3, Passage of time
4. accident.

Write different methods of depreciation:-

- 1, straight line method.
- 2, Reducing balance method.
- 3, depreciation fund method.
- 4, Insurance Policy method.
- 5, Revolution method.
- 6, Depletion method.
- 7, machine hour rate method.
- 8, Annuity method.

Teaching Plan / Lesson No.

Bills of Exchange

5 Hours

Bills of exchange is a written acknowledgment of debt. It is legal document. When the acceptance of the debtor.

- There are three parties to a bill of exchange
- a, Drawer - The person who draws the bill
- b, Drawee - The person to whom the bill is drawn
- It is given a trade bill possesses a high degree of liquidity and certainty

News Paper

Chalk Piece, black board

Kalyan Publisher's

Assignment

Liberty.

- Home work as to given.

(Continue on the reverse side if needed)

There are three parties to a bill of exchange. they are

- a, Drawer - The person who draws the bill.
- b, Drawee - The person to whom the bill is drawn
- c, Payee - The person to whom the amount is paid.

Bills of exchange.

The drawee has to accept the bill prepared by the drawer. The bill prior to acceptance is called a 'draft'.

Teaching Plan / Lesson No.

Name of the Topic	Consignment
Hours required	5 Hours.
Learning Objectives	The dispatch of goods from one place to another place for the purpose of sales through an agent on Commission.
Previous knowledge to be reminded	The person sends goods is called consignor.
Examples / Illustrations	There are three ledgers in Consignment books. 1) Consignment a/c 2) Consignee a/c 3) Goods sent on Consignment a/c
Additional inputs	News Paper
Teaching Aids used	Chalk Piece, Black board
References cited	Kalyan Publisher's.
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Library
Any other activity	Home work as to given
Topic Synopsis	(Continue on the reverse side if needed) The dispatch of goods from one place to another place for the purpose of sales through an agent on Commission basis is called Consignment.

Signature of the Lecturer

three lobes in C

significantly all,

since all,

adds and on continued all.

Non profit organisation.5 Hours.

The organization are registered under Society act but registration is not compulsory the organization prepare.

It's recommendation of organization and of organization and other necessary document of submit.

Donation is to be two types.

1. General donation.
2. Specific donation.

Notes PaperChalk Piece, black boardKalyan Publisher'sAssignmentLiberty.Home work as given.

(Continue on the reverse side if needed)

Importance Point.

It is the amount not for profit, concerns calls. More as far call it a decide person it should be satisfied. of balance sheet

Introduction:- It is a primary responsibility of a registered company to review the performance progress and needs for improvement of the firm over a financial year.

Accounting Principles:-

1. Personal Accounting
2. Real Accounting
3. Nominal Accounting

Personal Accounting:-

"Debit the Receiver

Credit the giver"

Real Accounting:-

"Debit what comes in"

"Credit what goes out"

Rebuilding the American West

23

[illegible]

my features:-

1) Ledger each Account will have its ledger special table is used to keep track of counts - transactions

Ledger contains a two - amount column both sides of the Account there is a where you may write the details

Teaching Plan / Lesson No.

2000-2023

Name of the Topic

Subsidiary Books

Hours required

Learning Objectives

Subsidiary books are books of original entry in the normal course of business a majority of transactions are either relate to sales

Previous knowledge to be reminded

1. Purchases Book 2. Sales Book 3. Purchases Returns Book 4. Sales Returns Book 5. Cash Book 6. Bills Receivable Book 7. Bills Payable Book 8. Journal Book

Examples / Illustrations

Andhra Bank

Additional inputs

News Paper

Teaching Aids used

Chalk, Piece, Black Board

References cited

Kalyan Publishers

Student Activity Planned after the teaching

Assignment

Activity planned outside the class room if any

Library

Different types of Book

1. Purchase Book

2. Sales Book

3. Purchase return Book

4. Sales return Book

5. Cash Book

6. Bill Receivable Book

7. Bill Payable Book

Cash Book

A cash Book can be defined as a Financial Journal which contain all the cash receipts and disbursements.

Cash Book three types

1. Single cash Book
2. Two column cash Book
3. Three column cash Book

Andrea ~~cash~~

New Paper

Check page, Blank Book

Kalyan Publisher

Assignment

Library

These work has to me given

(Continue on the reverse side if needed)

1. Single Cash book

2. Two column cash book

3. Three column cash book

The cash Book can be defined as

of the general ledger in which all
is during a period are recorded,
is recorded in chronological order.

are three common types of cash
double column, and Triple column.

Ledger:-

or Adjustment account (Same as Total
debtors A/c)

Teaching Plan / Lesson No.

Name of the Topic	Gst Liability & Payment
Hours required	5 hrs
Learning Objectives	To know about tax system in India on goods & services.
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	live products, & services
Teaching Aids used	Black board chalk, pointer,
References cited	Kalyani publishers,
Student Activity Planned after the teaching	Income tax rates in India, related topics.
Activity planned outside the class room, if any	—
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) 1. Factors affecting output tax liability. 2. Input tax Credit. 3. Due dates for payment of gst. 4. Modes of payment for gst. 5. Late payment & penalties for gst.


Signature of the Lecturer

6. Common errors to avoid while making gst payments

7. Role of gst ~~N~~ in gst compliance.

Teaching Plan / Lesson No.

Name of the Topic	Get accounting masters & inventory masters ^{in tally.}
Hours required	5 hrs
Learning Objectives	To know about functions of India accounting masters
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	versions of tally. over view of tally ERP9.
Teaching Aids used	Black board, chalk piece.
References cited	
Student Activity Planned after the teaching	previous question paper related to topic.
Activity planned outside the class room, if any	—
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) * Role of accounting & Inventory masters in tally. * General ledgers & gst ledgers in tally. * Stock groups & stock items in tally.


Signature of the Lecturer

* Gstrates & their applicability
to stock.

* Accurate calculation of gst on stocks
in tally.

Teaching Plan / Lesson No.

Name of the Topic	Marketing: Introduction
Hours required	5 hrs
Learning Objectives	Core elements of marketing. classification. market.
Previous knowledge to be reminded	
Examples / Illustrations	Live Examples.
Additional inputs	—
Teaching Aids used	Block Board - Chalkpiece
References cited	
Student Activity Planned after the teaching	Previous Question papers related to topic
Activity planned outside the class room, if any	—
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) * Classification of markets. * Nature of market. * Nature and Scope of market. * Distinct market Concepts. * Marketing mix, characteristics.


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Marketing: Consumer Behaviour and Marketing Segmentation.
Hours required	5 hrs.
Learning Objectives	Consumer Behaviour, nature and Consumer Behaviour.
Previous knowledge to be reminded	
Examples / Illustrations	live Example.
Additional inputs	—
Teaching Aids used	Black Board- chalkpiece.
References cited	
Student Activity Planned after the teaching	Introduction of marketing.
Activity planned outside the class room, if any	—
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) * Consumer Behaviour. nature & of Scope of Consumer Behaviour. * Significance of Buyer behaviour in marketing. * Buying decision process varies

Signature of the Lecturer

Stages Involved in Consumer buying Process

- * Types of buying process. behaviour.
- * Types of buying motives.
- * Buying behaviour models.

Teaching Plan / Lesson No.

Name of the Topic	Marketing : Product Management.
Hours required	5 hrs.
Learning Objectives	Product management, Characteristics classification of products.
Previous knowledge to be reminded	
Examples / Illustrations	live Example.
Additional inputs	—
Teaching Aids used	Block Board - Chalkpiece.
References cited	
Student Activity Planned after the teaching	Model paper of marketing.
Activity planned outside the class room, if any	—
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) → Characteristics. * classification of products. → Product management. * levels of products.

* product life Cycle.

* process of New product Development.

* product mix. Explain the dimensions of the product mix with Example.

* product life Cycle.

* process of New product Development.

* production mix, Explain the Dimensions of the product mix with Example.

Teaching Plan / Lesson No.

Name of the Topic	Marketing: Pricing Decision.
Hours required	5 hrs.
Learning Objectives	Objectives of Major of Pricing.
Previous knowledge to be reminded	
Examples / Illustrations	Live Example
Additional inputs	-
Teaching Aids used	Block Board- Chalk piece.
References cited	
Student Activity Planned after the teaching	Topics of Marketing that used.
Activity planned outside the class room, if any	-
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) * Factors influencing pricing decision. * Determining the price of a Product. * Price Skimming policy.

Signature of the Lecturer

* Important of pricing.

* Pricing strategies to be used to determine
the price of a new product.

Teaching Plan / Lesson No.

Name of the Topic	Marketing, Promotion & Distribution.
Hours required	5 hrs.
Learning Objectives	Promotion, State its features and objectives.
Previous knowledge to be reminded	-
Examples / Illustrations	Live Example.
Additional inputs	-
Teaching Aids used	BlackBoard, chalk piece.
References cited	
Student Activity Planned after the teaching	Previous model papers of Topics.
Activity planned outside the class room, if any	-
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) * States its features and objectives. * Promotion mix, factors affecting marketing promotion mix. * Advertising 1. Example the characteristics of Advertising.

Signature of the Lecturer

* objectives & functions of advertising.

* Advantages & disadvantages of advertising.

Teaching Plan / Lesson No. Gst with tally

Name of the Topic	Gst Liability & payment
Hours required	5 hrs
Learning Objectives	What is meant by liability. What are the taxes under gst.
Previous knowledge to be reminded	Gst rate structures, gst forms, Registration of gst.
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	Block board, chalk piece.
References cited	Library, Internet.
Student Activity Planned after the teaching	—
Activity planned outside the class room, if any	Library
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) * Factors affecting output tax liability. * Availing Input tax credit. * Due dates for payment of gst. * Modes of Payment for gst. * Late payment & penalties for gst. * Consequences of late / non-filing of gst. returns.

Signature of the Lecturer

* Common errors to avoid while making
gst payments.

* Role of gst in gst compliance

Teaching Plan / Lesson No.

Name of the Topic	Gst Accounting Masters & Inventory Masters
Hours required	5 hrs
Learning Objectives	Accounting Masters & Inventory masters in tally.
Previous knowledge to be reminded	what are the ^{types of} gst for masters.
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	chalk, Petal, Black board board.
References cited	Himalaya publishers
Student Activity Planned after the teaching	—
Activity planned outside the class room, if any	Library
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) * overview of tally ERP9 for gst compliance * Role of accounting & inventory masters in Tally. * Configuration gst setting in the company. Information. * General ledgers & gst ledgers in tally.

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* creating general ledgers & gst. ledgers in tally.

* Stock groups & stock items in tally.

* gst rates & their applicability to stocks.

Teaching Plan / Lesson No.

Name of the Topic	Gst voucher Entry.
Hours required	5 hrs.
Learning Objectives	Types of gst vouchers, uses of vouchers in. gst tally.
Previous knowledge to be reminded	—
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	Block board, chalk piece & other formats
References cited	Kalyani Publications
Student Activity Planned after the teaching	—
Activity planned outside the class room, if any	Library
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) * Gst vouchers. * Importance of gst voucher for gst. Compliance. * Customizing gst voucher types * Input tax credit under gst.

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* Common errors to avoid while mapping
ITC.

* Accurate calculation of output tax.

* Entering purchase & sales vouchers for multiple
rated gst. goods.

Teaching Plan / Lesson No.

Name of the Topic	Gst Returns
Hours required	5 hrs
Learning Objectives	what are types of gst return forms. know about return in gst.
Previous knowledge to be reminded	How to entry to transactions in. gst vouchers.
Examples / Illustrations	—
Additional inputs	—
Teaching Aids used	Block board, chalk piece
References cited	—
Student Activity Planned after the teaching	—
Activity planned outside the class room, if any	Assignment
Any other activity	Library.
Topic Synopsis	(Continue on the reverse side if needed) * Types of gst returns. * Regular Monthly returns. * Composition scheme.. types of returns for composition scheme. * Due dates & filing procedure for composition scheme returns.

KCS
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- * Verification & submission of gst returns.
- * GSTR-1, GSTR-2, GSTR-3, GSTR-4, GSTR-9, GSTR-3B.
- * GSTR-1 contents & format.

Teaching Plan / Lesson No.

Name of the Topic	Payment of gst online.
Hours required	5 hrs.
Learning Objectives	How to pay for taxes in gst online. / Know about the gst payment.
Previous knowledge to be reminded	—
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	Chalk Piece, Black board
References cited	
Student Activity Planned after the teaching	previous knowledge / related question to topic
Activity planned outside the class room, if any	—
Any other activity	Library
Topic Synopsis	(Continue on the reverse side if needed) * Importance of gst Payment online. * Due dates & Modes of Payment for gst. * Electronic filling of returns. * procedure for electronic filling of gst.


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* Refunds under gst. Eligibility criteria
for Refunds

* Different types of Penalties under gst.

* Administrative structure of gst officers

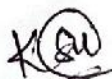
* Powers & functions of gst officers

* Jurisdiction of gst officers.

Teaching Plan / Lesson No.

Income tax assessment
Procedures & practice.

Name of the Topic	Computation of total Income & tax liability.
Hours required	5 hrs.
Learning Objectives	How to calculate Income by individuals & firms & companies.
Previous knowledge to be reminded	—
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	Block board, chalk piece.
References cited	
Student Activity Planned after the teaching	previous knowledge questions related to topics.
Activity planned outside the class room, if any	—
Any other activity	Library
Topic Synopsis	(Continue on the reverse side if needed) * Tax rates for assessment. * Sections, 80C, 80CCC, 80CCD, 80CEE, 80D, Section DDB; 80E. * calculation of Income by Individual, firms, companies (P&A). * Total Income of the firm.


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* Partners Income from the firm

* Gross total income of a company.

* Inadmissible / Disallowed (exp.)

Teaching Plan / Lesson No.

Name of the Topic	clubbing of income.
Hours required	5 hrs
Learning Objectives	what are the losses set off & carry forwarded of losses.
Previous knowledge to be reminded	—
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	Black board, chalk piece
References cited	
Student Activity Planned after the teaching	previous questions paper & retorted questions
Activity planned outside the class room, if any	—
Any other activity	Assignment.
Topic Synopsis	(Continue on the reverse side if needed) * clubbing of income. * Different items come under the provisions of clubbing of income. * set off & carry forward of losses. (problems & answers)

(Signature)

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Teaching Plan / Lesson No.

Name of the Topic	Tax payment- Penalties
Hours required	5 hrs
Learning Objectives	what are the due-dates & know about advance tax-payment system.
Previous knowledge to be reminded	—
Examples / Illustrations	—
Additional inputs	—
Teaching Aids used	Block board, chalk piece.
References cited	—
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	Assignment
Topic Synopsis	(Continue on the reverse side if needed) * Liable to Pay Advance tax. * Due dates for Payment of advance tax * Computation of advance tax * Consequences of non-payment of advance tax.

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* Imposed under the provisions of Income tax act 1961

* Powers of Income tax authorities to reduce.

* procedure for imposing penalty.

* Different offences which make an assessee liable to prosecution.

* Income tax authorities.

* Powers of CBDT.

Teaching Plan / Lesson No.

Name of the Topic	Returns filing
Hours required	5 hrs
Learning Objectives	Know about the compulsory filling of returns.
Previous knowledge to be reminded	Powers of gst officers & authorities to reduce, powers of CBDT.
Examples / Illustrations	—
Additional inputs	
Teaching Aids used	Blackboard, Chalk piece
References cited	—
Student Activity Planned after the teaching	—
Activity planned outside the class room, if any	—
Any other activity	Library
Topic Synopsis	(Continue on the reverse side if needed) * compulsory filling of Returns * Forms for filling of returns * Return of laws * Related Return [Sec: 139(4)] * Revised Return [Sec: 139(5)]


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COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 20²²~~22~~ - 20²³~~23~~

Name of the Department : **Commerce**

NAME OF THE LECTURER : **K Subhalini**

Course / Group : **III Bcom (G), II Bcom (G)**

Subject / Page :

Sl.No.	Subject	Paper	Page No.
1	Marketing		
2	Gst (Goods & Service tax)		
3	Income tax - assessment procedures		
4	practice.		

Teaching Plan / Lesson No.

Name of the Topic	Cost sheet
Hours required	10 Hrs.
Learning Objectives	To Train the students in finding the Cost of products using different methods of cost
Previous knowledge to be reminded	New concepts - Elements of cost
Examples / Illustrations	Factory expenses, office expenses selling and distribution expenses.
Additional inputs	—
Teaching Aids used	Black Board & chart.
References cited	preparation of cost sheet.
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) 1. Prime cost 2. Factory cost 3. office cost 4. Selling & distribution cost/total cost


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Teaching Plan / Lesson No.

Name of the Topic	Stores Ledger, Labour costing Methods
Hours required	20 Hrs.
Learning Objectives	To Train the students in maintaining the stores.
Previous knowledge to be reminded	New Concepts - BIN card
Examples / Illustrations	-
Additional inputs	-
Teaching Aids used	Black Board
References cited	Preparation of Stores Ledger and Wage Payments
Student Activity Planned after the teaching	Assignment.
Activity planned outside the class room, if any	Homework
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) 1. Direct & Indirect Materials. 2. Different stock levels 3. Preparation of Stores Ledger under FIFO


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Teaching Plan / Lesson No.

Name of the Topic	Labour Cost
Hours required	10
Learning Objectives	To recognise various incentive Labour methods To distinguish between direct cost and indirect cost.
Previous knowledge to be reminded	Time rate system, piece rate system
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Chart.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Halsey plan - $E = T \times R + \left[\frac{50}{100} (S - T) \times R \right]$ Rowan = $E = T \times R + \left[\frac{S - T}{S} \right] T \times R$ Taylor $\begin{cases} \text{Low piece rate} \\ \text{High piece rate} \end{cases}$

K. K. K.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Job Costing and Batch Costing
Hours required	20 Hrs.
Learning Objectives	To know the aims of Job costing To recognize the aims of Batch costing
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Chart
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Job Costing - Small factories, repair shops Specific order cost. Each job is of comparatively short duration.


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Financial Statement Analysis and Interpretation.
Hours required	20
Learning Objectives	To know the objectives of financial statement analysis To know the limitations of financial statements To ^{understand} recognize types of financial statements.
Previous knowledge to be reminded	Balance sheet, Profit and loss etc
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Chart
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Comparative Balance sheets Comparative Income statements.


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Marginal Costing
Hours required	20
Learning Objectives	To know the features of marginal costing To understand B.E.P Analysis.
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	B.E.P. Chart
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed)

K. K. K.
Signature of the Lecturer

$$\text{B.E.P. (in units)} = \frac{\text{Fixed Costs}}{\text{selling price per unit} - \text{Variable Cost per unit}}$$

$$\text{or}$$

$$\frac{\text{Fixed Costs}}{\text{Contribution per unit}}$$

$$1) \text{ B.E.P. Sales :Rs} = \text{B.E.P.} \times \text{Selling Price per unit}$$

$$2) \text{ B.E.P. Sales} = \frac{\text{Total fixed costs} \times \text{Total Sales}}{\text{Contribution per unit}}$$

$$3) \text{ B.E.P. Sales} = \frac{\text{Fixed Costs} \times \text{Sales}}{\text{Sales} - \text{Variable Cost}}$$

$$4) \text{ B.E.P. Sales} = \frac{\text{Total fixed costs}}{\text{P/V Ratio}}$$

$$1) \text{ P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$2) \text{ P/V Ratio} = \frac{\text{Sales} - \text{Variable Costs}}{\text{Sales}} \times 100$$

$$3) \text{ P/V Ratio} = \frac{\text{Fixed}}{\Delta S} \frac{\Delta P}{\Delta S} \times 100.$$

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Advanced Accounting I

Teaching Plan / Lesson No.

Name of the Topic	Single Entry System																																				
Hours required	20																																				
Learning Objectives	To learn preparation of financial statements To learn preparation statement of Profit/Loss To difference between single entry & double entry																																				
Previous knowledge to be reminded	Double Entry System - preparation of financial statements																																				
Examples / Illustrations																																					
Additional inputs																																					
Teaching Aids used	chart -																																				
References cited																																					
Student Activity Planned after the teaching	Assignment -																																				
Activity planned outside the class room, if any																																					
Any other activity																																					
Topic Synopsis	(Continue on the reverse side if needed) Statement of Affairs as on <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left;">Liabilities</th> <th style="text-align: right;">Amount</th> <th style="text-align: left;">Assets</th> <th style="text-align: right;">Amount</th> </tr> </thead> <tbody> <tr> <td>Creditors</td> <td style="text-align: right;">xx</td> <td>Cash</td> <td style="text-align: right;">xx</td> </tr> <tr> <td>Bills payable</td> <td style="text-align: right;">xx</td> <td>Bank</td> <td style="text-align: right;">xx</td> </tr> <tr> <td>B.O.D</td> <td style="text-align: right;">xx</td> <td>Debtors</td> <td style="text-align: right;">xx</td> </tr> <tr> <td>Outstanding exp</td> <td style="text-align: right;">xx</td> <td>Bills Receivable</td> <td style="text-align: right;">xx</td> </tr> <tr> <td>Capital B/F</td> <td style="text-align: right;">xxx</td> <td>Stock</td> <td style="text-align: right;">xx</td> </tr> <tr> <td></td> <td style="text-align: right;">xxx</td> <td>Prepaid Exp</td> <td style="text-align: right;">xx</td> </tr> <tr> <td></td> <td></td> <td>Fixed Assets</td> <td style="text-align: right;">xx</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: right;">xxx</td> </tr> </tbody> </table>	Liabilities	Amount	Assets	Amount	Creditors	xx	Cash	xx	Bills payable	xx	Bank	xx	B.O.D	xx	Debtors	xx	Outstanding exp	xx	Bills Receivable	xx	Capital B/F	xxx	Stock	xx		xxx	Prepaid Exp	xx			Fixed Assets	xx				xxx
Liabilities	Amount	Assets	Amount																																		
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	xxx	Prepaid Exp	xx																																		
		Fixed Assets	xx																																		
			xxx																																		


 Signature of the Lecturer

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#old

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Teaching Plan / Lesson No.

Name of the Topic	Non-profit Organisation		
Hours required	20 Hrs.		
Learning Objectives	To recollect features of non-trading concerns. To know the difference between capital items and revenue items. To prepare final accounts.		
Previous knowledge to be reminded			
Examples / Illustrations			
Additional inputs			
Teaching Aids used	Chart		
References cited			
Student Activity Planned after the teaching	Assignment		
Activity planned outside the class room, if any			
Any other activity			
Topic Synopsis	(Continue on the reverse side if needed) Receipts and Payments Account <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Receipts. To Balance Cash xx Bank xx xxp To Subscriptions xxp To Entrance fee xxp To Donations xxp To Govt. Grants xxp <u>xxp</u> xxxy </td> <td style="width: 50%; vertical-align: top;"> Payments. By Salaries xx By Rent xx By Newspapers xx By Repairs xx By Stationery xx By Balance c/d xx <u>xxp</u> xxxy </td> </tr> </table>	Receipts. To Balance Cash xx Bank xx xxp To Subscriptions xxp To Entrance fee xxp To Donations xxp To Govt. Grants xxp <u>xxp</u> xxxy	Payments. By Salaries xx By Rent xx By Newspapers xx By Repairs xx By Stationery xx By Balance c/d xx <u>xxp</u> xxxy
Receipts. To Balance Cash xx Bank xx xxp To Subscriptions xxp To Entrance fee xxp To Donations xxp To Govt. Grants xxp <u>xxp</u> xxxy	Payments. By Salaries xx By Rent xx By Newspapers xx By Repairs xx By Stationery xx By Balance c/d xx <u>xxp</u> xxxy		


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Teaching Plan / Lesson No.

Name of the Topic	Hire purchase System.
Hours required	20
Learning Objectives	To learn the features of Hire Purchase System. To distinguish between Hire purchase and installment To learn the passing of Entries
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	chart
References cited	
Student Activity Planned after the teaching	Assignment.
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed)

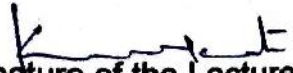

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Name of the Topic	Partnership - Accounts - Admission & Retirement
Hours required	20
Learning Objectives	To learn valuation of good-will To learn revaluation of assets. To preparation of balance sheet after admission
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Chart
References cited	
Student Activity Planned after the teaching	Assignment.
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed)


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Teaching Plan / Lesson No.

Name of the Topic	Partnership Accounts - dissolution and insolvency
Hours required	20
Learning Objectives	To learn different modes of dissolution To know the procedure for settlement of accounts To distinguish revaluation and revaluation
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	chart
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed)


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Teaching Plan / Lesson No.

Name of the Topic	Auditing
Hours required	20 Hrs.
Learning Objectives	To know the objectives and elements of Auditing To know the advantages & limitations of audit.
Previous knowledge to be reminded	new concepts - Bookkeeping
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black Board
References cited	
Student Activity Planned after the teaching	Assignment.
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Objectives:</u> - 1. The nature of probit roles 2. Detection & prevention of errors and Frauds

Advantages of Auditing:-

- For owners.
- For Management
- For Creditors
- For Govt. Bodies etc.

Disadvantages:-

- 1
- 2
- 3
- 4

Functions

Limitations

Limitations of Auditing:-

- 1. Auditing is not a science.
- 2. Auditing is not a profession.
- 3. Auditing is not a business.
- 4. Auditing is not a service.

Teaching Plan / Lesson No.

Name of the Topic	Types of Audit-
Hours required	20 Hrs.
Learning Objectives	To know various kinds of Audits.
Previous knowledge to be reminded	Accounts of Partnership, Sole Proprietorship
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black Board
References cited	
Student Activity Planned after the teaching	Assignment.
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Summary Audit Interim Audit Continuous Audit Balance Sheet Audit

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1. Sole - Proprietorship

2. Partnership Firms

3. Companies

4. Trusts

5. Co-operative Societies

6. Govt. Departments.

Based on objectives

1. Independent / External

2. Internal

3. Cost

4. Tax

5. Government

6. Secretarial

A.A
B. Sivar
22/8/2022

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Teaching Plan / Lesson No.

Name of the Topic	Management Accounting
Hours required	15 hrs.
Learning Objectives	To impart conceptual knowledge of management Management Accounting To know the scope of Management Accounting To read the nature of Management Accounting
Previous knowledge to be reminded	Reading A part P & L Account and Balance Sheet.
Examples / Illustrations	
Additional inputs	
Teaching Aids used	charts-
References cited	
Student Activity planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Scope of Management Accounting</u> 1. Financial Accounting 2. Cost Accounting 3. Financial Management 4. Budgeting and Forecasting

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Teaching Plan / Lesson No.

Name of the Topic	Ratio - Analysis
Hours required	15 hrs
Learning Objectives	- To understand the importance of Ratio - Analysis. - To know the various kinds of ratios.
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Chart
References cited	
Student Activity Planned after the teaching	Assignment.
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Managerial uses of Ratio - Analysis. - Helps in Decision making - Helps in financial forecasting - Helps in communication. - Helps in co-ordination. - Helps in control.

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Teaching Plan / Lesson No.

Name of the Topic	Financial Analysis
Hours required	15
Learning Objectives	To learn the changes in working capital To learn the source and use of funds
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Black Board, Chart
References cited	
Student Activity planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Measurement</u> Current and Assets 1. Cash in hand 2. Cash at Bank 3. Investment (Firm) 4. Bills receivable 5. Debtors 6. Sundry 7. Prepaid Expenses <u>Current Liabilities</u> Outstanding Expenses Creditors Bills Payable B.O.D Proposed Dividend Sundry

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Teaching Plan / Lesson No.

Name of the Topic	Each class statement
Hours required	15
Learning Objectives	To know the changes in each To know the source and uses of each
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	chart
References cited	
Student Activity planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Classification of each phase. 1. operating 2. growing 3. Financial

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Teaching Plan / Lesson No.

Name of the Topic	Budgetary control
Hours required	15
Learning Objectives	To know the objectives of budgeting To recognize the various types of budgeting
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	chart
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed)

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Teaching Plan / Lesson No. 1

Name of the Topic	cobb-douglas production.
Hours required	5
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	new paper
Teaching Aids used	Black Board Chalk pen.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Library
Any other activity	Home work has to given.
Topic Synopsis	(Continue on the reverse side if needed) <u>cobb-douglas production</u>:- production of wealth is done by factors of production. These factors of production have been divided into four ① Land ② Labour ③ Capital. ④ organization.

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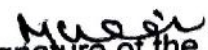
Teaching Plan / Lesson No. 2

Name of the Topic	Economic & large scale
Hours required	5
Learning Objectives	External Economies. Internal Economies.
Previous knowledge to be reminded	External Economies. Internal Economies.
Examples / Illustrations	
Additional inputs	News Paper.
Teaching Aids used	Black Board, Chalk piece.
References cited	S. Sarkar.
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Lessons
Any other activity	Have work hours to given.
Topic Synopsis	(Continue on the reverse side if needed) <u>Economic large scale</u>: Economic large scale is divided into two types ① External Economies. ② Internal Economies.

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Teaching Plan / Lesson No. 3

Name of the Topic	Demand types.
Hours required	5
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	News paper.
Teaching Aids used	Black Board, Chalk piece.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Exercises
Any other activity	Home work has to given.
Topic Synopsis	(Continue on the reverse side if needed) <u>Demand types</u>:- ① Price Demand ② Income Demand ③ cross Demand ④ Composite Demand ⑤ Derived Demand ⑥ Joint Demand


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Teaching Plan / Lesson No. 4

Name of the Topic	Marketing
Hours required	5
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	new papers
Teaching Aids used	Black Board, chalk piece.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Quizzes
Any other activity	Have work less to give.
Topic Synopsis	(Continue on the reverse side if needed) <u>Marketing types</u>:- ① Digital marketing ② content marketing ③ social media marketing ④ Email marketing ⑤ Event marketing

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Teaching Plan / Lesson No. 1

Name of the Topic	Business. scope, nature, features
Hours required	5
Learning Objectives	What is the business types & the business main features & the business.
Previous knowledge to be reminded	Markets, buying and selling activities
Examples / Illustrations	online business, E-business, E-marketing
Additional inputs	Black board, chalk pen.
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	Seminar, group, discussion, visit text, Q&A.
Activity planned outside the class room, if any	visit Industries and field trip marketing
Any other activity	Home work has to give
Topic Synopsis	(Continue on the reverse side if needed) <u>Scope - nature of Business</u> ① continuous ② profit motivation ③ unlimited trade ④ Risk.

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Teaching Plan / Lesson No.

Name of the Topic	Trade. Commerce, w.T.O.												
Hours required	5												
Learning Objectives													
Previous knowledge to be reminded	Trade. Internal trade. External trade Internal trade.												
Examples / Illustrations	M.N.C.S Multinational companies												
Additional inputs	News paper.												
Teaching Aids used	Black Board, chalk pen.												
References cited	Subbanna.												
Student Activity Planned after the teaching	Student Seminars. Or Group discussion Unit Test												
Activity planned outside the class room, if any	Field trip.												
Any other activity	Home work can be given.												
Topic Synopsis	(Continue on the reverse side if needed) <table border="0"> <tr> <td><u>Industry</u></td> <td><u>Trade.</u></td> </tr> <tr> <td>Extraction</td> <td>Internal trade</td> </tr> <tr> <td>Manufacturing</td> <td>Foreign trade</td> </tr> <tr> <td></td> <td>Import exports</td> </tr> <tr> <td></td> <td>Banking and</td> </tr> <tr> <td></td> <td>Transportation</td> </tr> </table>	<u>Industry</u>	<u>Trade.</u>	Extraction	Internal trade	Manufacturing	Foreign trade		Import exports		Banking and		Transportation
<u>Industry</u>	<u>Trade.</u>												
Extraction	Internal trade												
Manufacturing	Foreign trade												
	Import exports												
	Banking and												
	Transportation												

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Sole proprietorship, Partnership.
Hours required	- 5
Learning Objectives	Entrepreneurship. Owner. Business. Business objectives. Goals. Aims.
Previous knowledge to be reminded	Classification of Business.
Examples / Illustrations	Simple owner in market. Partnership Company Act 1956 (2003) Amended Act.
Additional inputs	news paper.
Teaching Aids used	Black Board, Chalk pen.
References cited	news paper. Subban.
Student Activity Planned after the teaching	Seminar. Group Discussion. Q & A.
Activity planned outside the class room, if any	visited sole business companies.
Any other activity	Home work has to give.
Topic Synopsis	(Continue on the reverse side if needed) ① Easy to Establishment ② No legal protection. ③ Risk. ④ Profit motivation.

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Teaching Plan / Lesson No. 1

Name of the Topic	Company Creation.
Hours required	5
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	News Paper.
Teaching Aids used	Block Board, chalk pen.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Labour.
Any other activity	Home work less together.
Topic Synopsis	(Continue on the reverse side if needed) <u>Company Creation:-</u> ① Open talk. ② Activate a company ③ Financial year settings ④ select the appropriate configurations ⑤ save the company

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Teaching Plan / Lesson No. 2

Name of the Topic	Tally voucher
Hours required	5
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	News paper.
Teaching Aids used	Black board, Chalk piece.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Labours
Any other activity	Home work has to give.
Topic Synopsis	(Continue on the reverse side if needed) <u>Types of Voucher:-</u> ① Payment Voucher ② Receipt Voucher ③ Joint Voucher ④ Contra Voucher ⑤ Sales Voucher ⑥ Purchase Voucher

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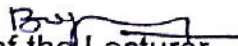
Teaching Plan / Lesson No. 3

Name of the Topic	Ledger Creation.
Hours required	5
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	News paper.
Teaching Aids used	Black Board. Chalk pen.
References cited	
Student Activity Planned after the teaching	Assignment
Activity planned outside the class room, if any	Workings
Any other activity	Home work has to give.
Topic Synopsis	(Continue on the reverse side if needed) <u>Ledger Creation</u>:- ① Open Tally ② Go to Gateway of Tally ③ Access the Account Info ④ choose ledger. ⑤ create ledger


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Economic growth and Development:
Hours required	20.
Learning Objectives	TO know about Economic development
Previous knowledge to be reminded	TO Review about previous classes:
Examples / Illustrations	Distinguish between growth and development
Additional inputs	TO show different countries:
Teaching Aids used	Black Board, with reference to the Text Book.
References cited	Academic books.
Student Activity Planned after the teaching	Seminars.
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) Review & Study Economic. Economic growth Social aspects: Structure changes: Education, public health. working class, growth and development.


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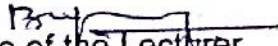
Teaching Plan / Lesson No.

Name of the Topic	Modern Economic growth.
Hours required	20.
Learning Objectives	to know about- characteristics of underdeveloped coun.
Previous knowledge to be reminded	to bring down about previous study class case
Examples / Illustrations	classic charts.
Additional inputs	to compare about the capital formation.
Teaching Aids used	Black board -
References cited	Economic Text book. World class
Student Activity Planned after the teaching	Group work, quiz.
Activity planned outside the class room, if any	Bring report to give by the class with questions & answers.
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) Features of Developed countries: High per capita income: High incidence of poverty: Scarcity of capital: Dual Economy Demographic changes: Police instability Unemployment Prevalence of disease.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	Theories of Development and Underdevelopment
Hours required	15.
Learning Objectives	TO know about development and underdev countries.
Previous knowledge to be reminded	Discuss about previous knowledge with students.
Examples / Illustrations	Compare different countries.
Additional inputs	TO discuss diagrams.
Teaching Aids used	Black Board
References cited	Text book, magazines, daily paper.
Student Activity Planned after the teaching	TO conduct seminars.
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) Adam Smith Theory: Nature Inst: Labour Pain; production func: $y = f(K, L, N)$. Ricardian Theory: Capital Accumulation; The profit share; Malthus Theory: Equilibrium growth Rostow stages economic development


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Teaching Plan / Lesson No.

Name of the Topic	Strategies of Economic Development.
Hours required	15.
Learning Objectives	TO know about what there was a departure in the process of economic development.
Previous knowledge to be reminded	TO explain about previous class.
Examples / Illustrations	Draw a diagram representation.
Additional inputs	TO create new strategy & theory terms.
Teaching Aids used	Black board
References cited	Tombrowsky, Glynne Jones, the modern.
Student Activity Planned after the teaching	Quiz, Seminar conducting
Activity planned outside the class room, if any	While theory is written to you village level
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) Reasons for the Big push. external economies Reasons a big push: indivisibility of the supply & demand. production from indivisibility of demand. conduct harmonious unbalanced growth See an power is developed come


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Teaching Plan / Lesson No.

Name of the Topic	Institutions and Economic Development.
Hours required	20.
Learning Objectives	TO know about Role of market, Perfect & imperfect market private vs public institutions - Financial Institutions.
Previous knowledge to be reminded	Explain about plan economy and free market system.
Examples / Illustrations	examples about price controls & currency in the world economy.
Additional inputs	Draw a demand curve.
Teaching Aids used	Black Board
References cited	Text books, Magazine.
Student Activity Planned after the teaching	Group Assignment, Seminar, Quiz.
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) Objectives planned in mind. - Economic development — Regional development - increase employment — complete development - Self-sufficiency — Reduce Economic dependency - Social - welfare — Social Justice increase the standards of living.


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Name of the Topic	पुरस्कार
Hours required	3
Learning Objectives	देशभक्ति
Previous knowledge to be reminded	देशभक्ति से सम्बंधित कहानियां
Exzmples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	चन्द्रगुप्त जैसे उपन्यास जयशंकर प्रसाद जी कृत
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	पुरस्कार : मधुलिका पात्र के द्वारा देशभक्ति को व्यक्तिगत स्वार्थ से ऊपर का दर्जा दिया है । प्रेम के लिए आत्मसमर्पण करके मधुलिका को विद्रोह कलंक से बचाना एक अद्वितीय संघटन है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	मुक्तिधन
Hours required	3
Learning Objectives	दिल से साफ रहने से हर बंदा खुदा बनकर सहायता करता है
Previous knowledge to be reminded	ईदगाह प्रेमचंद की ही कहानी जो बच्चे दसवी कक्षा में पढ़े थे ।
Exmples/Illustrations	छात्रों के खुद की जिंदगियों से निकलवाना
Additional inputs	Youtube
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	मानसरोवर
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	निबंध के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	मुक्तिधन कहानीकार प्रेमचंद जी है । प्रेमचंद ३०० से ज्यादा कहानियां लिखे थे । प्रस्तुत कहानी में दादूदयाल और रहमान पात्रों के द्वारा इंसानियत का एक आदर्श रूप प्रस्तुत किया ।
SIGNATURE OF THE LECTURER	

Name of the Topic	बिदा
Hours required	3
Learning Objectives	एक बदनसीब लड़की की कहानी
Previous knowledge to be reminded	मलाला युसूफ जाय
Exzmples/Illustrations	निज जिंदगी के कई उदहारण
Additional inputs	Youtube, ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	महाभारत , रामायण महाग्रन्थ
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	निबंध के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	सच्ची वीरता : सच्ची वीरता पाठ का प्रमुख उद्देश्य जो बलवान होते है वे ही वीर नहीं कहलाते है बल्कि जो अच्छे कार्य के लिए समाज हित के लिए काम करे वो ही सच्चे वीर कहलाते है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	मित्रता
Hours required	3
Learning Objectives	मित्र को चुनते समय आवश्यक जानकारी
Previous knowledge to be reminded	मित्रता की आवश्यकता
Exzmples/Illustrations	कर्ण और दुर्योधन की मित्रता के बारे में , राम लक्ष्मण की मित्रता के बारे में वर्णन
Additional inputs	विद्यार्थियों के खुद का जीवन से उदाहरण प्रस्तुत किया गया है ।
Teaching aids used	पाठ्यपुस्तक , श्यामपट , खड़िया
References cited	महाभारत , रामायण महाग्रन्थ
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Acgtivity planned outside the class room	निबंध के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	मित्रता: लेखक का परिचय : शुक्ल जी का जन्म उत्तर प्रदेश १८८४ में हुआ था । आप गंभीर व्यक्तित्ववाले थे । सारांश: प्रस्तुत निबंध में मित्रता क्या है, मित्र का कर्तव्य क्या है, प्रमुख रूप से दर्शाया गया है । विशेष: सच्चा मित्र पथप्रदर्शक होता है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	साहित्य की महत्ता
Hours required	3
Learning Objectives	साहित्य और समाज का संबंध
Previous knowledge to be reminded	सभ्यता और संस्कृति के बारे में
Exzmples/Illustrations	प्राचीन धार्मिक ग्रंथों के बारे में
Additional inputs	रामायण और महाभारत के बारे में
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	महाभारत , रामायण महाग्रन्थ
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	निबंध के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	साहित्य की महत्ता निबंधकार का परिचय : खड़ीबोली हिंदी को परिमार्जित करने में महावीर प्रसाद द्विवेदी का योगदान महत्वपूर्ण है । उन्होंने २० वर्षों तक सरस्वती पत्रिका की सेवा की ।
SIGNATURE OF THE LECTURER	

Name of the Topic	आवेदन पत्र
Hours required	3
Learning Objectives	किसी पद के लिए पत्र , कार्यालय सम्बन्धी कोई पत्र
Previous knowledge to be reminded	व्यक्तिगत पत्रों के सहारे जानकारी देना
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	
SIGNATURE OF THE LECTURER	

Name of the Topic	आवेदन पत्र
Hours required	3
Learning Objectives	किसी पद के लिए पत्र , कार्यालय सम्बन्धी कोई पत्र
Previous knowledge to be reminded	व्यक्तिगत पत्रों के सहारे जानकारी देना
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	
SIGNATURE OF THE LECTURER	

Name of the Topic	कारक
Hours required	3
Learning Objectives	कारक कितने प्रकार के है । वाक्यों में कारक का प्रयोग कैसे होता है
Previous knowledge to be remined	तेलुगु भाषा के विभक्तियों की जानकारी
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	कामता प्रसाद गुरु जी का व्याकरण, किशोरीदास वाजपेयी का व्याकरण
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	और वह पढ़ गई : इस कहानी के कहानीकार श्रीमती कुसुमावियोगी जी है । प्रस्तुत कहानी के द्वारा स्थिर चित्त से कैसे एक लड़की अपनी लक्ष्य को पा लेती है दिखाया गया । यह एक अद्भुत प्रेरणात्मक कहानी है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	वचन
Hours required	5
Learning Objectives	एक और अनेक शब्दों का वाक्यों का प्रयोग
Previous knowledge to be reminded	वचन की जानकारी वे जरूर रखते हैं। पुनस्मरण के द्वारा
Examples/Illustrations	हिंदी में भिन्न प्रकार होते हैं। हरेक का उचित उदाहरण प्रस्तुत किया जाएगा।
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	कामता प्रसाद गुरु जी का व्याकरण, किशोरीदास वाजपेयी का व्याकरण
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	वचन दो प्रकार के होते हैं। एक वचन, दो वचन स्त्री लिंग का एक उदाहरण : चिड़िया : चिड़ियाँ पुल्लिंग में वचन का बदलना पक्षी - पक्षी , घर - घर, पेड़ - पेड़
SIGNATURE OF THE LECTURER	

Name of the Topic	लिंग
Hours required	3
Learning Objectives	स्त्री लिंग और पुल्लिंग की जानकारी देना
Previous knowledge to be reminded	लिंग निर्धारण तेलुगु भाषा से तुलना के द्वारा
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	कामता प्रसाद गुरु जी का व्याकरण, किशोरीदास वाजपेयी का व्याकरण
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	सामने दिखने वाले हर किसी वस्तु की लिंग जानकारी कराना
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	लिंग : हिंदी में केवल पुल्लिंग स्त्रीलिंग होते हैं। हिंदी में लिंग निर्धारण कष्टदायक है। लिंग निर्धारण रूप और अर्थ के अनुसार होता है। लिंग के अनुसार क्रिया का रूप रहती है। ने प्रत्यय में कर्म के अनुसार क्रिया का रूप निश्चित होता है।
SIGNATURE OF THE LECTURER	

Name of the Topic	कार्यालयीन शब्दावली
Hours required	3
Learning Objectives	छात्रों में कार्यालय सम्बन्धी शब्दों की अवगाहना हेतु
Previous knowledge to be reminded	पहले छात्रों के द्वारा सम्बंधित शब्दों को जो तेलुगु और हिंदी में एक होते हैं उन पर discussion करना
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	मोतुरी सत्यनारायणा कृत प्रयोजनमूलक हिंदी
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	कार्यालयों में उपयोग करने वाले शब्दों की जानकारी देना है जैसे typist को टंकक कहते हैं peon को चपरासी बोलते हैं officer को अधिकारी बोलते हैं । छात्र जब रोजगार बनेगा तब हर कार्यालयीन शब्दावली की जानकारी उनके लिए बेहद उपयोगी बनेगा ।
SIGNATURE OF THE LECTURER	

Name of the Topic	और वह पढ़ गई
Hours required	3
Learning Objectives	बालिका विद्या
Previous knowledge to be reminded	स्त्री विद्या से सम्बंधित कहानी
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	मृणाल सेन, प्रभाखेतन जैसे लेखिकाओं की रचनाएँ
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	और वह पढ़ गई : इस कहानी के कहानीकार श्रीमती कुसुमावियोगी जी हैं । प्रस्तुत कहानी के द्वारा स्थिर चित्त से कैसे एक लड़की अपनी लक्ष्य को पा लेती है दिखाया गया । यह एक अद्भुत प्रेरणात्मक कहानी है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	काल विभाजन
Hours required	5
Learning Objectives	हिंदी साहित्य का काल विभाजन
Previous knowledge to be reminded	हिंदी साहित्य की ज्ञानज्ञानकहानियां प्राचीन नवीन कविताओं आदि का ज्ञान ।
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	शुक्ल, नागेन्द्र और हजारी प्रसाद द्विवेदी जी के हिंदी साहित्य इतिहास ग्रन्थ
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	हिंदी साहित्य का काल विभाजन हिंदी साहित्य को आदिकाल भक्तिकाल रीतिकाल और आधुनिककाल में बांटा गया है । छात्रों को इस पर जानकारी देंगे ।
SIGNATURE OF THE LECTURER	

Name of the Topic	हिंदी साहित्य का इतिहास
Hours required	3
Learning Objectives	हिंदी का आविर्भाव के बारे में थोड़े बहुत जानकारी
Previous knowledge to be remined	तेलुगु भाषा से सम्बंधित ज्ञान
Examples/Illustrations	शुक्ल जी द्वारा बताया गया कुछ विषय
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	शुक्ल, नागेन्द्र आदि के द्वारा लिखे गए साहित्यक विषयक किताब
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	हिंदी साहित्य की जानकारी
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	हिंदी साहित्य का इतिहास लम्बे हर्ज का है । संस्कृत से पाली, पाली से प्राकृत, प्राकृत से अपभ्रंश और अपभ्रंश से हिंदी का आविर्भाव हुआ । विवरण सहित व्याक्य किया जाएगा ।
SIGNATURE OF THE LECTURER	

Name of the Topic	आवेदन पत्र
Hours required	3
Learning Objectives	किसी पद के लिए पत्र , कार्यालय सम्बन्धी कोई पत्र
Previous knowledge to be reminded	व्यक्तिगत पत्रों के सहारे जानकारी देना
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	
SIGNATURE OF THE LECTURER	

Name of the Topic	आवेदन पत्र
Hours required	3
Learning Objectives	किसी पद के लिए पत्र , कार्यालय सम्बन्धी कोई पत्र
Previous knowledge to be reminded	व्यक्तिगत पत्रों के सहारे जानकारी देना
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	
SIGNATURE OF THE LECTURER	

Name of the Topic	व्यक्तिगत पत्र
Hours required	3
Learning Objectives	पत्रों के माध्यम से सम्प्रेषण करना
Previous knowledge to be reminded	छुट्टी पत्र, पिताजी को पत्र जैसे व्यक्तिगत पत्रों की विधा से दसवीं और बारहवीं कक्षा में छात्रों को जानकारी है
Examples/Illustrations	मित्र के नाम पत्र,
Additional inputs	You tube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	छात्र अपनी आवश्यकता के लिए व्यक्तिगत पत्र अर्थात् छुट्टी पत्र, पिताजी को पत्र और मित्र को पत्र जैसे पत्रों की जानकारी देना ।
SIGNATURE OF THE LECTURER	

Name of the Topic	व्यक्तिगत पत्र
Hours required	3
Learning Objectives	पत्रों के माध्यम से सम्प्रेषण करना
Previous knowledge to be reminded	छुट्टी पत्र, पिताजी को पत्र जैसे व्यक्तिगत पत्रों की विधा से दसवीं और बारहवीं कक्षा में छात्रों को जानकारी है
Examples/Illustrations	मित्र के नाम पत्र,
Additional inputs	You tube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	छात्र अपनी आवश्यकता के लिए व्यक्तिगत पत्र अर्थात् छुट्टी पत्र, पिताजी को पत्र और मित्र को पत्र जैसे पत्रों की जानकारी देना ।
SIGNATURE OF THE LECTURER	

Name of the Topic	आवेदन पत्र
Hours required	3
Learning Objectives	किसी पद के लिए पत्र , कार्यालय सम्बन्धी कोई पत्र
Previous knowledge to be remined	व्यक्तिगत पत्रों के सहारे जानकारी देना
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	
SIGNATURE OF THE LECTURER	
Name of the Topic	कारक
Hours required	3
Learning Objectives	कारक कितने प्रकार के है । वाक्यों में कारक का प्रयोग कैसे होता है
Previous knowledge to be remined	तेलुगु भाषा के विभक्तियों की जानकारी
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	कामता प्रसाद गुरु जी का व्याकरण, किशोरीदास वाजपेयी का व्याकरण

Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	और वह पढ़ गई : इस कहानी के कहानीकार श्रीमती कुसुमावियोगी जी हैं । प्रस्तुत कहानी के द्वारा स्थिर चित्त से कैसे एक लड़की अपनी लक्ष्य को पा लेती है दिखाया गया । यह एक अद्भुत प्रेरणात्मक कहानी है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	व्यक्तिगत पत्र
Hours required	3
Learning Objectives	पत्रों के माध्यम से सम्प्रेषण करना
Previous knowledge to be reminded	छुट्टी पत्र, पिताजी को पत्र जैसे व्यक्तिगत पत्रों की विधा से दसवीं और बारहवीं कक्षा में छात्रों को जानकारी है
Examples/Illustrations	मित्र के नाम पत्र,
Additional inputs	You tube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	छात्र अपनी आवश्यकता के लिए व्यक्तिगत पत्र अर्थात् छुट्टी पत्र, पिताजी को पत्र और मित्र को पत्र जैसे पत्रों की जानकारी देना ।
SIGNATURE OF THE LECTURER	

Name of the Topic	कारक
Hours required	3
Learning Objectives	कारक कितने प्रकार के है । वाक्यों में कारक का प्रयोग कैसे होता है
Previous knowledge to be remined	तेलुगु भाषा के विभक्तियों की जानकारी
Examples/Illustrations	निजी जीवन के उदाहरण
Additional inputs	Youtube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	कामता प्रसाद गुरु जी का व्याकरण, किशोरीदास वाजपेयी का व्याकरण
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	और वह पढ़ गई : इस कहानी के कहानीकार श्रीमती कुसुमावियोगी जी है । प्रस्तुत कहानी के द्वारा स्थिर चित्त से कैसे एक लड़की अपनी लक्ष्य को पा लेती है दिखाया गया । यह एक अद्भुत प्रेरणात्मक कहानी है ।
SIGNATURE OF THE LECTURER	

Name of the Topic	मुक्तिधन
Hours required	3
Learning Objectives	दिल से साफ रहने से हर बंदा खुदा बनकर सहायता करता है
Previous knowledge to be reminded	ईदगाह प्रेमचंद की ही कहानी जो बच्चे दसवी कक्षा में पढ़े थे ।
Exmples/Illustrations	छात्रों के खुद की जिंदगियों से निकलवाना
Additional inputs	Youtube
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
References cited	मानसरोवर
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	निबंध के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	मुक्तिधन कहानीकार प्रेमचंद जी है । प्रेमचंद ३०० से ज्यादा कहानियां लिखे थे । प्रस्तुत कहानी में दादूदयाल और रहमान पात्रों के द्वारा इंसानियत का एक आदर्श रूप प्रस्तुत किया ।
SIGNATURE OF THE LECTURER	

Name of the Topic	व्यक्तिगत पत्र
Hours required	3
Learning Objectives	पत्रों के माध्यम से सम्प्रेषण करना
Previous knowledge to be reminded	छुट्टी पत्र, पिताजी को पत्र जैसे व्यक्तिगत पत्रों की विधा से दसवीं और बारहवीं कक्षा में छात्रों को जानकारी है
Examples/Illustrations	मित्र के नाम पत्र,
Additional inputs	You tube ppt
Teaching aids used	पाठ्यपुस्तक, श्यामपट, खड़िया
Student activity planned after teaching	लघु प्रश्नों के उत्तर
Activity planned outside the class room	कहानी के उद्देश्य
Any other activity	ग्रंथालय संदर्शन
Topic synopsis	छात्र अपनी आवश्यकता के लिए व्यक्तिगत पत्र अर्थात् छुट्टी पत्र, पिताजी को पत्र और मित्र को पत्र जैसे पत्रों की जानकारी देना ।
SIGNATURE OF THE LECTURER	



COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022 -2023

Name of the Department : *Mathematics*
NAME OF THE LECTURER : *V.K. Maston vali*
Course / Group : *B.Sc*
Subject / Page :

Sl.No.	Subject	Paper	Page No.
1			
2			
3			
4			

Teaching Plan / Lesson No.

Name of the Topic	UNIT-I D.E of First Order - First degree
Hours required	12+12
Learning Objectives	Differential Equations
Previous knowledge to be reminded	Order, Degree, Def of D.E
Examples / Illustrations	Solved and Example problems
Additional inputs	Model questions
Teaching Aids used	Text Book, Board and chalk piece
References cited	S. Chand Vol - I
Student Activity Planned after the teaching	Learning, Home work
Activity planned outside the class room, if any	Slip test conducting
Any other activity	Objective questions for Arithmetic and Reasoning
Topic Synopsis	(Continue on the reverse side if needed) * Linear D.E * D.E reduced to linear form * Exact D.E * Integrating Factor * Change to variables

Teaching Plan / Lesson No.

Name of the Topic	UNIT-II D.E OF F.O But not First of Degree
Hours required	12+12
Learning Objectives	* Orthogonal Trajectories * D.E of F.O but not F.D
Previous knowledge to be reminded	Cartesian from D.E
Examples / Illustrations	Solved problems
Additional inputs	Model questions
Teaching Aids used	Text Book, Board, Chalk piece
References cited	S. Chand Vol-I
Student Activity Planned after the teaching	Home-work, Assignment
Activity planned outside the class room, if any	Seminars
Any other activity	Slip test Conducted
Topic Synopsis	(Continue on the reverse side if needed) * Orthogonal trajectories * Solved for 'p' * Solved for 'y' * Solved for 'x' * Clairaut equation

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - III
Hours required	12 + 12
Learning Objectives	Higher order linear D.E - I
Previous knowledge to be reminded	D.E of First order but not first degree
Examples / Illustrations	Solved and exercise problem
Additional inputs	Text book, Board
Teaching Aids used	S. Chand Vol - I
References cited	Home - Work, Assignments
Student Activity Planned after the teaching	Study hours
Activity planned outside the class room, if any	Slip test conducted
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Sol. of H.D.E of Order 'n' with cont. Coeffi * Sol. of non-H.D.E of cont. Co-efficient * General Sol. of $f(D)y=0$ * General Sol. of $f(D)y=Q$ where Q is 'x' * General sol. of $f(D)y=Q$ where $Q = be^{ax}$

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - IV
Hours required	12+12
Learning Objectives	Higher order D.E - II
Previous knowledge to be reminded	Higher order D.E - I
Examples / Illustrations	Solved problems
Additional inputs	Exercise problems
Teaching Aids used	Text book, Board
References cited	S. Chand - I
Student Activity Planned after the teaching	Study hours conducted
Activity planned outside the class room, if any	Home work
Any other activity	Assignments.
Topic Synopsis	(Continue on the reverse side if needed) * P.I of $f(D)y = Q$ where $Q = bx^k$ * P.I of $f(D)y = Q$ where $Q = e^{ax}v$ * P.I of $f(D)y = Q$ where $Q = xv$ * P.I of $f(D)y = Q$ where $Q = x^m v$.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - VI
Hours required	12+12
Learning Objectives	Higher Order D.E - III
Previous knowledge to be reminded	Higher Order D.E - II
Examples / Illustrations	Solved and exercise problems
Additional inputs	Model problems
Teaching Aids used	Text book, Board
References cited	S. Chand Vol - I
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	Slip test conducted
Any other activity	Seminar conducted
Topic Synopsis	(Continue on the reverse side if needed) * A method of Variation of parameter * linear D.E with non-const. Co-effi * The Cauchy-Eular equation

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT-1 Groups
Hours required	12+12
Learning Objectives	Groups
Previous knowledge to be reminded	Set-theory Mathematical properties
Examples / Illustrations	Theorem examples
Additional inputs	Model Objective question
Teaching Aids used	Text Book, Board
References cited	S. Chand. Vol-II
Student Activity Planned after the teaching	Study hours
Activity planned outside the class room, if any	Home-work
Any other activity	Slip test conducting
Topic Synopsis	(Continue on the reverse side if needed) * Binary Operations * Algebraic Structure * Semi-group - monoid * Def. of group - properties * Finite and infinite group - example * Order of a group and Composite

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - II Group theory
Hours required	12+12
Learning Objectives	Subgroups, Cosets and Lagrange's theorem
Previous knowledge to be reminded	Groups
Examples / Illustrations	Def, properties
Additional inputs	Objective questions
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-II
Student Activity Planned after the teaching	Learning
Activity planned outside the class room, if any	Home-work
Any other activity	Study hours
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Subgroups - properties * product of two subgroups * union and intersection of two subgroups * normal subgroups - properties * Quotient group * Lagrange's theorem.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - III Groups
Hours required	12+12
Learning Objectives	Normal Subgroups
Previous knowledge to be reminded	Subgroups
Examples / Illustrations	Examples and theorem
Additional inputs	Objective questions
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-II
Student Activity Planned after the teaching	Home-work, practice
Activity planned outside the class room, if any	Study hours
Any other activity	Seminars
Topic Synopsis	(Continue on the reverse side if needed) * Def. of normal subgroups * proper and improper Normal sub groups * Simple and quotient groups * legranges theorem.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - IV - Homomorphism
Hours required	12+12
Learning Objectives	- Homomorphism
Previous knowledge to be reminded	Relation and Fractions
Examples / Illustrations	Examples, theorem
Additional inputs	Objective questions
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-II
Student Activity Planned after the teaching	Study hours Conducted
Activity planned outside the class room, if any	Slip test conducted
Any other activity	Seminar class conducted
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Homomorphism * Image, Elementary properties * Isomorphism, Automorphism * Def. of kernel and its Applications * Fundamental theorem of Homomorphism

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - IV Rings
Hours required	12 + 12
Learning Objectives	Rings
Previous knowledge to be reminded	Groups
Examples / Illustrations	Examples
Additional inputs	Objective questions
Teaching Aids used	Text books, Board
References cited	S. Chand Vol - III
Student Activity Planned after the teaching	Study hours
Activity planned outside the class room, if any	Learning
Any other activity	Slip test Conducted
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Ring and Basic properties * Boolean ring, zero divisor, Cancellation laws * Integral domain, division ring, Fields * The characteristic of ring and integral domain * The characteristic of field and subring.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - I Rings
Hours required	12+12
Learning Objectives	Rings - I
Previous knowledge to be reminded	Groups
Examples / Illustrations	Examples
Additional inputs	Objective questions
Teaching Aids used	Text book, Board
References cited	S. Chand Vol - III
Student Activity Planned after the teaching	learning, Home work
Activity planned outside the class room, if any	Study hours
Any other activity	Seminar class
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Ring and Basic properties * Boolean ring, Zero division, Cancellation laws * Integral domain, Division ring, Fields * The characteristic of ring and integral domain & field. * Subrings, ideals.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - II Rings - II
Hours required	12 + 12
Learning Objectives	Rings - II
Previous knowledge to be reminded	Subgroups
Examples / Illustrations	Objective questions
Additional inputs	Theorem
Teaching Aids used	Text book, Board
References cited	S. Chand Vol - III
Student Activity Planned after the teaching	Study hours conducting
Activity planned outside the class room, if any	learning
Any other activity	Home-work
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Homomorphism, Homomorphic-image * Elementary properties of Homomorphism * Kernel of Homomorphism * Fundamental theorem of Homomorphism * Maxima, prime ideal.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT-III Vector Differentiation,
Hours required	12 + 12
Learning Objectives	Vector Differentiation
Previous knowledge to be reminded	properties of addition and multiplication
Examples / Illustrations	Solved problems
Additional inputs	excercise problems
Teaching Aids used	Text book, board
References cited	S. Chand Vol-III
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	Seminar conducting
Any other activity	learning, Assignment
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Vector Differentiation * partial v D.E * Ordinary v. D.E * Gradient Divergence, curl - with properties and problem

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT-IV Vector integration
Hours required	12+12
Learning Objectives	Vector Integration
Previous knowledge to be reminded	Solved Examples
Examples / Illustrations	Exercise problems
Additional inputs	
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-III
Student Activity Planned after the teaching	Assignment Conducted
Activity planned outside the class room, if any	Learning
Any other activity	Home work
Topic Synopsis	(Continue on the reverse side if needed) * prob. on line integral * prob. on Surface integral * prob. on Volume integral

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Teaching Plan / Lesson No.

Name of the Topic	UNIT-V Vector integration and its application
Hours required	12+12
Learning Objectives	Application of vector integration
Previous knowledge to be reminded	Solved problems
Examples / Illustrations	Excessice problems
Additional inputs	Text books, Board
Teaching Aids used	S. Chand Vol-III
References cited	Study hours conducted
Student Activity Planned after the teaching	Seminar conducted
Activity planned outside the class room, if any	learning
Any other activity	Home-Work
Topic Synopsis	(Continue on the reverse side if needed) * Gauss-theorem and its applications * Green's-theorem and its applications * Stoke's-theorem and its applications

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - I The plane
Hours required	12 + 12
Learning Objectives	The plane
Previous knowledge to be reminded	locus
Examples / Illustrations	solved problems
Additional inputs	model question
Teaching Aids used	Text book, and Board
References cited	A Text book of Mathematics by S. Chand
Student Activity Planned after the teaching	Home work, Learning
Activity planned outside the class room, if any	Slip test Conducted
Any other activity	Seminar
Topic Synopsis	(Continue on the reverse side if needed) * plane in intercept form * plane passing through points * length of th + from given point to plane * Bijection of planes * Angle b/w two plane * Orthogonal projection on a plane * S.D b/w Two planes.

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - II The line
Hours required	12+12
Learning Objectives	The line
Previous knowledge to be reminded	Example on straight lines
Examples / Illustrations	Solved problems
Additional inputs	Example problems
Teaching Aids used	Text book, Board
References cited	S. Chand Vol - I
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	Seminar
Any other activity	Slip Test
Topic Synopsis	(Continue on the reverse side if needed) * eq of line, angle b/w line and plane * Condition that line lie in a plane * Two lines are Co-planners * The S.D b/w two lines * length of the $\perp$ from point to line.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - II
Hours required	12 + 12
Learning Objectives	The Sphere
Previous knowledge to be reminded	The circles
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text books, Board
References cited	S. Chand Vol - I
Student Activity Planned after the teaching	Homework
Activity planned outside the class room, if any	Slip test
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) * Eq. of the sphere passing through given points * plane Section of a Sphere * Intersection of spheres, sphere pass-through circle * Intersection of a sphere and line * Tangent plane, plane of contact, polar, and pole of a plane * Conjugate points and conjugate planes

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Teaching Plan / Lesson No.

Name of the Topic	The sphere and cone
Hours required	12 + 12
Learning Objectives	sphere and cone
Previous knowledge to be reminded	sphere
Examples / Illustrations	Solved problems
Additional inputs	
Teaching Aids used	Board, Text Book
References cited	S. Chand - Vol - I
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	slip test
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Equation of the sphere passing through the point * plane section of the sphere * Intersection of spheres, sphere passing through circles * Intersection of a sphere and line * Tangent plane, plane of contact, polar, the pole of a plane * conjugate planes and points. * Co-axial system of a sphere (limiting points)

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Teaching Plan / Lesson No.

Name of the Topic	The cone
Hours required	12+12
Learning Objectives	The cone
Previous knowledge to be reminded	The sphere
Examples / Illustrations	Solved problems
Additional inputs	Examples
Teaching Aids used	Board, Text Book
References cited	S. Chand Vol-I
Student Activity Planned after the teaching	Home Work
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def of cone, vertex, guiding curve, Eqn of cone with vertex given curve. * Homogeneous and second degree of a cone * Enveloping cone, plane touch a cone * Eqn of a intersection of a line and quadratic cone * Reciprocal cone.

Signature of the Lecturer

VI - Semister, paper VII

Teaching Plan / Lesson No.

Name of the Topic	UNIT - I
Hours required	12 + 12
Learning Objectives	Vector space - I
Previous knowledge to be reminded	Ring theory
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text Book, Board
References cited	S. Chand Vol - III
Student Activity Planned after the teaching	learning
Activity planned outside the class room, if any	Home-work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of V.S, General properties * addition and scalar multiplication of Vectors * Integral, External composition, Null space * Vector subspace, Algebraic of a sub space * linear sum of a subspace, linear combination Vector P * linear span, L.T, L.D

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - II
Hours required	12 + 12
Learning Objectives	Vector Space - II
Previous knowledge to be reminded	Vector space - I
Examples / Illustrations	Examples
Additional inputs	
Teaching Aids used	Text Book, Board
References cited	S. Chand - Vol - III
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	
Any other activity	Seminar Conducted
Topic Synopsis	(Continue on the reverse side if needed) * Basis of a Vector Space, finite dimension vs * Basis - Extension - then, co-ordinates * Dimension of V.S * Dimension of a Subspace * Quotient space and Dimensional quotient Space.

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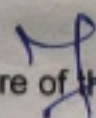
Teaching Plan / Lesson No.

Name of the Topic	UNIT - III
Hours required	12 + 12
Learning Objectives	linear Transformation
Previous knowledge to be reminded	Functions
Examples / Illustrations	Example
Additional inputs	solved problems
Teaching Aids used	Text Book, Board
References cited	S- Chand Vol - 3
Student Activity Planned after the teaching	learning
Activity planned outside the class room, if any	Homework
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of LT, Linear Operator * properties of L.T, Sum and product of L.T * Algebraic of linear operator, Range and Null space of L.T * Rank and Nullity theorem * Verification of Rank and Nullity theorem

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - IV
Hours required	12+12
Learning Objectives	Vector space Isomorphism Inner product space
Previous knowledge to be reminded	
Examples / Illustrations	Example
Additional inputs	Solved problems
Teaching Aids used	Text Book, Board
References cited	S. Chand Vol - III
Student Activity Planned after the teaching	Learning
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of V.S. I, properties * Fundamental theorem of Homomorphism * singular and non-singular * Inverse function * Unique of a Inverse function


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Teaching Plan / Lesson No.

Name of the Topic	UNIT - V
Hours required	12+12
Learning Objectives	Matrix of a L.T
Previous knowledge to be reminded	L.T
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text book, Board
References cited	
Student Activity Planned after the teaching	Learning
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of a Matrix of L.T * prob. on Matrix of L.T * Transpose, Inverse of a L.T

Signature of the Lecturer

IV Sem II B.sc paper - IV

Teaching Plan / Lesson No.

Name of the Topic	UNIT - I
Hours required	12
Learning Objectives	Real Number and infinite Series
Previous knowledge to be reminded	Infinite series
Examples / Illustrations	Series, Number theory
Additional inputs	Examples
Teaching Aids used	Solved problems
References cited	Text Book, Board
Student Activity Planned after the teaching	S. Chand Vol - 2
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of Series, Convergent and divergent Series. * limit Comparison test * Cauchy nth root test * n' - Alembert's test * liebnitz test

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - II
Hours required	12
Learning Objectives	limits and continuity
Previous knowledge to be reminded	limits
Examples / Illustrations	Solved problems
Additional inputs	
Teaching Aids used	Text books, Board
References cited	S. Chand Vol-2
Student Activity Planned after the teaching	Home - work
Activity planned outside the class room, if any	
Any other activity	Study Hours
Topic Synopsis	(Continue on the reverse side if needed) * limit of a function * limit of a infinite continuous function * Combination of Continuty functions * Continuous function on integration * Uniform Continuous

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Teaching Plan / Lesson No.

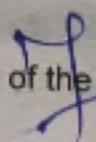
Name of the Topic	UNIT - III
Hours required	12
Learning Objectives	Differentiation and Mean Value theorem
Previous knowledge to be reminded	Differentiation
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text books, board
References cited	S. Chand Vol - 2
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	
Any other activity	Seminar
Topic Synopsis	(Continue on the reverse side if needed) * Derivability of a function on interval, point * Derivability and continuity of a function * Graphical method of a derivation * Mean Value theorem * Cauchy mean value theorem & Lagrange's theorem * Rolle's theorem

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - IV
Hours required	12
Learning Objectives	Riemann Integration - I
Previous knowledge to be reminded	limits, integration
Examples / Illustrations	Examples
Additional inputs	
Teaching Aids used	Text Book, Board
References cited	S. Chand Vol - 2
Student Activity Planned after the teaching	Study - Hours
Activity planned outside the class room, if any	- Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of R.I & Riemann Integral * Integral-function, Darboux - theorem * N and S Condition for R-Integral * Same class of bounded Integral Functions.

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - V
Hours required	12
Learning Objectives	Riemann integration - II
Previous knowledge to be reminded	Riemann Integration - I
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text book, Board
References cited	S. Chand vol - 2
Student Activity Planned after the teaching	Study - hours conducted
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Properties of Integral function * Fundamental theorem of Integral calculus * Integral as the limit of a Sum. * Mean Value theorem.

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IV Sem, III B.sc paper V

Teaching Plan / Lesson No.

Name of the Topic	UNIT - I
Hours required	12 + 12
Learning Objectives	Vector Space - I
Previous knowledge to be reminded	Ring theory
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-3
Student Activity Planned after the teaching	Learning
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of V.S, General properties. * addition & scalar multiplication of vectors * Internal, External composition, Null space * Vector Subspace, Algebraic of a Subspace * linear sum of a subspace, linear combination * linear space, L.I., L.D.

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - II
Hours required	Vector Space - II
Learning Objectives	12 + 12
Previous knowledge to be reminded	Vector Space - I
Examples / Illustrations	Examples
Additional inputs	
Teaching Aids used	Text book, Board
References cited	S. Chand Vol - III
Student Activity Planned after the teaching	Home work
Activity planned outside the class room, if any	
Any other activity	Seminar
Topic Synopsis	(Continue on the reverse side if needed) * Basis of a vector space, finite dimension V.S * Basis - Extension theorem, Co-ordinates * Dimension of V.S * Dimension of a Subspace * Quotient space and Dimensional quotient space.

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Teaching Plan / Lesson No.

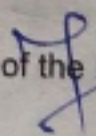
Name of the Topic	UNIT - III
Hours required	12+12
Learning Objectives	Linear Transformation
Previous knowledge to be reminded	Functions
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-3
Student Activity Planned after the teaching	Learning
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Def. of L.T, linear Operator. * properties of L.T, Sum and product of L.T * Algebraic of linear Operator, Range and Null space of L.T. * Rank and Nullity theorem. * Verification of Rank and Nullity Theorem.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	UNIT - IV
Hours required	12+12
Learning Objectives	Matrices - I
Previous knowledge to be reminded	
Examples / Illustrations	Examples.
Additional inputs	Solved problems
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-I
Student Activity Planned after the teaching	learning
Activity planned outside the class room, if any	- Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * Matrice, Elementary properties of matrices * Rank of matrix, Normal form. * Echelon form, Inverse of matrix by using elementary operations.

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Teaching Plan / Lesson No.

Name of the Topic	UNIT - V
Hours required	12+12
Learning Objectives	Matrice - II
Previous knowledge to be reminded	
Examples / Illustrations	Examples
Additional inputs	Solved problems
Teaching Aids used	Text book, Board
References cited	S. Chand Vol-3
Student Activity Planned after the teaching	learning
Activity planned outside the class room, if any	Home work
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) * System of Homogeneous and non-homogeneous linear equation. * characteristic values, equations. * characteristic vectors of a square matrix. * Cayley-Hamilton Theorem and problems

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COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023

Name of the Department : PHYSICS
NAME OF THE LECTURER : DR L. RAJA MOHAN REDDY
Course / Group : III B.Sc, II B.Sc
Subject / Page : Paper TC & Paper

Sl.No.	Subject	Paper	Page No.
1	Electronic Instrumentation	TC	
2	Modern physics	V	
3			
4			

Teaching Plan / Lesson No. 1

Name of the Topic	Types of electronic Instruments: Analog & Digital
Hours required	02 hours
Learning Objectives	To understand the Instrumentation equipments
Previous knowledge to be reminded	Analog & Digital Conversion, Transducers
Examples / Illustrations	Multimeters, Voltmeters, Ammeters etc
Additional inputs	
Teaching Aids used	PPT, Black Board & Chalk
References cited	Unified Physics
Student Activity Planned after the teaching	To understand the difference between Analog and digital instruments
Activity planned outside the class room, if any	Doubts clarified
Any other activity	To Conduct Seminar
Topic Synopsis	(Continue on the reverse side if needed) <u>Instrumentation</u>: It is a technology of measurement which serves science, engineering, medicine etc. <u>measuring Instruments</u>. The device that is used for measurement of certain physical quantity. <u>Performance characteristics</u>: Accuracy, Resolution, Precision, sensitivity, corrected value and error. <u>Electronic Instrument</u>: It is the one of which is based on electronic or electrical principles for its measurement function.


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Types of Electronic Instruments

Analog Instruments
 Digital Instruments

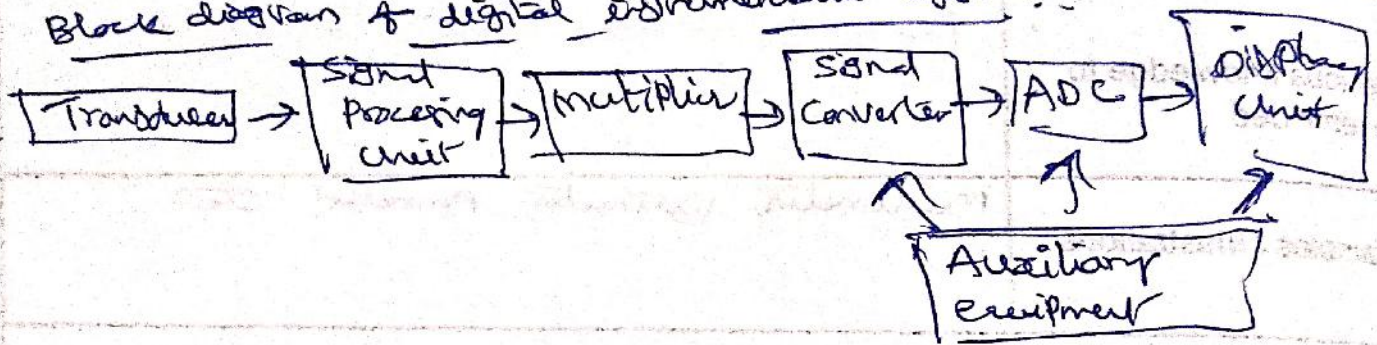
Analog Instruments: The Instruments whose output is continuous function of time. Indicates the magnitude of the quantity on the form of pointer movement.

Classification of Analog Instruments

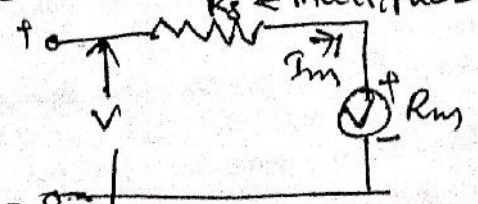
- Based on measuring method
 - direct
 - AC
 - DC
 - AC/DC
 - indirect
 - Indicator
 - Recording
 - Integrator
- Based on the measured value

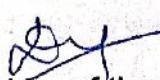
Digital Instruments: The Instruments which represent the measured value in the form of digital number.

Block diagram of digital instrumentation system:



Teaching Plan / Lesson No.

Name of the Topic	DC Voltmeter and AC Voltmeter
Hours required	02
Learning Objectives	To understand the construction and working function of Voltmeter
Previous knowledge to be reminded	Conversion of Galvanometer in Voltmeter and ammeter - types of rectifiers
Examples / Illustrations	house hold current, Solar energy,
Additional inputs	Explanation about rectifiers and inverters, filters
Teaching Aids used	PPT, Black Board & chalk
References cited	Unified physics,
Student Activity Planned after the teaching	Conducting Assignments, Seminars
Activity planned outside the class room, if any	Doubts clarification
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Basic DC Voltmeter</u>: A voltmeter is an instrument for measuring the electrical potential difference between two points in a circuit. The resistance is required to be connected in series with the basic meter to use it as a voltmeter. The series resistance is called a multiplier. $R_s \leftarrow \text{multiplier}$ 


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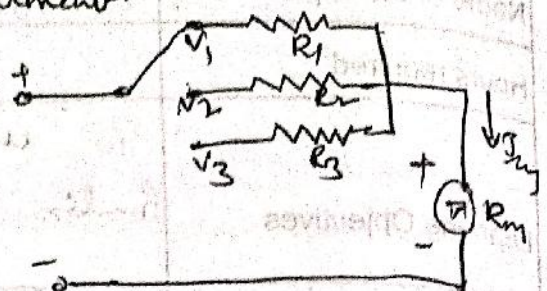
$$R_s = \frac{V}{I_m} - R_m$$

here R_s - multiplier resistance,
 V - full range voltage of the instrument

I_m - full scale deflection current of the movement

R_m - internal resistance of movement

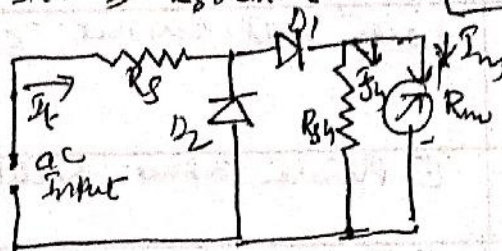
Multirange voltmeter:



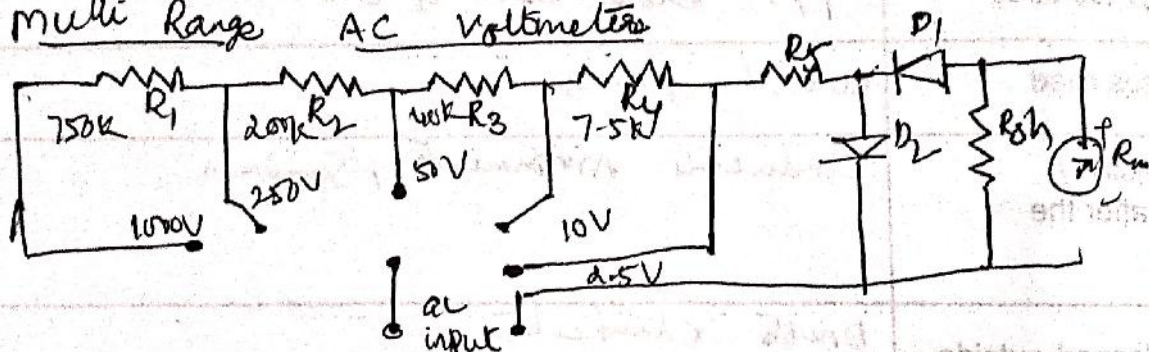
Sensitivity - Ratio of the total circuit resistance R_t to the voltage range (or) the reciprocal of the full scale deflection current of the basic movement. $S = \frac{1}{I_{fd}} \text{ } \Omega/V$.

$$R_t S = R_t / V \Rightarrow R_t = S \times V \Rightarrow R_s + R_m = S \times V \Rightarrow R_s = (S \times V) - R_m$$

A.C Voltmeter



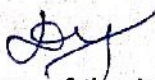
Multi Range AC Voltmeter



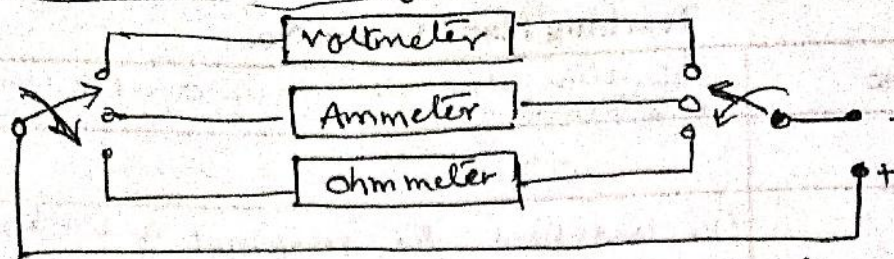
It is a circuit for measuring ac voltages for different ranges. Resistances R_1, R_2, R_3 and R_4 form a chain of multipliers for voltage ranges of 1000V, 250V, 50V, and 10V respectively. R_{sh} is the meter shunt and acts to improve the rectifier operation.

Teaching Plan / Lesson No.

Name of the Topic	construction and working of analog and digital multimeter
Hours required	05
Learning Objectives	To understand the measurement of voltage, current, testing of diode and transistor by using multimeter
Previous knowledge to be reminded	Shunt resistance, multimeter
Examples / Illustrations	
Additional inputs	History of Diode, Transistors
Teaching Aids used	PPT, Black Board & Chalk
References cited	Worked Text book
Student Activity Planned after the teaching	Conducting Seminars & Assignments
Activity planned outside the class room, if any	Doubts clarified
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Multimeter</u>: It is a device that can be used to measure multiple quantities i.e. on the basis of output representation, there are two types of multimeters. ① Analog multimeter ② Digital multimeter. <u>Analog multimeter</u>: It works on the principle of a d'Arsonval galvanometer. When a current is passed through its coil, the coil moves in a magnetic field produced by the permanent magnet. A typical analog multimeter can measure DC voltage, AC voltage, DC current, Resistance

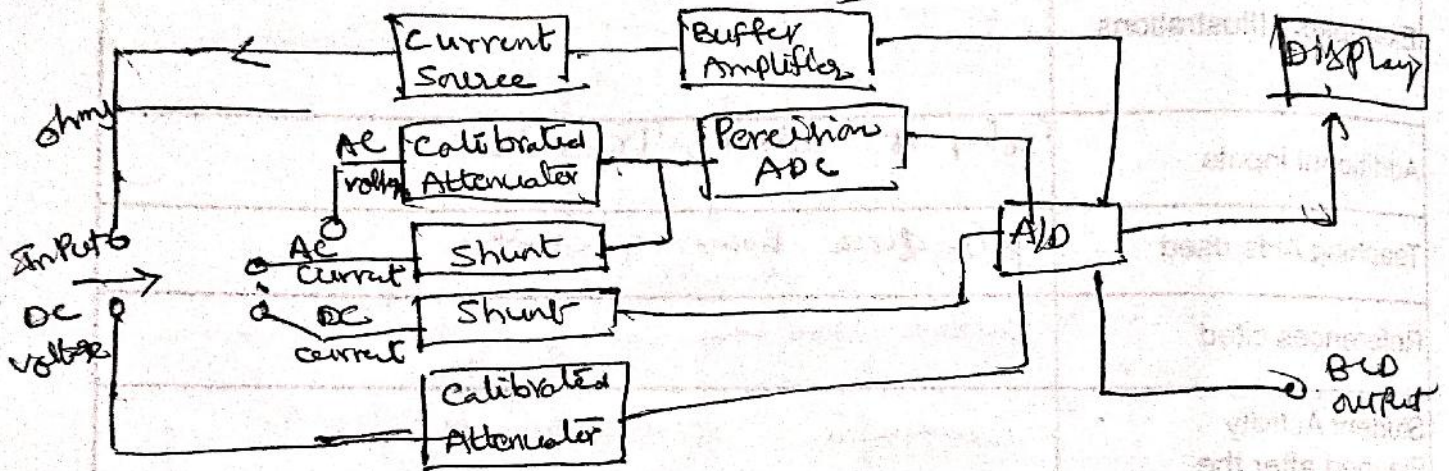

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Block diagram of Analog multimeter



Digital multimeter :- A digital multimeter is a measuring instrument used to measure various electrical quantities like current, voltage, resistance, temperature, frequency, capacitance, continuity, transistor gain etc.

Block diagram of Digital multimeter



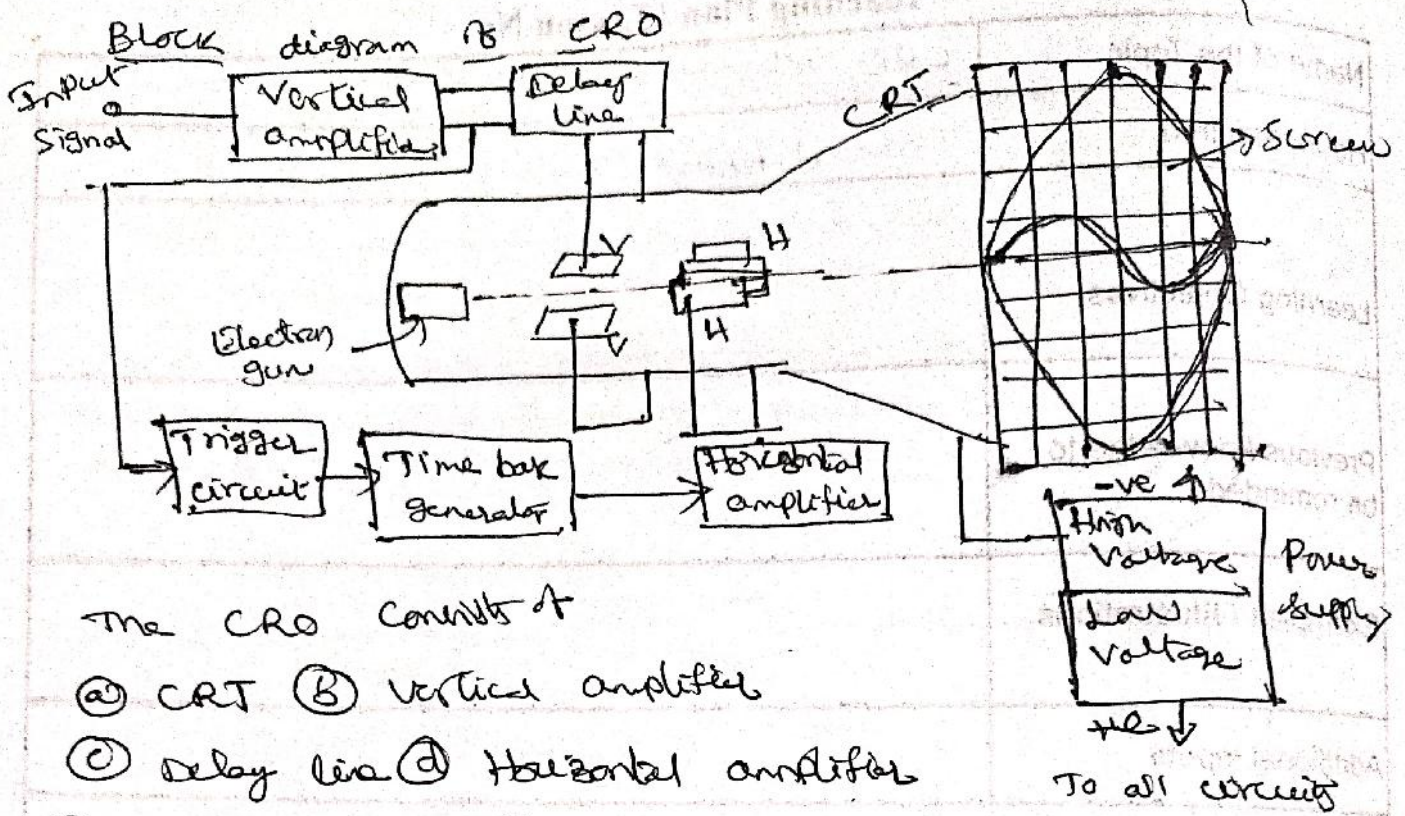
Steps for the use of digital multimeter

- Turn the meter ON
- Insert the Probes into the correct connecting ports
- Set the dial to the correct measurement type and range for the measurements to be made
- Once the measurement is completed place the Probes into the Voltage measurement ports and turn the range to maximum voltage

Teaching Plan / Lesson No.

Name of the Topic	CRO Introduction, Block diagram
Hours required	2 hours
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT, Black Board & Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>CRO</u> - The device which allows the amplitude of periodic or non-periodic signals, to be displayed primarily as a function of time is called CRO. The CRO basically operates on voltages, but it is possible to convert current, pressure, strain, acceleration and other physical quantities into the voltage using transducers and obtain their visual representation on the CRO.


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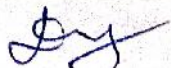


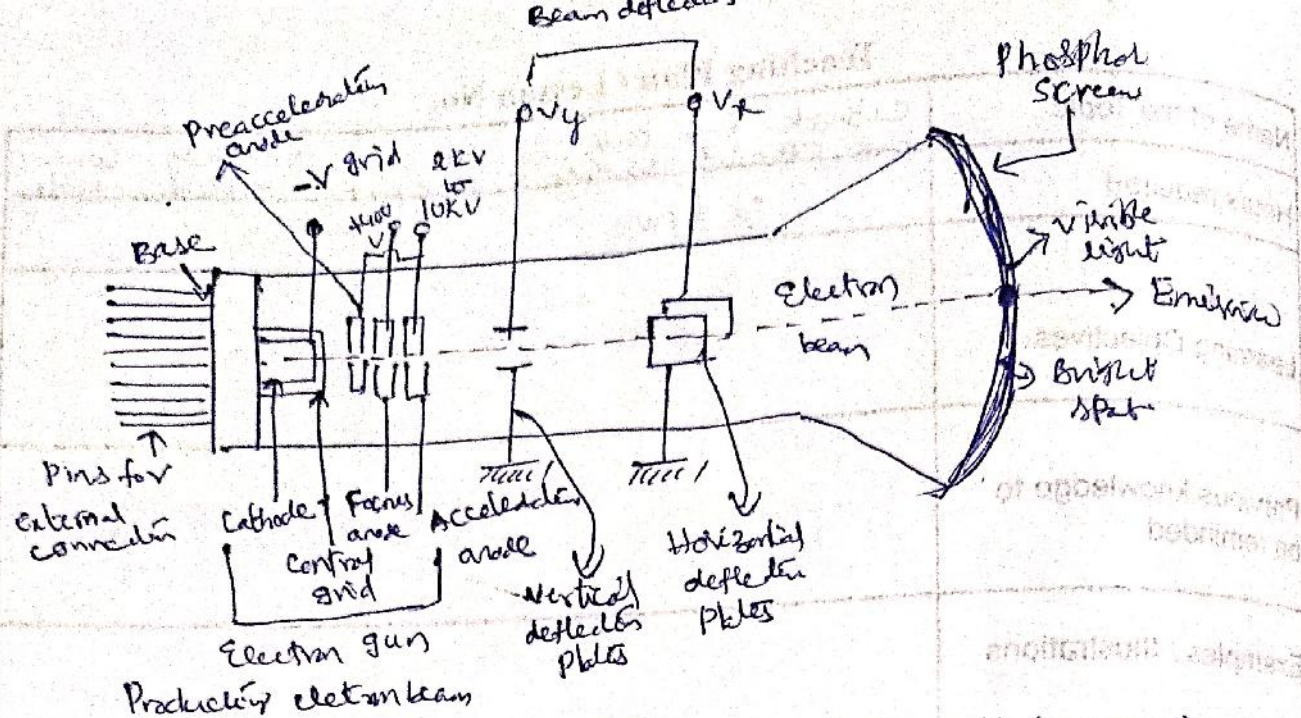
The CRO consists of

- (a) CRT
- (b) Vertical amplifier
- (c) Delay line
- (d) Horizontal amplifier
- (e) Time base generator
- (f) Triggering circuit
- (g) Power supply

Teaching Plan / Lesson No.

Name of the Topic	Cathode ray tube, Electron gun assembly, Time base operation, Vertical & Horizontal deflection system
Hours required	5 hours
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT, Black Board, Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>CRT</u>: The cathode ray tube (CRT) is the heart of the CRO. The CRT generates the electron beam, accelerates the beam, deflects the beam and also has a screen where beam becomes visible as a spot. The main parts of the CRT are ① Electron gun ② Deflection system ③ Fluorescent screen ④ Glass tube or envelope ⑤ Base


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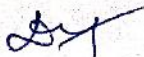
Deflection system:- The deflection system of the cathode ray tube consists of two pairs of Parallel Plates, referred to as the vertical and horizontal deflection plates. one of the plates in each set is connected to ground. to the other plates each set the external deflection voltage is applied through an internal adjustable gain amplifier stage.

The horizontal deflection (x) produced will be proportional to the horizontal deflection voltage V_x applied to x -input $x \propto V_x$ (or) $x = V_x k_x$ here k_x is a Proportional constant of Proportionality. $k_x = x/V_x$ cm/ volt.

or/ Vertical deflection (y) produced will be proportional to the vertical deflection voltage V_y , applied to the y -input? $y \propto V_y$ (or) $y = k_y V_y$ here k_y = Vertical sensitivity

Teaching Plan / Lesson No.

Name of the Topic	Uses of CRO for the measurement of Voltage (AC and DC), frequency and Phase difference
Hours required	3 hours.
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT, Block Board and Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>CRO</u> The device which allows the amplitude of Periodic or non-Periodic signals, to be displayed Primarily as a function of time is called CRO. The CRO basically operates on voltages, but it is possible to convert current, Pressure, strain, acceleration and other physical quantities into the voltage using transducers and obtain their visual representations on the CRO


 Signature of the Lecturer

Voltage measurement:

Peak to Peak voltage = (Number of divisions & units read) $\times$ $\left(\frac{\text{Volts}}{\text{division}}\right)$

The amplitude $V_m = \frac{V_{PP}}{2}$

The rms value of sinusoidal wave ~~same~~

$$V_{rms} = \frac{V_m}{\sqrt{2}} = \frac{V_{PP}}{2\sqrt{2}} \quad \text{only for sinusoidal signals.}$$

Current measurement:

$$\text{Current } I = \frac{V_{\text{measured on CRO}}}{R}$$

Period & frequency measurement:

Time Period $T = (\text{No. divisions occupied by 1 cycle}) \times \left(\frac{\text{Time}}{\text{division}}\right)$ sec

The frequency $f = \frac{1}{T}$ Hz

Applications

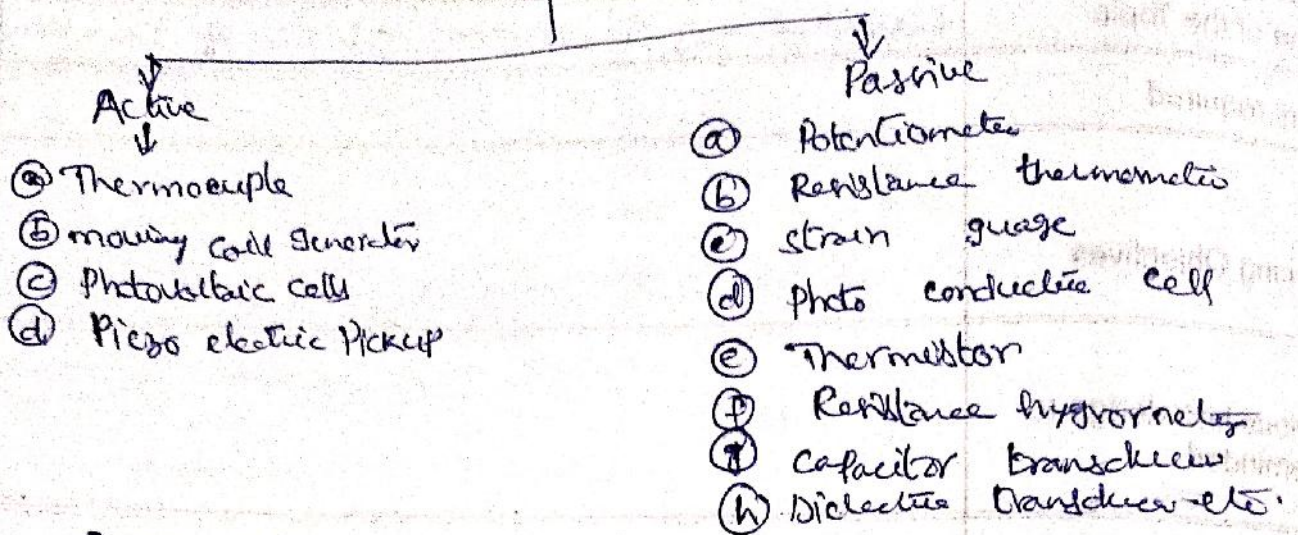
- (a) measurement of ac/dc voltage
- (b) finding B/H curves for hysteresis loop.
- (c) for engine pressure analysis
- (d) for study of stress, strain, torque, acceleration etc.
- (e) frequency and phase determination by using Lissajous figure
- (f) Radiation Patterns of antenna
- (g) amplifier gain
- (h) modulation Percentage

Teaching Plan / Lesson No.

Name of the Topic	Classification of Transducer, Selection of Transducer
Hours required	
Learning Objectives	
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT, Board & Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) The non electrical quantity is converted to an electrical signal by a device called transducer. There are two types of transducers active and Passive Transducers. The active or self generating transducers convert energy directly from one state to another without an external power source. A Passive Transducer does not convert energy directly, but derives the required energy conversion from an external source.


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Transducers

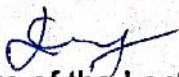


Basic requirements of transducers

- (a) Range
- (b) Accuracy
- (c) Reliability
- (d) Sensitivity
- (e) Environmental effects
- (f) Noise
- (g) loading effect
- (h) output impedance
- (i) Power requirements
- (j) Frequency response
- (k) Linearity
- (l) Ruggedness

Teaching Plan / Lesson No.

Name of the Topic	Resistive, Capacitive & Inductive Transducers
Hours required	3 hours
Learning Objectives	To Reinforce understanding the Resistive and Capacitive Transducers
Previous knowledge to be reminded	Resistor, capacitance, force
Examples / Illustrations	TV, Radio, Fan
Additional inputs	LDC, mobile location
Teaching Aids used	PPT, Block Diagram, charts
References cited	Unified Text Book Fundamentals of electronics by Subramanyam
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Resistive Transducer</u>:- resistive element is used to measure several non-electrical quantities. $R = \frac{\rho A}{l}$ Ex: ① <u>Potentiometer (Pot)</u>:- It is a passive transducer with a thin wire & potentiometer alloy ② <u>Resistance thermometer</u>. It is a primary electrical transducer used for measuring temperature change in terms of resistance changes. $R_t = R_0(1 + \alpha t)$


 Signature of the Lecturer

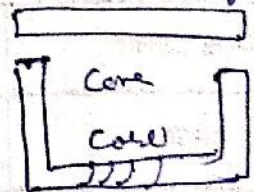
③ Thermistor: Thermistor is a resistive transducer whose resistance depends upon surrounding temperature. The term thermistor is a combination of thermal and resistor. There are two types of thermistor NTC and PTC.

Capacitive transducer: The transducer whose capacitance changes w.r.t change in input parameter is known as capacitive transducer.

$$C = A \frac{\epsilon_0 \epsilon_r}{d} = A' \frac{\epsilon}{d}$$

- (a) Variable area capacitor transducer
- (b) Variable distance between two plates type capacitor transducer
- (c) Variable dielectric constant type capacitor transducer

Inductive transducer: The transducer whose inductance changes with respect to change in input parameter is known as inductive transducer. The inductance of a coil depends on the magnetic flux linking with it. A change in the inductance proportional to the quantity to be measured is obtained by changing the flux linkage.



Teaching Plan / Lesson No.

Name of the Topic	LVDT, Piezoelectric transducer.
Hours required	2 hours
Learning Objectives	To understand the working principle of LVDT & Piezoelectric transducer.
Previous knowledge to be reminded	Induction, Piezoelectric effect
Examples / Illustrations	Crystals
Additional inputs	
Teaching Aids used	PPT,
References cited	Unified text book, Introduction to electronics by Melman & Halkay
Student Activity Planned after the teaching	Considered Assignment & Seminar
Activity planned outside the class room, if any	Doubt clarification
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Linear Variable differential transformer (LVDT)</u> • It converts linear displacement into an electrical signal. • It works on the principle mutual induction i.e. the flux of the primary winding is induced to the secondary winding.

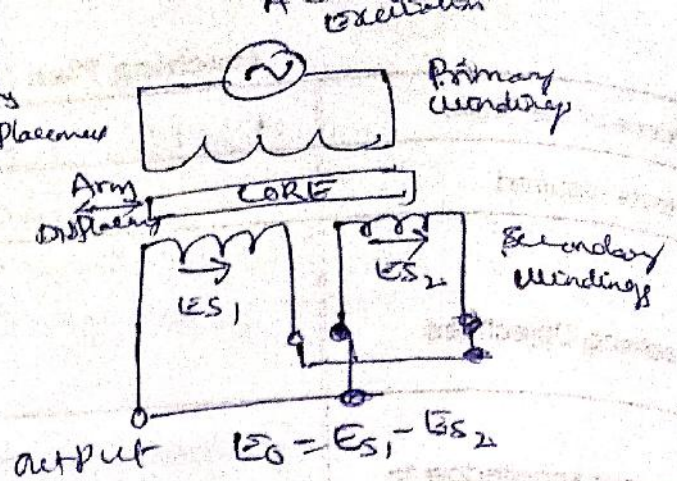

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The change in output voltage is directly proportional to the displacement of the core.

(i) $E_{S1} > E_{S2}$, E_0 is positive so E_0 is in phase with the primary voltage

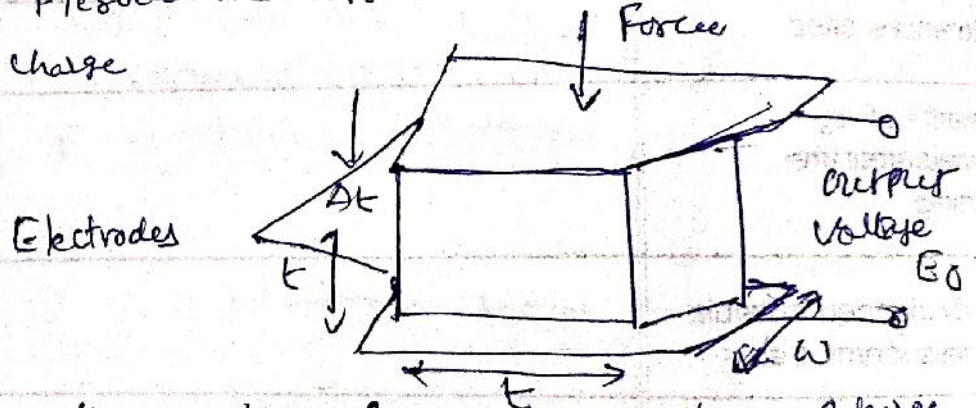
(ii) $E_{S1} < E_{S2}$, E_0 is negative. The output voltage E_0 is 180° out of phase with the primary voltage

(iii) $E_0 = E_{S1} - E_{S2} = 0$



Piezoelectric Transducers

- A Piezoelectric transducer is a device which can convert mechanical energy like force or pressure into an electrical energy.
- It uses piezoelectric effect for the generation of electric charge.



- If F is the applied force and Q is the charge developed due to it then $Q \propto F$

$$Q = d \times F$$

here d is known as piezoelectric coefficient of the material.

Teaching Plan / Lesson No.

Name of the Topic	Resistive and Capacitive Touch Screen Transducers used in mobiles.
Hours required	2 hours.
Learning Objectives	To understand the Touch Sensors Resistive and Capacitive
Previous knowledge to be reminded	LCD, mobiles
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT
References cited	Unshield Cent line
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Touch Sensors</u>:- Touch sensors are also called as tactile sensors and are sensitive to touch force or pressure. when there is contact with the surface of the touch sensor, the circuit is closed inside the sensor and there is a flow of current. when the contact is released, the circuit is opened and no current flows.


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Capacitive touch sensor: Capacitive touch sensors are widely used in mobile phones and MP3 players.

$$C = \epsilon_0 \epsilon_r A / d$$

Capacitance is directly proportional to the area and inversely proportional to the distance.

If the area of the sensor electrode is bigger and the thickness of the cover material is less, the touch capacitance C_t is also big. So the capacitance difference between touching pad and untouched sensor pad is also big.

There are two types of capacitive touch sensors, Surface capacitive sensing and Protected capacitive sensing.

Resistive touch sensor:

The resistive touch screen mainly has two layers, a flexible top layer and a rigid bottom layer. The flexible upper layer is made with polyethylene and the second layer is with glass. A conductive coating made up of Indium Tin oxide (ITO) is provided for both the layers and also spacers are used for spacing.

The resistive touch screen transmits only 75% of light from the display monitor. The resistive touch screen is further more split into 4-wired, 5-wired, 6-wired, 7-wired and 8-wired resistive touch screen.

Teaching Plan / Lesson No.

Name of the Topic	Introduction to Display device Seven Segment Display
Hours required	3 hours
Learning Objectives	To understand the Seven Segment display
Previous knowledge to be reminded	BCD, Binary numbers
Examples / Illustrations	Traffic lights, wall clock etc
Additional inputs	
Teaching Aids used	PPT, Board & chalk
References cited	Cricket Test bat
Student Activity Planned after the teaching	Visiting Traffic signals
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Display devices provide a visual display of numbers, letters, and symbols in response to an electrical input. Display devices constitute the interface between the human observer and the instrument. Display devices can be divided into two categories: (A) Analog display devices (B) Digital display devices <u>Seven Segment Displays</u>: The segmented display may be either 7-segment or 14-segment depending upon whether numeric or alpha numeric.


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characters can be formed using

② Seven segment Displays

The 7-segment displays are seven LEDs lined up in a particular pattern in fig. the number 8 shape is shown. Each of the seven LEDs is called a segment because when illuminated the segment forms part of a numerical digit to be displayed.



7-segment Display

The segmental displays may be either 7- or 14-segment ones depending upon whether numeric or alphanumeric displays are required.

Seven segments are two types

① Common anode SSD

② Common Cathode SSD

In common cathode type connects all cathodes are shorted to a common terminal. Each LED will be activated by the +ve voltage wrt common cathode terminal.

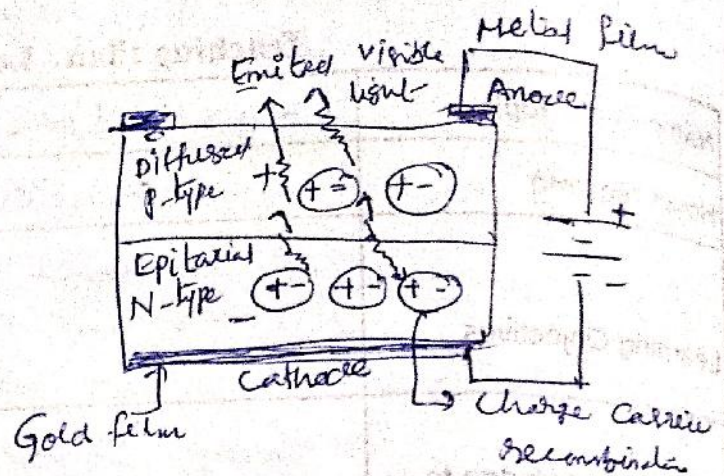
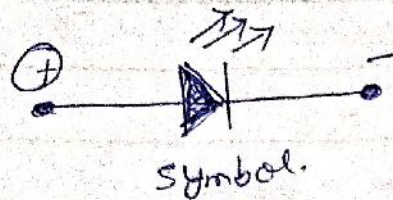
In common anode type displays requires an activation by a -ve voltage wrt to common anode terminal.

Teaching Plan / Lesson No.

Name of the Topic	LED Displays Construction and operation
Hours required	3 hours
Learning Objectives	To Understand the LED
Previous knowledge to be reminded	Pinny, Screen Similar
Examples / Illustrations	Photo cells, Traffic lights
Additional inputs	
Teaching Aids used	PPT
References cited	Unified text book, Gyan Prakash Publications
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>LED</u>:- light Emitting diode (LED) is a special type of semiconductor P-n Junction. Under forward biased conditions it can emit external spontaneous radiation in UV, VIS and IR regions of electromagnetic spectrum. It depends on the type of the semiconductor material used for their construction.

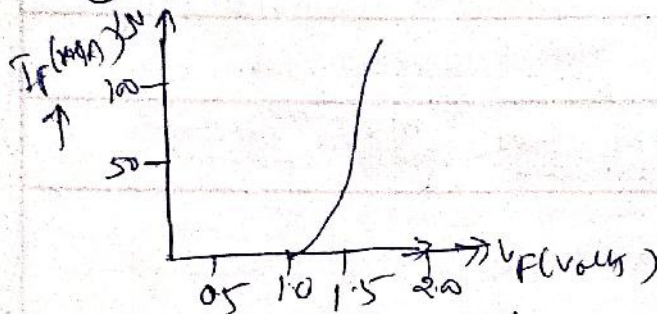

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Construction:

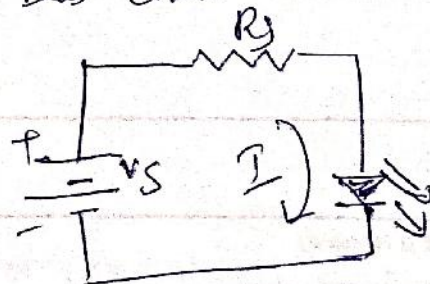
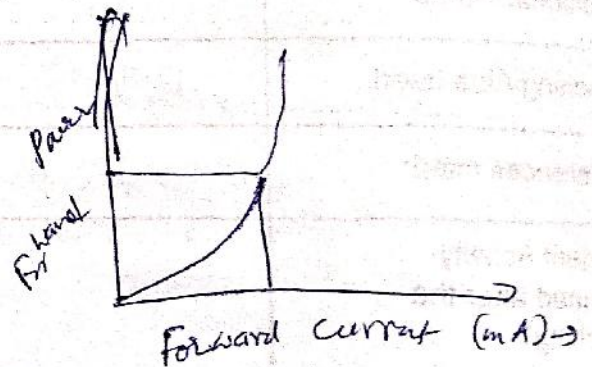


The semiconductor material used is a direct band gap material such as Gallium Arsenide (GaAs), Gallium Arsenide phosphide (GaAsP) or Gallium Phosphide (GaP)

- (a) GaAs: Infrared radiation (invisible)
- (b) GaP: Red or Green light (visible)
- (c) GaAsP: Red or yellow light (visible)

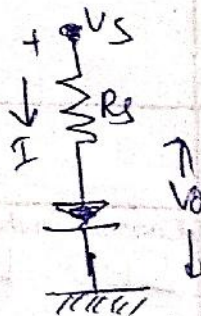


Forward bias characteristic



$$I = \frac{V_s - V_D}{R_s}$$

$$R_s = \frac{(V_{out})_{Peak} - V_F}{I_F}$$

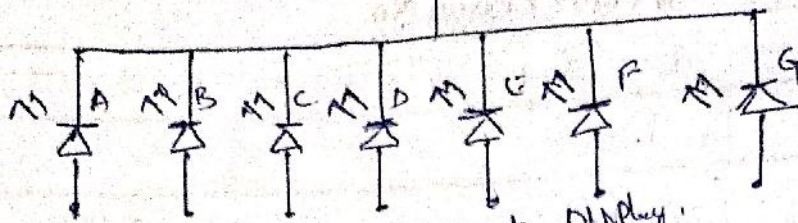


here $(V_{out})_{Peak}$ = Peak output voltage
 V_F = LED voltage drop
 I_F = LED current
 I = Current through LED

Teaching Plan / Lesson No.

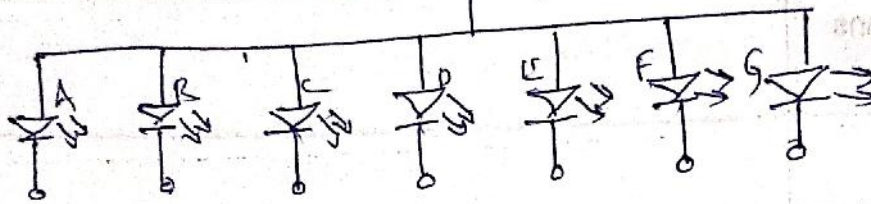
Name of the Topic	Types & SSDs, Limitations of SSDs.
Hours required	4 hours.
Learning Objectives	To understand the limitations of SSDs
Previous knowledge to be reminded	
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT, Black board & Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Types of SSDs</u>:— There are two types of Seven Segment displays (a) Common Cathode (b) Common Anode. <u>Common Cathode Seven Segment displays</u>: In Common Cathode display all the Cathode Pins are connected together to ground or logic 0. The other anode Pin is taken out and are given high or logic 1 signal to illuminate the particular led segment from a to g. The diagram shown below is for the Common Cathode Seven segment display.


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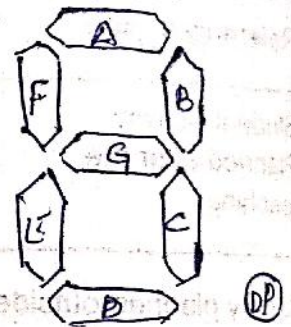
Common Anode Seven Segment Display

In common anode display all the anode pins are connected together to high pin or logic 1. The other cathode pins are taken out and are given ground or logic 0 signal to illuminate the particular LED segment from A to G. The diagram shown below is for the common anode seven segment display.



Here is the picture of the seven-segment unit displays. LEDs from A to G and one dot point of DP.

If we display '0' on the seven segment then you have illuminated LEDs, A, B, C, D, E and F. Similarly if you wish to display '5' then you will illuminate LEDs A, F, G, C and D.



Numbers	A	B	C	D	E	F	G
0	1	1	1	1	1	1	0
1	0	1	1	0	0	0	0
2	1	1	0	1	1	0	1
3	1	1	1	1	0	0	1
4	0	1	1	0	0	1	1
5	1	0	1	1	0	1	1
6	1	0	1	1	1	1	1
7	1	1	1	0	0	0	0
8	1	1	1	1	1	1	1
9	1	1	1	1	0	1	1

Limitations:- These can only display digits and a limited set of letters.

Teaching Plan / Lesson No.

Name of the Topic	Basic operating Principles and uses of clinical thermometer, Stethoscope, Sphygmomanometer
Hours required	4 hours.
Learning Objectives	To understand the Principle & clinical thermometers, Stethoscope, etc
Previous knowledge to be reminded	Temperature, human body temperature range,
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT, clinical thermometer, stethoscope
References cited	Unifed Text book
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	

Topic Synopsis	(Continue on the reverse side if needed) <u>Clinical Thermometers</u>: It is used to measure the temperature of animal body. types of clinical thermometers, (a) mercury thermometer (b) digital thermometer (c) strip-type thermometer (d) Infrared thermometer (a) <u>mercury clinical thermometer</u>: mercury expands with the rise in temperature.
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$$C = (F - 32) / 1.8$$

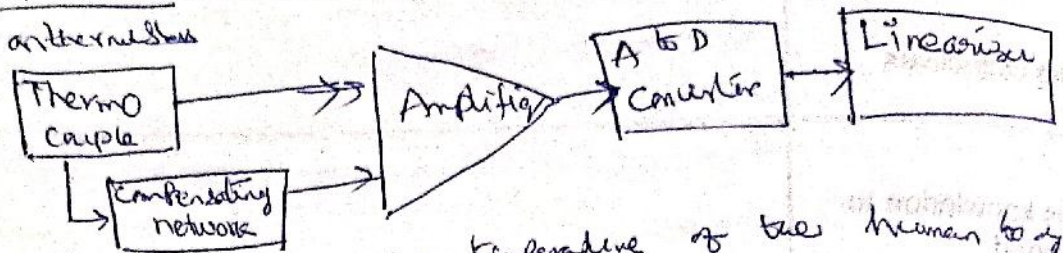
Advantages of mercury is a good conductor

(b) mercury is opaque and shiny

(c) mercury does not stick to glass sides

(d) mercury has uniform expansion

Digital thermometer: An electronic clinical thermometer uses a sensor based architecture



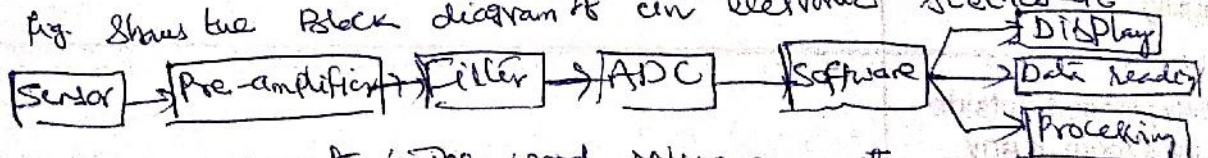
The thermocouple senses the temperature of the human body. It produces proportional thermoelectric emf (voltage) in response to the change in temperature from ambient to human body.

Strip type thermometer: A strip type thermometer contains heat sensitive liquid crystals in a plastic strip. Temperature change affects the colour of the liquid crystal.

Infrared thermometer: An Infrared thermometer is also known as non-contact thermometer or temperature gun or laser thermometer. They measure temperature from a portion of the thermal radiation emitted by the human body.

Stethoscope: It is used primarily to listen to sounds of lungs, heart and intestinal tract. It is also used to listen to blood flow in peripheral vessels and the heart sounds of developing fetuses or pregnant women.

Fig. shows the block diagram of an electronic stethoscope



Sphygmomanometer: The word sphygmomanometer is a combination of Greek word sphygmos meaning beating of the heart & pulse manometer which is a device for measuring pressure or tension.

Systolic: 110-120 mm Hg. Diastolic: 65-80 mm Hg.
Capillaries: 20-30 mm Hg. Venous: 0-20 mm Hg.

Teaching Plan / Lesson No.

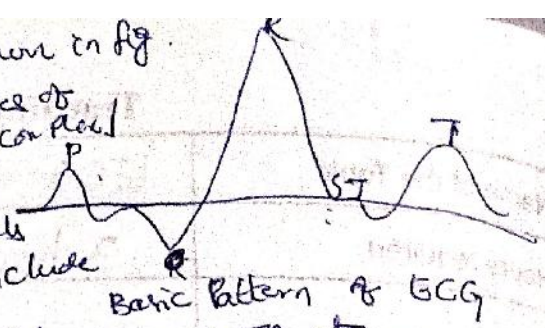
Name of the Topic	ECG & Ultrasound Scanning
Hours required	3 hours.
Learning Objectives	To understand the ECG & Ultrasound Scanner
Previous knowledge to be reminded	Ultrasound,
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT
References cited	Textbook, Lecture Notes
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) ECG:- It is defined as the recording of electrical activity of heart on a graph paper. The graph on which the electrical activity is recorded is called electrocardiogram. Repolarisation is the electrical changes that take place during contraction of any muscle. These changes can be detected by electrodes attached at specific locations on the surface of the body. Three types of ECG Machine ① Single channel ECG (uses one lead trace at a time) ② Three channel ECG (four leads at a time) ③ Twelve channel ECG (twelve leads simultaneously)

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The basic pattern of the ECG is shown in fig. As shown in fig, the pattern consists of three waves named P, QRS (a wave complex) and T. The time between two specific ECG events is called interval. The intervals commonly measured on an ECG include the P-R interval, QRS interval, QT interval and TR interval.

Uses of ECG:



- (a) Heart rate (b) Rhythm (c) Cardiac axis.
- (d) It is a diagnostic tool for various heart conditions like blockages artery in heart or pace maker activity.
- (e) ECG is a recording electrical activity and not the mechanical function of heart.

Ultrasound Scanning:

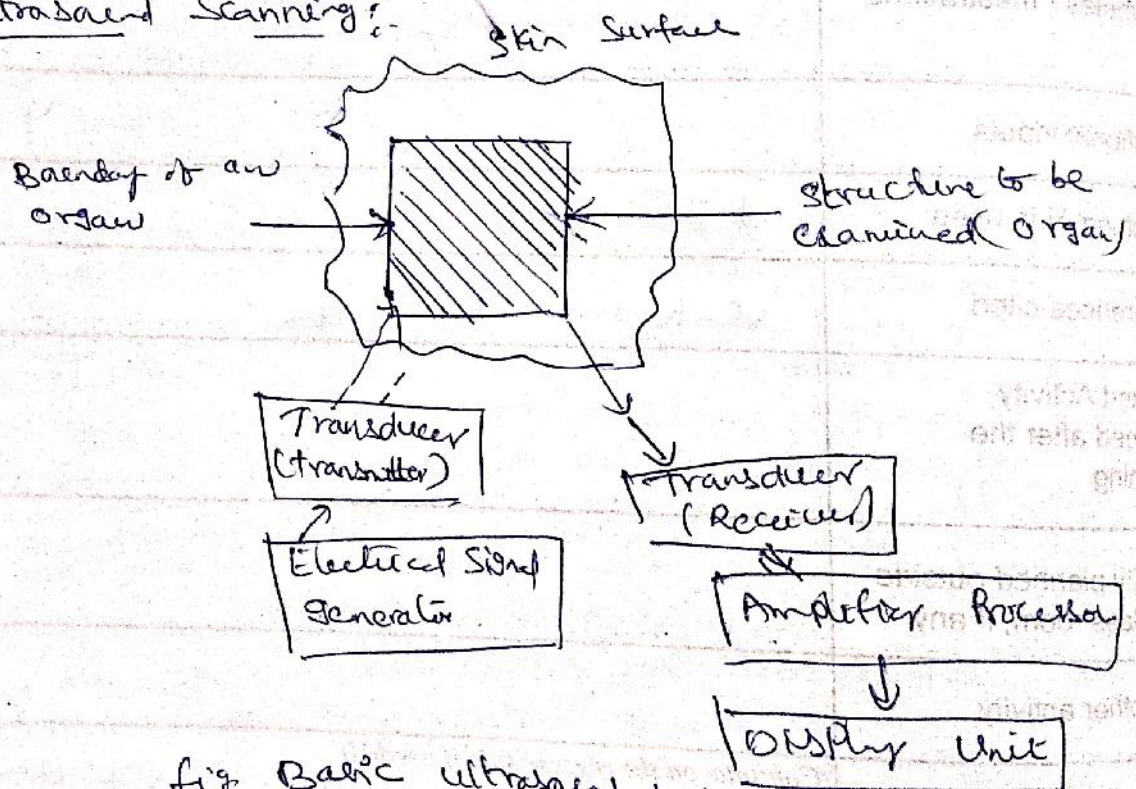
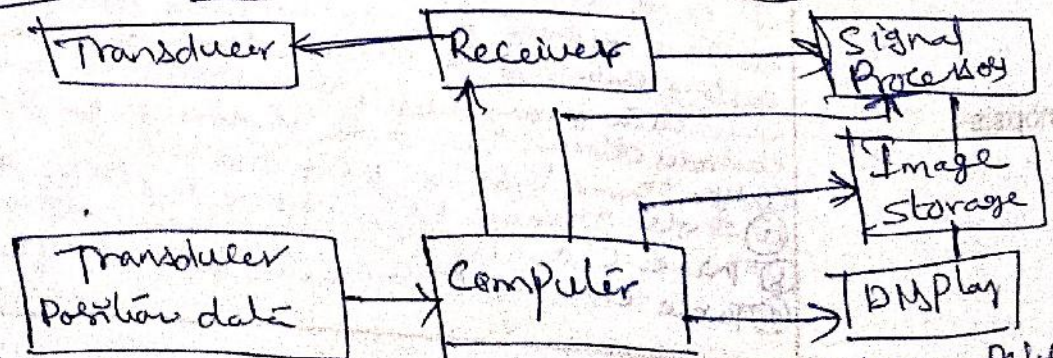


fig Basic ultrasound system

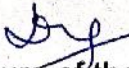
Computer controlled ultrasound scanner system



- Uses: - (a) They are used for imaging of the abdomen, pelvis, fetus, vascular system, breasts, chest etc.
- (b) Ultrasound-guided interventions are used to facilitate lesion biopsy, abscess drainage and radio frequency ablation.

Teaching Plan / Lesson No.

Name of the Topic	Pulse oximeter & Glucometer
Hours required	3 hours.
Learning Objectives	To understand the working principle of pulse oximeter and glucometer
Previous knowledge to be reminded	Pulse rate & sugar levels of human body
Examples / Illustrations	
Additional inputs	
Teaching Aids used	PPT,
References cited	Wheeler 154 book
Student Activity Planned after the teaching	conducting seminars and assignments
Activity planned outside the class room, if any	Doctors clinic, V.MIT to hospital and clinical tests
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Pulse oximeter</u> - A pulse oximeter is a device which uses light beams to estimate the oxygen saturation of the blood and the pulse rate. The test is non-invasive. i.e. the amount of oxygen in blood is estimated without drawing a blood sample. There are three types of pulse oximeters. ① Finger tip ② hand held ③ fetal pulse The most oximeters show two or three numbers. The most important number is oxygen saturation level abbreviated as SpO_2. The pulse rate is abbreviated as PR. The third number is for strength of the signal.


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Oxygen saturation are between 95% to 100% for healthy individuals. It can be lower in people with lung problems.

Principle:

- (a) Haemoglobin (Hb) and oxygenated haemoglobin (HbO_2) differ in their absorption of red and infrared light.
 - (b) The volume of arterial blood in tissue and as such the light absorption by the haemoglobin changes during the pulse.
- The relation of red and infrared signal amplitude can be directly related to arterial oxygen saturation by the relation
- $$\% \text{ oxygen saturation} = \frac{C(HbO_2)}{C(HbO_2) + C(Hb)} \times 100$$

here $C(HbO_2)$ is the concentration of oxygenated haemoglobin

$C(Hb)$ is concentration of deoxygenated haemoglobin.

- Uses:
- (a) To assess whether the patient needs some help for breathing.
 - (b) To monitor oxygen levels during or after surgery.
 - (c) To assess a person's ability to tolerate increased physical activity.

Glucometers: A blood glucometer is a small, portable machine

that is used to measure how much glucose is in the blood.

The three principle enzymatic reactions used by glucometer are

- (a) glucose oxidase (b) glucose dehydrogenase (c) hexokinase
- Uses: Glucometers are widely used in hospitals, out-patient department, emergency rooms, ambulances and home self-monitoring.

Glucometer have two essential parts

- (a) A test-strip where enzymatic reaction takes place
- (b) A detector

In each strip, there is an enzyme called glucose oxidase

This enzyme reacts with the glucose in the blood sample and creates an acid called gluconic acid. The gluconic acid then reacts with another chemical in the testing strip called ferricyanide. The ferricyanide and the gluconic acid, then combine to create ferrocyanide.

Commissionerate of Collegiate Education

Teaching Learning Process Monitoring System

Title - College Attendance Log List on - 01-Nov-2022 - 31-May-2023



S.No	Zone	District	College	Course	Subject	Class for the Date	Timing	Topic	Present	Absent	Attendance %	Full Class Count
1	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	31-May-23	09:30 AM - 10:15 AM	transistor characteristics	11	10	52	11
2	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	30-May-23	08:00 AM - 08:45 AM	Transistor different Configurations and it's currents amplification	12	9	57	12
3	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	29-May-23	12:00 PM - 12:45 PM	Transistor input and output characteristics experiment through IIT KHARAGPUR VIRTUAL LAB	9	12	42	9
4	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	29-May-23	11:15 AM - 12:00 PM	Transistors input and output Characteristics experiment through IIT KHARAGPUR VIRTUAL LAB	10	11	47	11
5	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	29-May-23	08:00 AM - 08:45 AM	Transistors PNP & NPN	12	9	57	12
6	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	25-May-23	11:15 AM - 12:00 PM	Zener diode as a Voltage regulator	8	13	38	8
7	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	24-May-23	09:30 AM - 10:15 AM	Light Emitting Diode	12	9	57	12
8	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	23-May-23	08:00 AM - 08:45 AM	Zener diode V-I Characteristics	15	6	71	15
9	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	22-May-23	12:00 PM - 12:45 PM	Half adder & Full adder experiment	11	10	52	11
10	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	22-May-23	11:15 AM - 12:00 PM	Half adder & Full adder experiment	11	10	52	11
11	4	Annamalai	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	22-May-23	08:00 AM - 08:45 AM	PN JUNCTION DIODE	13	8	61	13

12	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	18-May-23	11:15 AM - 12:00 PM	Basic Electronics	5	16	23	5
13	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	02-May-23	08:00 AM - 08:45 AM	Students Seminar Classes	5	17	22	5
14	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	27-Apr-23	11:15 AM - 12:00 PM	Alternate currents introduction class	13	9	59	13
15	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	26-Apr-23	09:30 AM - 10:15 AM	Self Inductance of long Solenoid and Energy stored in Magnetic field	10	12	45	10
16	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	25-Apr-23	08:00 AM - 08:45 AM	Self induction and Mutual Induction	10	12	45	10
17	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	24-Apr-23	12:00 PM - 12:45 PM	De Morgan's laws verification	10	12	45	10
18	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	24-Apr-23	11:15 AM - 12:00 PM	De Morgan's laws verification	10	12	45	10
19	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	24-Apr-23	08:00 AM - 08:45 AM	Faradays laws of Electromagnetism	10	12	45	10
20	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	19-Apr-23	09:30 AM - 10:15 AM	Ampere circuitol law and it's application to solenoid	11	11	50	11
21	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	18-Apr-23	08:00 AM - 08:45 AM	Lorentz force and Hall effect	6	16	27	6
22	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	17-Apr-23	12:00 PM - 12:45 PM	CHARACTERISTICS OF PN JUNCTION DIODE EXPERIMENT	13	9	59	13
23	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	17-Apr-23	11:15 AM - 12:00 PM	CHARACTERISTICS OF PN JUNCTION DIODE EXPERIMENT	13	9	59	13
24	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	17-Apr-23	08:00 AM - 08:45 AM	Magnetic field at the centre of the Solenoid of finite length	6	16	27	6
25	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	13-Apr-23	11:15 AM - 12:00 PM	Magnetic field due to solenoid	12	10	54	12
26	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	12-Apr-23	09:30 AM - 10:15 AM	Magnetic field due to circular	13	9	59	13
27	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	11-Apr-23	10:00 AM - 10:50 AM	Study hour for mid exam	10	12	45	10

28	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	10-Apr-23	03:20 PM - 04:10 PM	Maximum power transfer theorem experiment	14	8	63	14
29	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	10-Apr-23	02:30 PM - 03:20 PM	Maximum power transfer theorem experiment	14	8	63	14
30	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	06-Apr-23	02:30 PM - 03:20 PM	Relationship between D,E and P and also relationship between Dielectric Constant and Electric Susceptibility	6	16	27	6
31	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	04-Apr-23	10:00 AM - 10:50 AM	Parallel plate capacitor capacity with and without Dielectric	13	9	59	13
32	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	03-Apr-23	03:20 PM - 04:10 PM	Verification of kirchoff's laws	9	13	40	9
33	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	03-Apr-23	02:30 PM - 03:20 PM	Verification of kirchoff's laws	9	13	40	9
34	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	03-Apr-23	10:00 AM - 10:50 AM	Verification of kirchoff's laws	9	13	40	9
35	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	03-Apr-23	10:00 AM - 10:50 AM	Di electric Polarization & Di electric constant	9	13	40	9
36	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	31-Mar-23	11:40 AM - 12:30 PM	Atomic view of polarization	9	12	42	9
37	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	04-Mar-23	02:30 PM - 03:20 PM	Computer Practical examination preparation	5	17	22	5
38	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	04-Mar-23	12:40 PM - 01:30 PM	Parent Teacher Meeting Conducted	12	10	54	12
39	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	03-Mar-23	11:50 AM - 12:40 PM	Conducted physics practical examination	21	1	95	21
40	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	02-Mar-23	02:30 PM - 03:20 PM	Practical exam preparation for students	11	11	50	11
41	4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	28-Feb-23	04:10 PM - 05:00 PM	National Science day Celebrations	5	3	62	5
42	4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	28-Feb-23	03:20 PM - 04:10 PM	National Science day Celebrations	5	3	62	5
43	4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	28-Feb-23	10:00 AM - 10:50 AM	National Science day Celebrations	5	3	62	5

44.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	28-Feb-23	02:30 PM - 03:20 PM	National Science day Celebrations	5	3	62	5
45.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	23-Feb-23	11:40 AM - 12:30 PM	Project presentation work	1	7	12	1
46.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	22-Feb-23	11:40 AM - 12:30 PM	PROJECT WORK PREPARATION	2	6	25	2
47.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	21-Feb-23	10:00 AM - 10:50 AM	Water tank storm Working model preparation	1	7	12	1
48.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	20-Feb-23	04:10 PM - 05:00 PM	Practical syllabus completed students were not attended	0	8	0	0
49.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	20-Feb-23	03:20 PM - 04:10 PM	Practical syllabus completed students were not attended	0	8	0	0
50.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	20-Feb-23	02:30 PM - 03:20 PM	Practical syllabus completed students were not attended	0	8	0	0
51.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	17-Feb-23	11:40 AM - 12:30 PM	NA	0	8	0	0
52.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	15-Feb-23	11:40 AM - 12:30 PM	Students Seminar Classes	5	3	62	5
53.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	14-Feb-23	10:00 AM - 10:50 AM	Open day programme conducted to the Govt Jr College Students	5	3	62	5
54.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	13-Feb-23	04:10 PM - 05:00 PM	LCR PARALLEL RESONANCE CIRCUIT EXPERIMENT REVISION	5	3	62	5
55.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	13-Feb-23	03:20 PM - 04:10 PM	LCR PARALLEL RESONANCE CIRCUIT EXPERIMENT REVISION	5	3	62	5
56.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	13-Feb-23	02:30 PM - 03:20 PM	LCR PARALLEL RESONANCE CIRCUIT EXPERIMENT REVISION	5	3	62	5
57.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	13-Feb-23	10:50 AM - 11:40 AM	Syllabus Completed revision class	4	18	18	4
58.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	09-Feb-23	11:40 AM - 12:30 PM	Simple d.c motor(fan)	5	3	62	5
59.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	09-Feb-23	02:30 PM - 03:20 PM	Effective Temperature of the Sun and problems solved	9	13	40	9

60.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	08-Feb-23	11:40 AM - 12:30 PM	Design Step up transformer	5	3	62	5
61.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	08-Feb-23	11:50 AM - 12:40 PM	Deduction of Wein's law and Raleigh-Jeans formula from Plank's	12	10	54	12
62.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	07-Feb-23	10:00 AM - 10:50 AM	Design of Step down & Step up transformer	2	6	25	2
63.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	06-Feb-23	04:10 PM - 05:00 PM	Practical revision class	6	2	75	6
64.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	06-Feb-23	03:20 PM - 04:10 PM	Practical revision class	6	2	75	6
65.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	06-Feb-23	02:30 PM - 03:20 PM	Practical revision class	6	2	75	6
66.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	06-Feb-23	10:50 AM - 11:40 AM	Wien's Displacement law Derivation	15	7	68	15
67.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	01-Feb-23	11:50 AM - 12:40 PM	Wien's Displacement law Derivation	13	9	59	13
68.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	01-Feb-23	11:40 AM - 12:30 PM	Switch Mode Power supply	3	5	37	3
69.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	31-Jan-23	10:00 AM - 10:50 AM	Checking the output Voltage of Battery Eleminator by Multimeter	7	1	87	7
70.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	30-Jan-23	04:10 PM - 05:00 PM	LCR SERIES RESONANCE CIRCUIT EXPERIMENT	2	6	25	2
71.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	30-Jan-23	03:20 PM - 04:10 PM	LCR SERIES RESONANCE CIRCUIT EXPERIMENT	2	6	25	2
72.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	30-Jan-23	02:30 PM - 03:20 PM	LCR SERIES RESONANCE CIRCUIT EXPERIMENT	2	6	25	2
73.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	30-Jan-23	10:50 AM - 11:40 AM	Energy distribution in Black body radiation	11	11	50	11
74.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	27-Jan-23	11:50 AM - 12:40 PM	Slip test conducted	16	6	72	16
75.4	Annama yya	GDC, Rajampet	B.Sc - MPC	P-IV - N B SRR	25-Jan-23	11:40 AM - 12:30 PM	Sv dc regulated power supply	2	6	25	2

76.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	25-Jan-23	11:50 AM - 12:40 PM	Quantum theory of Radiation Introduction class	20	2	90	20
77.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	23-Jan-23	10:50 AM - 11:40 AM	Problems Discussed in 4th Chapter	21	1	95	21
78.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	20-Jan-23	02:30 PM - 03:20 PM	Thermal conductivity of Rubber radial flow method	9	13	40	9
79.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	20-Jan-23	11:50 AM - 12:40 PM	Problems solved in Thermodynamics	11	11	50	11
80.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	18-Jan-23	11:50 AM - 12:40 PM	Problems solved in Thermodynamics	2	20	9	2
81.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	07-Jan-23	02:30 PM - 03:20 PM	Thermal behaviour of electric bulb experiment	12	10	54	12
82.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	07-Jan-23	12:40 PM - 01:30 PM	Thermal behaviour of electric bulb experiment	12	10	54	12
83.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	06-Jan-23	02:30 PM - 03:20 PM	Discuss on mid term evaluation papers	12	10	54	12
84.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	06-Jan-23	11:50 AM - 12:40 PM	Problems solved in kinetic theory of Gases	16	6	72	16
85.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	04-Jan-23	11:50 AM - 12:40 PM	Quiz program Conducted on the occasion of Sir Isaac Newton's	15	7	68	15
86.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	02-Jan-23	10:50 AM - 11:40 AM	Problems Discussed in kinetic theory of Gases	15	7	68	15
87.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	31-Dec-22	02:30 PM - 03:20 PM	Thermal behaviour of electric bulb	4	18	18	4
88.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	31-Dec-22	12:40 PM - 01:30 PM	Thermal behaviour of electric bulb	4	18	18	4
89.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	30-Dec-22	02:30 PM - 03:20 PM	Problems solved in first chapter	10	12	45	10
90.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	30-Dec-22	11:50 AM - 12:40 PM	Problems solved in first chapter	10	12	45	10
91.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	28-Dec-22	11:50 AM - 12:40 PM	Adiabatic Demagnetization	15	7	68	15
92.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	27-Dec-22	02:30 PM - 03:20 PM	Newton's law of Cooling	15	7	68	15
93.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	27-Dec-22	12:40 PM - 01:30 PM	Newton's law of Cooling	15	7	68	15
94.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	26-Dec-22	10:50 AM - 11:40 AM	15	15	7	68	15
95.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	23-Dec-22	11:50 AM - 12:40 PM	Internal Examination	17	5	77	17
96.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	22-Dec-22	02:30 PM - 03:20 PM	Study hour for Internal exams	10	12	45	10
97.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	21-Dec-22	11:50 AM - 12:40 PM	Internal Examination	17	5	77	17
98.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	19-Dec-22	10:50 AM - 11:40 AM	FIRST INTERNAL EXAMINATION	17	5	77	17
99.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	17-Dec-22	02:30 PM - 03:20 PM	Determination of Specific heat of liquid by Newton's law of Cooling	10	12	45	10
100.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	17-Dec-22	12:40 PM - 01:30 PM	Determination of Specific heat of liquid by Newton's law of Cooling	10	12	45	10
101.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	16-Dec-22	11:50 AM - 12:40 PM	Student seminar class	12	10	54	12
102.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	15-Dec-22	02:30 PM - 03:20 PM	1. Difference between Joule expansion, Adiabatic expansion and Joule Kelvin effect 2. Expression for INVERSION TEMPERATURE, JOULE THOMPSON CO EFFICIENT	15	7	68	15
103.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	14-Dec-22	11:50 AM - 12:40 PM	INVERSION TEMPERATURE, JOULE THOMPSON CO EFFICIENT	15	7	68	15
104.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	12-Dec-22	10:50 AM - 11:40 AM	Student seminar class	8	14	36	8
105.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	08-Dec-22	02:30 PM - 03:20 PM	Low temperature physics Introduction, Joule Kelvin effect.	16	6	72	16
106.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	07-Dec-22	11:50 AM - 12:40 PM	STUDENT SEMINAR CLASS	17	5	77	17
107.4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV - N B SRR	05-Dec-22	10:50 AM - 11:40 AM	Student seminar class	13	9	59	13

108	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	02-Dec-22	11:50 AM - 12:40 PM	STUDENT SEMINAR CLASSES CONDUCTED	16	6	72	16
109	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	01-Dec-22	02:30 PM - 03:20 PM	Students Seminar classes	15	7	68	15
110	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	30-Nov-22	11:50 AM - 12:40 PM	STUDENT SEMINAR CLASSES	9	13	40	9
111	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	28-Nov-22	10:50 AM - 11:40 AM	STUDENT'S SEMINAR CLASSES CONDUCTED	11	11	50	11
112	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	26-Nov-22	02:30 PM - 03:20 PM	Coefficient of thermal conductivity of a bad conductor Lee's method	14	8	63	14
113	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	26-Nov-22	12:40 PM - 01:30 PM	Coefficient of thermal conductivity of a bad conductor Lee's method	14	8	63	14
114	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	25-Nov-22	11:50 AM - 12:40 PM	Cp Cv-R derivation	12	10	54	12
115	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	24-Nov-22	10:50 AM - 11:40 AM	Applications of Maxwell's equations (1) Clausius Clapeyron equation (2)	12	10	54	12
116	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	23-Nov-22	11:50 AM - 12:40 PM	Derivation of Maxwell's thermodynamic equations from	15	7	68	17
117	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	21-Nov-22	10:50 AM - 11:40 AM	Thermodynamic potentials	12	10	54	12
118	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	19-Nov-22	02:30 PM - 03:20 PM	Temperature characteristics of a Thermistor	18	4	81	18
119	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	19-Nov-22	12:40 PM - 01:30 PM	Temperature characteristics of a Thermistor	18	4	81	18
120	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	18-Nov-22	11:50 AM - 12:40 PM	Change in Entropy when ice converts into Steam/Vapour	13	9	59	13
121	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	17-Nov-22	10:50 AM - 11:40 AM	Temperature - Entropy Diagram	16	6	72	16
122	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	16-Nov-22	11:50 AM - 12:40 PM	ENTROPY	17	5	77	17
123	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	14-Nov-22	10:50 AM - 11:40 AM	Carnot's theorem and Kelvin scale of temperature	8	14	36	8
124	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	11-Nov-22	11:50 AM - 12:40 PM	CARNOT'S CYCLE	8	14	36	8
125	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	09-Nov-22	11:50 AM - 12:40 PM	EFFICIENCY OF CARNOT'S HEAT ENGINE	20	2	90	20
126	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	07-Nov-22	10:50 AM - 11:40 AM	Physics Quiz Conducted Topic : Carnot's heat engine	17	5	77	17
127	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	04-Nov-22	11:50 AM - 12:40 PM	Carnot's heat engine	17	5	77	17
128	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	03-Nov-22	10:50 AM - 11:40 AM	Work done in an Adiabatic process and Reversible and Irreversible	17	5	77	17
129	4	Annama yya	GDC, Rajampet	B.Sc - MPCs	P-IV -N B SRR	02-Nov-22	12:00 PM - 01:00 PM	Thermodynamics introduction and work done in an Isothermal process	12	10	54	12



COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE
RAJAMPET, KADAPA. Dt.
(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023

Name of the Department : *Physics*
NAME OF THE LECTURER : *N. B. SIVA RAMI REDDY*
Course / Group : *M.P.CS SEM-IV Paper-IV*
Subject / Page : *Physics Paper-IV (Electricity
Magnetism & Electronics)*

S.No	Subject	Paper	Page No.
1			
2			
3			
4			

Teaching Plan / Lesson No. I

Name of the Topic	Electric flux
Hours required	01
Learning Objectives	(1) Student Can understand Electric flux. (2) Student - could be able to give examples when flux is work in different cases
Previous knowledge to be reminded	Magnetic lines of force, Magnetic flux
Examples / Illustrations	Electric flux through a cylinder kept in a uniform electric field.
Additional inputs	
Teaching Aids used	Black Board and Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Electric flux through a surface placed inside electric field represents the total number of electric lines of force crossing the surface in a direction normal to the surface.    $\phi_E = \oint \vec{E} \cdot d\vec{r} = E dS \cos \theta$

Kanish Reddy
Signature of the Lecturer

Teaching Plan / Lesson No. I

Name of the Topic	Electric flux
Hours required	01
Learning Objectives	(1) Student Can understand Electric flux. (2) Student - could be able to give examples when flux is work in different cases
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Examples / Illustrations	Electric flux through a cylinder kept in a uniform electric field.
Additional inputs	
Teaching Aids used	Black Board and Chalk
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Electric flux through a surface placed inside electric field represents the total number of electric lines of force crossing the surface in the direction normal to the surface.    $\phi_E = \oint \vec{E} \cdot d\vec{S} = E dS \cos \theta$

Signature of the Lecturer

Gauss Law Proof:

Case ① When the Charge is contained Surface
total Normal Electric flux through 'ds' is 'dφ_E'

$$d\phi_E = \oint \vec{E} \cdot d\vec{s} = E ds \cos \theta \rightarrow ①$$

But we know that $E = \frac{1}{4\pi\epsilon_0} \frac{Q}{r^2}$

$$\therefore d\phi_E = \frac{Q}{4\pi\epsilon_0 r^2} ds \cos \theta = \frac{Q}{4\pi\epsilon_0} \left(\frac{ds \cos \theta}{r^2} \right)$$

But $\frac{ds \cos \theta}{r^2}$ is the solid angle 'dω' subtended by 'ds' at 'O'

hence, $d\phi_E = \frac{Q}{4\pi\epsilon_0} d\omega$

the total flux φ_E over the entire whole surface is given by

$$\phi_E = \int d\phi_E = \int \frac{Q}{4\pi\epsilon_0} d\omega = \frac{Q}{4\pi\epsilon_0} \int d\omega = \frac{Q}{4\pi\epsilon_0} \times 4\pi$$

$$\phi_E = \frac{Q}{\epsilon_0}$$

$$\therefore \phi_E = \oint \vec{E} \cdot d\vec{s} = \frac{Q}{\epsilon_0} = \left(\frac{1}{\epsilon_0} \right) Q$$

When the charge is outside the surface:-

the Electric flux through 'ds₁' = $-\frac{Q}{4\pi\epsilon_0} d\omega$

" " $ds_2 = +\frac{Q}{4\pi\epsilon_0} d\omega$

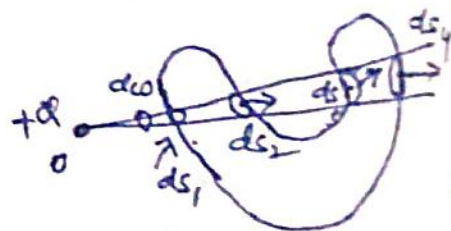
" " $ds_3 = -\frac{Q}{4\pi\epsilon_0} d\omega$

" " $ds_4 = +\frac{Q}{4\pi\epsilon_0} d\omega$

$\therefore$ Total Electric flux through Entire surface φ_E =

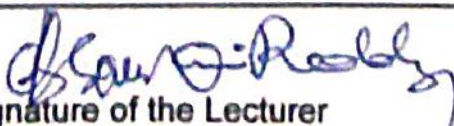
$$\phi_E = d\phi_1 + d\phi_2 + d\phi_3 + d\phi_4 = -\frac{Q}{4\pi\epsilon_0} d\omega + \frac{Q}{4\pi\epsilon_0} d\omega - \frac{Q}{4\pi\epsilon_0} d\omega + \frac{Q}{4\pi\epsilon_0} d\omega$$

$$= 0$$



Teaching Plan / Lesson No. 2

Name of the Topic	Gauss Law
Hours required	01
Learning Objectives	1) Student can understand what is Gauss Law (2) Student can apply Gauss Law in different cases.
Previous knowledge to be reminded	Electric flux, Electric Field Intensity, Solid angle.
Examples / Illustrations	Electric flux when point charge is outside the closed surface
Additional inputs	Solid angle
Teaching Aids used	Three Dimensional regular & Irregular shapes
References cited	
Student Activity Planned after the teaching	Planned to ask oral questions
Activity planned outside the class room, if any	planned to prepare MCQ.
Any other activity	
Topic Synopsis	<i>Gauss Law Statement:</i> (Continue on the reverse side if needed) The total Normal Electric flux (Φ_E) over a closed surface in an Electric field $k(E_0)$ times the total Charge (Q) enclosed within in the surface. Mathematically it can be expressed as $\Phi_E = \oint \vec{E} \cdot d\vec{s} = \left(\frac{1}{\epsilon_0}\right) Q.$


 Signature of the Lecturer

- * As the sheet is conducting, the charge will reside only on the surface of the conductor
- * there will be no charge inside the sheet.
- * there will be charge distributed on the right hand side only
- * let us assume that P and P' are ^{points on} the ~~surface~~ ^{points on} the Gaussian ~~surface~~ cylindrical surface.

Electrical flux through right side circular surface $\phi_1 = \oint \vec{E} \cdot d\vec{P} = \int E ds$
 $= E \cdot A = \frac{Q}{\epsilon_0}$

But we know that $Q = \sigma \cdot A \Rightarrow Q = \sigma \cdot A$ — (2)

from (1) & (2) $\Rightarrow E \cdot A = \frac{\sigma A}{\epsilon_0} \Rightarrow E = \frac{\sigma}{\epsilon_0}$ — (3)

Electric flux through Entire curved surface $\phi_2 = \oint \vec{E} \cdot d\vec{s}$
 $= \oint E ds \cos 90^\circ$
 $= 0$

Electric flux through left side circular surface $\phi_3 = \oint \vec{E} \cdot d\vec{s}$
 $= \oint 0 \cdot d\vec{s}$
 $= 0$ ($\because$ Since $\vec{E} \perp \vec{s} \Rightarrow \vec{E} \cdot \vec{s} = 0$)

$\therefore$ total Electric flux ~~through~~ ^{due to} infinite sheet of charge

$$\Phi = \phi_1 + \phi_2 + \phi_3 = E \cdot A = \frac{Q}{\epsilon_0} = \frac{\sigma A}{\epsilon_0}$$

$$\boxed{E = \frac{\sigma}{\epsilon_0}}$$

$\therefore$ Electric field due to infinite Conducting sheet of

charge $\boxed{E = \frac{\sigma}{\epsilon_0}}$

* As the sheet is conducting, the charge will reside only on the surface of the conductor

* there will be no charge inside the sheet.

* there will be charge distributed on the right hand side only

* let us assume that P and P' are ~~the~~ ^{points on} on the ~~surface of the~~ Gaussian ~~surface~~ cylindrical surface.

Electrical flux through right side circular surface $\phi_1 = \oint \vec{E} \cdot d\vec{P} = \int E ds$
 $= E \cdot A = \frac{Q}{\epsilon_0} \rightarrow$

But we know that $\sigma = \frac{Q}{A} \Rightarrow Q = \sigma \cdot A \rightarrow (2)$

from (1) & (2) $\Rightarrow E \cdot A = \frac{\sigma A}{\epsilon_0} \Rightarrow E = \frac{\sigma}{\epsilon_0} \rightarrow (3)$

Electric flux through Entire curved surface $\phi_2 = \oint \vec{E} \cdot d\vec{s}$
 $= \int E ds \cos 90^\circ$
 $= 0$

Electric flux through left side circular surface $\phi_3 = \oint \vec{E} \cdot d\vec{s}$
 $= \int 0 \cdot d\vec{s}$
 $= 0$ ($\because$ Since $\vec{E} \perp \vec{s} \Rightarrow \vec{E} \cdot \vec{s} = 0$)

$\therefore$ total Electric flux ~~through~~ ^{due to} infinite sheet of charge

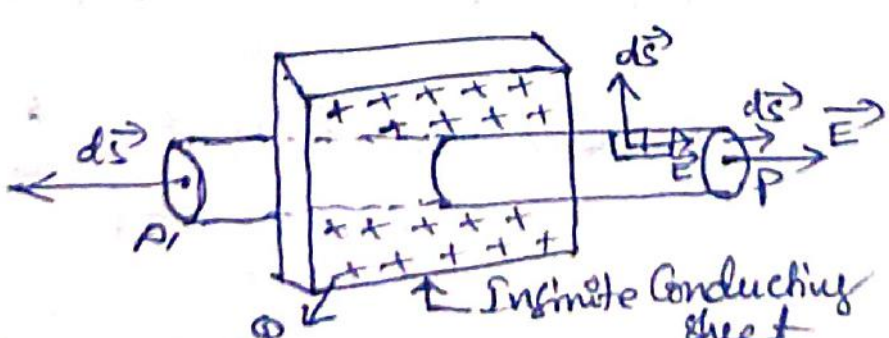
$$\Phi = \phi_1 + \phi_2 + \phi_3 = E \cdot A = \frac{Q}{\epsilon_0} = \frac{\sigma A}{\epsilon_0}$$

$$\boxed{E = \frac{\sigma}{\epsilon_0}}$$

$\therefore$ Electric field due to infinite Conducting sheet of charge

$$\boxed{E = \frac{\sigma}{\epsilon_0}}$$

Teaching Plan / Lesson No. 3

Name of the Topic	Applications of Gauss Law (1)
Hours required	1
Learning Objectives	Students can apply Gauss Law to Calculate Electric field Intensity due to Infinite Conducting sheet of charge.
Previous knowledge to be reminded	Gauss Law for Electrostatics. Linear charge density (λ) Surface charge density (σ) and Volume charge density (ρ)
Examples / Illustrations	
Additional inputs	Linear, surface and Volume charge density (λ) (σ) (ρ)
Teaching Aids used	Black Board & Chalk
References cited	
Student Activity Planned after the teaching	planned to conduct quiz
Activity planned outside the class room, if any	planned to conduct Assignment
Any other activity	
Electric field due to Infinite Conducting sheet of charges (Continue on the reverse side if needed)	
Topic Synopsis	 The diagram illustrates the setup for calculating the electric field of an infinite conducting sheet. A rectangular sheet is shown with positive charges (+). A cylindrical Gaussian surface is drawn perpendicular to the sheet, intersecting it. The top and bottom circular faces of the cylinder are labeled dS. The electric field E is shown as arrows pointing away from the sheet on both sides of the cylinder. A point P is marked on the right side of the sheet. The sheet is labeled 'Infinite Conducting sheet'.


 Signature of the Lecturer

Electric flux through Entire ^{at side} Gaussian Surface $\phi_E = \oint \vec{E} \cdot d\vec{A}$
 $= \oint E \cdot ds \cos 0^\circ = E \cdot S = E \cdot 4\pi r^2 \rightarrow (1)$

But according to Gauss law this $\phi_E = \frac{q}{\epsilon_0} \rightarrow (2)$

From (1) & (2) $\Rightarrow E \cdot 4\pi r^2 = \frac{q}{\epsilon_0}$

$\Rightarrow E = \frac{1}{4\pi\epsilon_0} \cdot \frac{q}{r^2}$ (or) $\vec{E} = \frac{1}{4\pi\epsilon_0} \cdot \frac{q}{r^3} (\vec{r})$

Case (i) At a point on the surface $r = R$

$E = \frac{1}{4\pi\epsilon_0} \cdot \frac{q}{R^2}$

Case (ii) At a point inside the charged sphere

radius of Gaussian sphere where point P' is equal to r

the electric flux through the entire Gaussian surface is given by

$\phi_E = \oint \vec{E} \cdot d\vec{A} = E \cdot ds = E \cdot 4\pi r^2 \rightarrow (1)$

The total charge enclosed by the Gaussian surface

$q' = \text{Volume} \times \text{Volume Charge density}$

$q' = \frac{4}{3}\pi r^3 \times \rho$

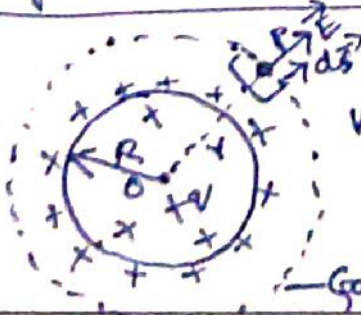
But $\rho = \frac{\text{total charge}}{\text{total volume}} = \frac{q}{\frac{4}{3}\pi R^3} = \frac{3q}{4\pi R^3}$

$\therefore q' = \frac{4}{3}\pi r^3 \times \frac{3q}{4\pi R^3} = q \left(\frac{r}{R}\right)^3 \rightarrow (2)$

from (1) & (2) $\Rightarrow E \cdot 4\pi r^2 = \frac{1}{\epsilon_0} \times q' = \frac{1}{\epsilon_0} \times q \times \left(\frac{r}{R}\right)^3$

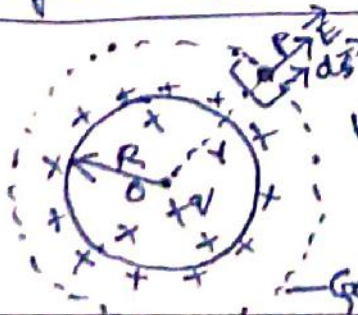
$\boxed{E = \frac{1}{4\pi\epsilon_0} \times \frac{q r}{R^3}}$

Teaching Plan / Lesson No. 4

Name of the Topic	Application (2) of Gauss Law Electric field due to uniformly charged sphere (Non-Conducting)
Hours required	01
Learning Objectives	student can apply the Gauss Law in derivation of Electric field due to uniformly charged sphere.
Previous knowledge to be reminded	Gauss Law, Volume Charge density (ρ)
Examples / Illustrations	
Additional inputs	
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Electric field due to A uniformly charged sphere (Non-Conducting)</u> <u>Electric field at a point outside the charged sphere:-</u>  Volume of the sphere = $\frac{4}{3}\pi R^3$ Volume charge density $\rho = \frac{q}{V}$ $= \frac{q}{\frac{4}{3}\pi R^3}$ Gaussian surface

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Teaching Plan / Lesson No. 4

Name of the Topic	Application of Gauss Law Electric field due to uniformly charged sphere (Non-Conducting)
Hours required	01
Learning Objectives	Student can apply the Gauss Law in derivation of Electric field due to uniformly charged sphere.
Previous knowledge to be reminded	Gauss Law, Volume Charge density (ρ)
Examples / Illustrations	
Additional inputs	
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
(Continue on the reverse side if needed)	
<u>Electric field due to A uniformly charged sphere (Non-Conducting)</u> <u>Electric field at a point outside the charged sphere:-</u>	
Topic Synopsis	 Volume of the sphere = $\frac{4}{3}\pi R^3$ Volume charge density $\rho = \frac{Q}{V}$ $= \frac{Q}{\frac{4}{3}\pi R^3}$ Gaussian surface

Signature of the Lecturer

Case ii

Potential at a point on the surface of a charged sphere

$$r = R$$

$$\therefore \text{Electric potential (V)} = \frac{1}{4\pi\epsilon_0} \cdot \frac{q}{R}$$

Case - iii

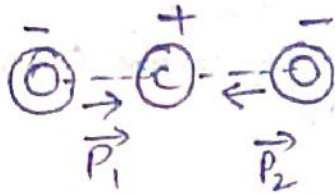
Potential inside the charged sphere

$$V = - \int E \cdot dr = - \int \frac{1}{4\pi\epsilon_0} \cdot \frac{qr}{R^3} dr$$

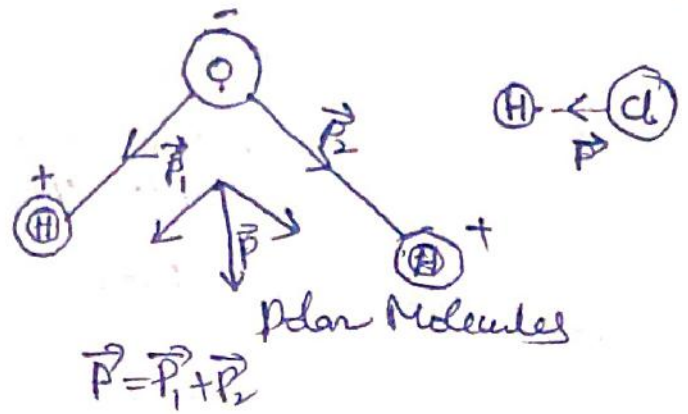
$$V = \frac{1}{4\pi\epsilon_0} \cdot \frac{qR^2}{2R^3}$$

Name of the Topic	Electric potential due to Uniformly charged Sphere
Hours required	01
Learning Objectives	By completing this period student can derive electric potential due to uniformly charged sphere (non-conducting)
Previous knowledge to be reminded	Electric field strength
Examples / Illustrations	
Additional inputs	Relation ship between E and V
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Potential at a point outside the charged sphere</u> We know the relation b/w E and V $V = - \int E \cdot dr = - \int \frac{1}{4\pi\epsilon_0} \frac{q}{r^2} \cdot dr$ $= \frac{q}{4\pi\epsilon_0} \int \left(\frac{1}{r^2}\right) dr = \frac{q}{4\pi\epsilon_0} \cdot \frac{1}{r} = \frac{1}{4\pi\epsilon_0} \frac{q}{r}$

Dipole moment is a Vector Quantity. The direction of Dipole moment is always Negative to Positive charge.
Atomic View of Dielectric



Non-Polar Molecule



Teaching Plan / Lesson No. 6

Name of the Topic	Dielectric Introductory class
Hours required	01
Learning Objectives	After completion of this class student can understand and classify dielectrics and Insulators, dielectrics and conductors
Previous knowledge to be reminded	Based on Electrical Conduction topics classification of materials
Examples / Illustrations	Mica, Glass, plastic etc are examples of Dielectrics.
Additional inputs	
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Dielectrics</u> are the substances which do not contain free electrons or the number of such electrons is too low to constitute the electric current. <u>Differences b/n Dielectrics and Conductors</u> <u>Electric Dipole and Dipole moment</u> <u>Definition</u>

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Teaching Plan / Lesson No. 6

name of the Topic	Dielectric Introductory class
hours required	01
Learning Objectives	After completion of this class student can understand and classify dielectrics and Insulators, dielectrics and conductors
Previous knowledge to be reminded	Based on Electrical Conduction regarding classification of Materials
Examples / Illustrations	Mica, Glass, plastic etc are examples of Dielectrics.
Additional inputs	
Teaching Aids used	
References cited	
Student Activity planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Dielectrics</u> are the substances which do not contain free electrons or the number of free electrons is too low to constitute the electric current. <u>Differences b/w Dielectrics and Conductors</u> <u>Electric Dipole and Dipole moment</u> <u>Definition</u>

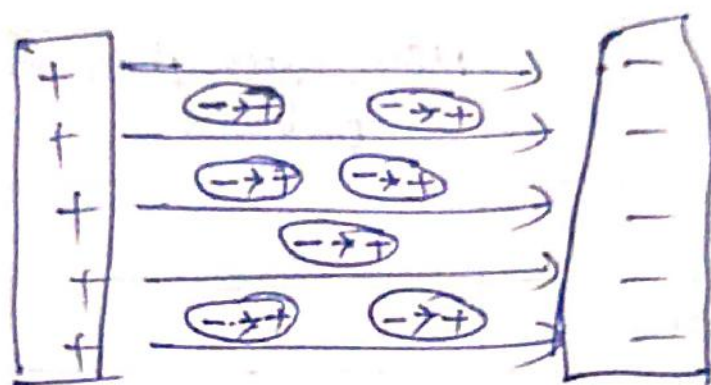
Signature of the Lecturer

The Net Electric field ($\vec{E}$) when a dielectric material is kept in an Electric field ($\vec{E}_0$)

$$\vec{E} = \vec{E}_0 - \vec{E}'$$

here, $\vec{E}'$ is the induced electric field due to induced charges in dielectric medium.

Polar Dielectric in Electric Field.

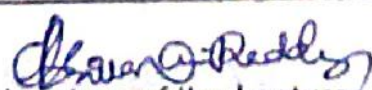


Note:- Polar dielectrics have Permanent dipole moments with their random orientation which is called P_p . In presence of external electric field the partial displacement of dipoles takes place due to this dielectric gain additional dipole moment which is Induced dipole moment P_i .

$$\text{total dipole moment} = P_p + P_i$$

Teaching Plan / Lesson No. 7

Name of the Topic	Non Polar and Polar Dielectrics In an Electric field
Hours required	01
Learning Objectives	Students can understand the behaviour of Dielectrics in External Electric field.
Previous knowledge to be reminded	Capacitor, Electric field Intensity
Examples / Illustrations	
Additional inputs	
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Dielectric Material Non Polar


 Signature of the Lecturer

Applying Gauss law for parallel plate capacitor without dielectric

$$\oint \vec{E}_0 \cdot d\vec{s} = \frac{q}{\epsilon_0}$$

$$\oint E_0 \cdot d\vec{s} \cos 0 = \frac{q}{\epsilon_0}$$

$$E_0 \cdot A = \frac{q}{\epsilon_0} \Rightarrow E_0 = \frac{q}{A\epsilon_0} \rightarrow \textcircled{1}$$

Applying Gauss law for parallel plate capacitor with dielectric

$$\oint \vec{E} \cdot d\vec{s} = \frac{(q - q')}{\epsilon_0}$$

$$E \cdot A = \frac{q - q'}{\epsilon_0} \Rightarrow E = \frac{q}{A\epsilon_0} - \frac{q'}{A\epsilon_0}$$

$$\text{But } E = \frac{E_0}{K} \Rightarrow \frac{E_0}{K} = \frac{q}{A\epsilon_0} - \frac{q'}{A\epsilon_0}$$

$$\frac{q}{A\epsilon_0 K} = \frac{q}{A\epsilon_0} - \frac{q'}{A\epsilon_0}$$

$$\frac{q}{A\epsilon_0} = \frac{q}{A\epsilon_0 K} + \frac{q'}{A\epsilon_0}$$

$$\frac{q}{A} = \epsilon_0 \left(\frac{q}{A\epsilon_0 K} \right) + \frac{q'}{A} \cdot \frac{\cancel{\epsilon_0}}{\cancel{\epsilon_0}}$$

$$\text{But we know that } \frac{q}{A} = D \text{ and } \frac{q'}{A} = P, \quad \frac{q}{A\epsilon_0 K} = \frac{q}{A\epsilon_0} = E$$

$$\therefore \boxed{D = \epsilon_0 E + P} \rightarrow \textcircled{2}$$

Relationship between K , ψ and ϵ_0

We know that $D = \epsilon E = K\epsilon_0 E$ Substitute in equation (2)

$$K\epsilon_0 E = \epsilon_0 E + P \Rightarrow P = E\epsilon_0(K-1)$$

$$\therefore P = E \cdot \psi \quad (\text{here } \epsilon_0(K-1) = \psi \text{ susceptibility})$$

$$\therefore \psi = \epsilon_0 K - \epsilon_0 = \epsilon - \epsilon_0 \Rightarrow \epsilon = \epsilon_0 + \psi$$

$$K = \frac{\epsilon}{\epsilon_0} = \frac{\epsilon_0 + \psi}{\epsilon_0} = 1 + \frac{\psi}{\epsilon_0} \therefore \boxed{K = 1 + \frac{\psi}{\epsilon_0}}$$

Teaching Plan / Lesson No. 8

Name of the Topic	Three Electric Vectors and their relations
Hours required	01
Learning Objectives	Students Can Understand what is electric Intensity, what is Electric Displacement and Electric polarization and also derive the relationship between E , P and D
Previous knowledge to be reminded	Permittivity, Dielectric Constant (K), Surface charge density. etc.
Examples / Illustrations	
Additional inputs	Capacitor Capacity without and with Dielectric
Teaching Aids used	Black Board, Chalk
References cited	
Student Activity Planned after the teaching	planned to give Assignment through google classroom
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) With out Dielectric with Dielectric

Ch. S. Reddy
Signature of the Lecturer

According to Biot & Savart

Magnetic field due to ~~Biot and Savart~~ ^{Small element dl'}
through current ' i ' depends

(i) $dB \propto i$

$dB \propto dl$

$dB \propto \sin\theta$

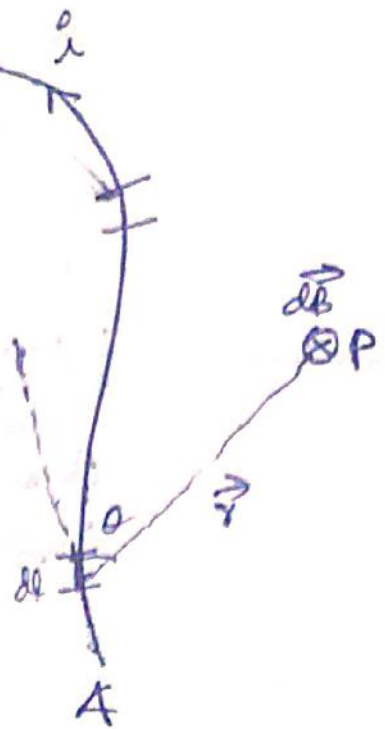
$dB \propto \frac{1}{r^2}$

$dB \propto \frac{i dl \sin\theta}{r^2}$

$$dB = \frac{\mu_0}{4\pi} \frac{i dl \sin\theta}{r^2}$$

It can be represented in vector form.

$$\vec{dB} = \frac{\mu_0}{4\pi} i \cdot \frac{d\vec{l} \times \vec{r}}{r^3}$$



Teaching Plan / Lesson No. 9

Name of the Topic	Biot Savart Law
Hours required	01
Learning Objectives	After completion of this topic students can understand the establishment of Magnetic field near by current carrying conductor.
Previous knowledge to be reminded	Oersted Experiment, Fleming's Right-hand rule
Examples / Illustrations	
Additional inputs	Oersted Experiment, Fleming's Right hand rule.
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Biot and Savart performed a series of experiments to study magnetic field produced by various current carrying conductors. They obtained a relation by means of which 'B' can be calculated at any point of space around a conductor.

Bhagwan Prasad
Signature of the Lecturer

Consider a circular loop of radius 'a' and carrying a current 'i'.
 i, r be the distance of an element from the point 'P'
 θ is the angle between $\vec{dl}$ and $\vec{r}$ which is equal to 90°

$$\therefore dB = \frac{\mu_0}{4\pi} \frac{i(d\vec{l} \times \vec{r})}{r^3} = \frac{\mu_0}{4\pi} \frac{i dl \sin 90^\circ}{r^2} = \frac{\mu_0}{4\pi} \frac{i dl}{r^2}$$

Magnetic field at point 'P' due to 'AB' of length 'dl' is
 'dB' which always is perpendicular to both $\vec{dl}$ and $\vec{r}$
 dB can be resolved into components along y-axis and z-axis
 along x-axis

iii) Magnetic field due to AB of length 'dl' at point 'P' which is resolved into two components $dB \cos \theta$ and $dB \sin \theta$.

~~dB~~ In all cases vertical components are in opposite ~~direction~~ direction and they cancel each other
 only horizontal components add up

$\therefore$ Total Magnetic ~~field~~ ^{field} along the axis of circular coil

$$B = \int dB \cos \theta = \frac{\mu_0 i}{4\pi r^2} \int dl \sin \theta$$

$$= \frac{\mu_0 i a}{4\pi r^2} \int dl \left(\frac{a}{r} \right)$$

$$= \frac{\mu_0 i a^2}{4\pi r^3} \int dl$$

$$= \frac{\mu_0 i a^2}{4\pi r^3} \times 2\pi a$$

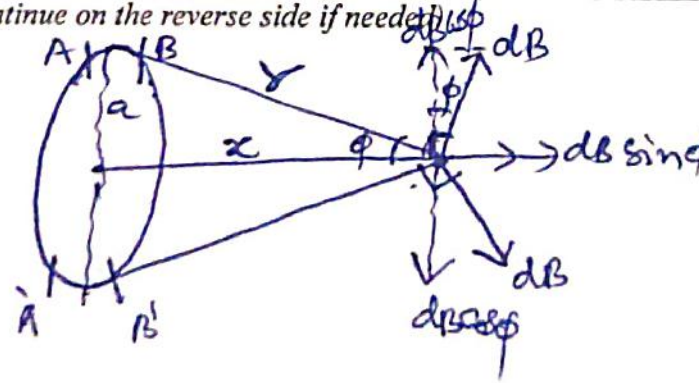
$$= \frac{\mu_0 i a^3}{2 r^3}$$

$$= \frac{\mu_0 i a^2}{2(a^2 + x^2)^{3/2}}$$

if one circular loop
 having 'n' turns

$$B = \frac{\mu_0 n i a^2}{2(a^2 + x^2)^{3/2}}$$

Teaching Plan / Lesson No. 10

Name of the Topic	Applications of Gauss Law (Magnetic field due to current loop.
Hours required	01
Learning Objectives	Students Can be understand the derivation for Magnetic field due to current loop.
Previous knowledge to be reminded	Biot Savart Law
Examples / Illustrations	
Additional inputs	Magnetic field due to Infinite length of current carrying conductor.
Teaching Aids used	
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) 

Signature of the Lecturer



COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023

Name of the Department : *Physin*
NAME OF THE LECTURER : *S. Mahabub Beshe*
Course / Group : *MPCs*
Subject / Page : *Paper VI c*

Sl.No.	Subject	Paper	Page No.
1			
2			
3			
4			

Teaching Plan / Lesson No.

Name of the Topic	Introduction to Passive Elements :- Passive Active Elements, Resistor type colour coding
Hours required	2
Learning Objectives	Knowledge, Understanding, application
Previous knowledge to be reminded	Resistor, Colour coding
Examples / Illustrations	Resistor type
Additional inputs	
Teaching Aids used	Resistor
References cited	
Student Activity Planned after the teaching	Resistor - Values by using colour code
Activity planned outside the class room, if any	Typing of resistors, diagram practice
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Introduction to Passive - Active Elements</u> 1. <u>Active Elements</u> :- Produce Energy to another circuit in the form of voltage / current. control current direction and is current/voltage control applications Ex:- Transistors, op Amp, logic gates

Signature of the Lecturer

tunnel diode, zener diode

Passive Elements: ϕ Can't supply Energy to any circuit
 ϕ not capable of control Circuit on their own
 ϕ used for energy storage, discharge, filtering
filtering, phase shifting application.

Ex: resistor, capacitor, Inductor, normal p-n diode

Types of resistor: 1. fusible resistor
2. carbon resistor
3. wound resistor

color code

<u>color</u>	<u>value</u>	<u>tolerance</u>
black	0	
brown	1	$\pm 1\%$
red	2	
orange	3	$\pm 2\%$
yellow	4	
green	5	$\pm 0.5\%$
blue	6	
violet	7	$\pm 0.2\%$
gray	8	$\pm 0.1\%$
white	9	$\pm 0.05\%$
gold	—	$\pm 5\%$
silver	—	$\pm 10\%$

Teaching Plan / Lesson No.

Name of the Topic	Application of resistors - capacitor - types
Hours required	2
Learning Objectives	Knowledge, understanding, application
Previous knowledge to be reminded	resistor; capacitor.
Examples / Illustrations	types capacitor
Additional inputs	
Teaching Aids used	Capacitor
References cited	
Student Activity Planned after the teaching	Capacitor value - by using color codes
Activity planned outside the class room, if any	types capacitor, diagram drawing
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Application of Resistor :</u> 1. Fuseable resistors used in motor, power supply 2. controls inrush currents 3. self guard the equipment by blowing in the event of short circuit

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types of capacitors :- ole to structure

1. Fixed capacitor
2. Variable capacitor
3. Trimmer capacitor

ole to Polarization

1. Polarized

2. Unpolarized

1. ceramic capacitor

2. film capacitor

3. Power film capacitor

4. Electrolytic capacitor

5. paper capacitor

Color code same as Φ resistors

Teaching Plan / Lesson No.

Name of the Topic	application of resistor as heating element resistor in motor (fan) Power Supplies
Hours required	2
Learning Objectives	Knowledge, Understanding
Previous knowledge to be reminded	resistor, capacitor
Examples / Illustrations	fan
Additional inputs	
Teaching Aids used	fan, heater
References cited	
Student Activity Planned after the teaching	I have the application resistor
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) application of resistor as heating element :- And resistor can produce conversion heat means, it heat up surrounding air, liquid & ∴ heat driver immersion heater

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Teaching Plan / Lesson No.

Name of the Topic	Energy stored in capacitor, types of Inductors, applications of Inductor.
Hours required	2
Learning Objectives	Knowledge, Understanding
Previous knowledge to be reminded	capacitor, Inductors
Examples / Illustrations	
Additional inputs	
Teaching Aids used	capacitor, Inductors
References cited	
Student Activity Planned after the teaching	Practice the eqn. for energy stored in a Capacitor
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Energy stored in a capacitor :- P.d across capacitor $V = q/c$ $dw = V dq$ $= \frac{q}{c} dq$ $w = \int_0^Q dw$


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$$W = \frac{1}{2} \int_0^Q q \, dv$$

$$= \frac{1}{2} C \frac{Q^2}{2}$$

$$= \frac{Q^2}{2C}$$

$$= \frac{C V^2}{2C}$$

$$= \frac{1}{2} C V^2$$

c 29/3

Q/V/C

Types of Inductors :-

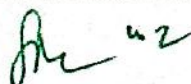
1. Iron-core Inductor
2. Toroidal Inductor
3. Laminated core Inductor
4. Powdered Iron core Inductor

Application of Inductors :-
Inductors used in

1. Tuning circuits
2. Sensors
3. Store energy in a device
4. Induction Motors
5. Transformers
6. Filter, chokes
7. relays

Teaching Plan / Lesson No.

Name of the Topic	Applications of choke in a fan radio tuning circuit (series Resonance circuit)
Hours required	2
Learning Objectives	Knowledge, understanding.
Previous knowledge to be reminded	Inductor (choke)
Examples / Illustrations	
Additional inputs	
Teaching Aids used	choke (Inductor)
References cited	
Student Activity Planned after the teaching	
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Radio tuning circuit</u> - with the help of Inductor, tuning circuits can select desired frequency <u>fan</u> - chokes (inductors) used to control the speed of motor


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Teaching Plan / Lesson No.

Name of the Topic	1. <u>Power Sources</u> :- Types of Power Sources Types of Batteries. Rechargeable Batteries
Hours required	2
Learning Objectives	Knowledge, Understanding
Previous knowledge to be reminded	Battery, (Chargeable) (Not chargeable)
Examples / Illustrations	
Additional inputs	
Teaching Aids used	Chargeable/Not chargeable Batteries
References cited	
Student Activity Planned after the teaching	to collect some rechargeable batteries
Activity planned outside the class room, if any	ask the students to collect about rechargeable batteries if possible
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Power Sources</u> :- 1. A.C Power 2. D.C Power 1. <u>A.C Power Sources</u> :- In A.C Power current is flow of charge changes direction periodically, voltage level also reverses along with current. Ex: A.C Power is delivered to houses, industries, etc.

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DC power source :- In this current flows in one direction, don't change its direction. It is unidirectional.

Ex:- cell phones
Electric Vehicles
Flat screen TV

Types of batteries :-

1. Primary Batteries :-

(non-rechargeable)

Ex:- dry Batteries used in portable small gadgets
clocks, torches etc

2. Secondary Batteries :-

rechargeable Batteries

Ex:- used in

1. Mobiles

2. Laptops

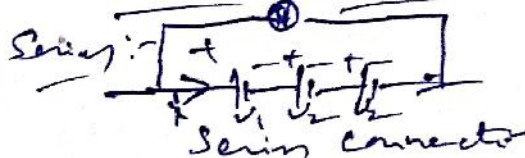
3. Electric Vehicles

Li-ion batteries

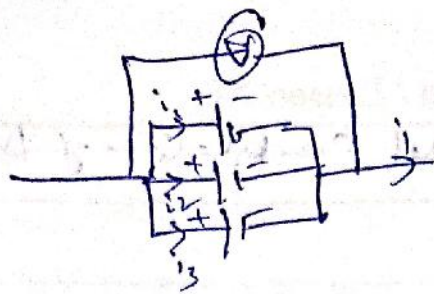
Ni-metal hydride

Lead-acid batteries

Teaching Plan / Lesson No.

Name of the Topic	Series/parallel combination of Batteries
Hours required	2
Learning Objectives	Knowledge, understanding & applications
Previous knowledge to be reminded	parallel & series combination of cells
Examples / Illustrations	Batteries in four wheels.
Additional inputs	
Teaching Aids used	Battery in the inverter circuit
References cited	
Student Activity Planned after the teaching	Asked to see the battery in inverter circuit in the houses
Activity planned outside the class room, if any	—
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Series, Parallel, Combination of Batteries Series:-  Series connection $V = V_1 + V_2 + V_3$, $i = \text{constant}$ Parallel:- $V = \text{const.}$ and $i = i_1 + i_2 + i_3$

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$$V = \text{const}$$

$$i = i_1 + i_2 + i_3$$

Teaching Plan / Lesson No.

Name of the Topic	Constant Current/Voltage Sources, Applications of SMPS used in Computers.
Hours required	2
Learning Objectives	Knowledge, understanding
Previous knowledge to be reminded	Stabilizer, regulator
Examples / Illustrations	stabilizers,
Additional inputs	
Teaching Aids used	show the stabilizer
References cited	
Student Activity Planned after the teaching	Ask the students to see the stabilizer connected to T.V.s, Refrigerators
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Constant Current source</u>: It is a Power-source Provides a const. Current to load, even despite changes in load resistance <u>Const. Voltage source</u>: which maintains const. voltage level during operation regulation of current variations as well as variations

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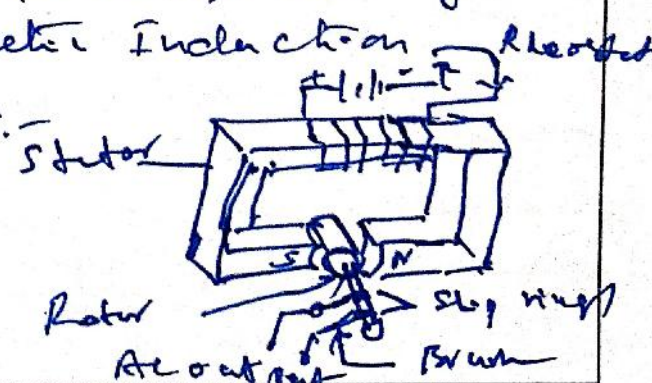
in load resistance

SMPS :- Switch mode Power Supply

is an electronic circuit converting power with switching devices that turn on and off at high frequencies

They are also storage components
Just like Inductors, Capacitors

Teaching Plan / Lesson No.

Name of the Topic	19 <u>Alternating current</u> :- AC Power. Source generator Construction Working
Hours required	2
Learning Objectives	Knowledge, understanding
Previous knowledge to be reminded	Faraday's Law of electro magnetic Induction.
Examples / Illustrations	transformer.
Additional inputs	
Teaching Aids used	show the fig.
References cited	
Student Activity Planned after the teaching	learn the faraday's Law of Induction learn to draw the fig. of AC Generator.
Activity planned outside the class room, if any	learn the Construction and working as well as principle of AC Generator
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>principle</u> : Faraday's Law of electro magnetic Induction <u>Construction</u> :- 

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Working:- flux linkage of the armature varies continuously as it revolves bet. poles of magnet on an axis $\perp$ to the magnetic field.

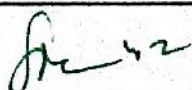
As electric current travels thro' the galvanometer slip rings, brushes as a consequence, galvanometer changes its value from +ve to -ve.

It shows that an AC is received.
Fleming's Right-Hand rule can be used to determine the dirn of induced current.

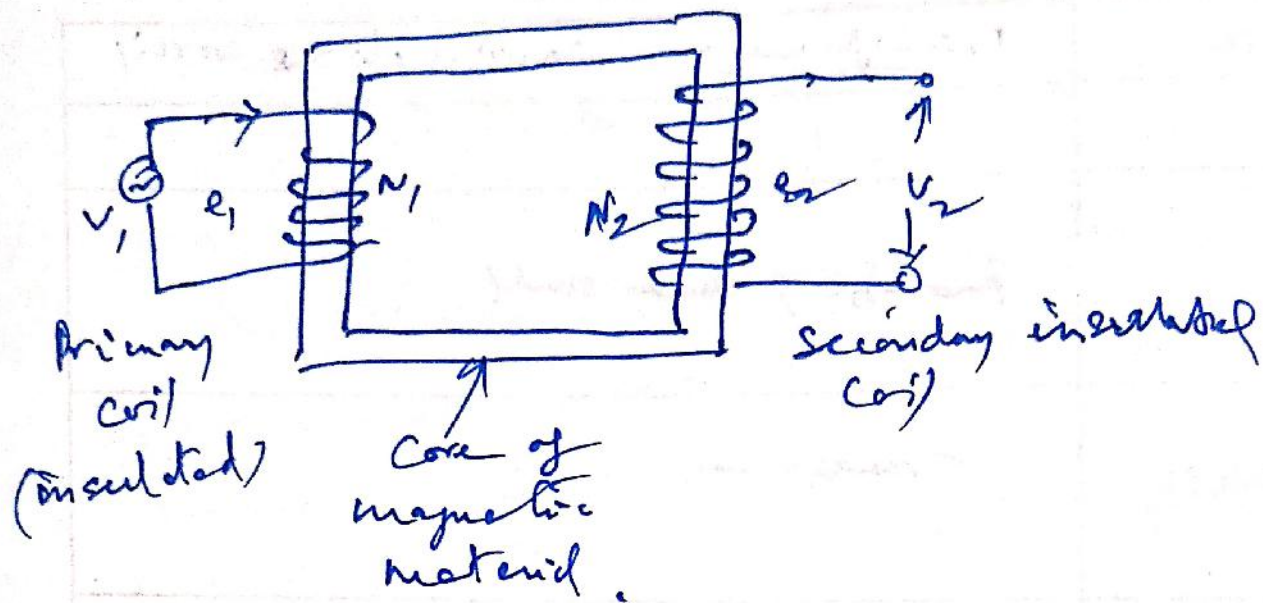


Teaching Plan / Lesson No.

Name of the Topic	Transformer :- construction & working
Hours required	1
Learning Objectives	Knowledge, understand
Previous knowledge to be reminded	transformer
Examples / Illustrations	transformer
Additional inputs	
Teaching Aids used	transformer (diagram)
References cited	
Student Activity Planned after the teaching	Asked the students to learn the principle & diagram of transformer
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Principle</u> :- mutual induction bet. two coils wound on same core. magnetic flux generated in primary coil induces emf in secondary coil and thereby electrical energy is transformed from primary to secondary.

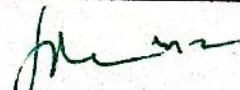

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Construction and Working :-



Teaching Plan / Lesson No.

Name of the Topic	Single phase motor (Working Principle, application)
Hours required	2
Learning Objectives	Knowledge, understanding
Previous knowledge to be reminded	working machine
Examples / Illustrations	Vacuum cleaner, blower, washing Machine
Additional inputs	
Teaching Aids used	Show the fig. of the above examples
References cited	
Student Activity Planned after the teaching	Ask the students to observe the working Machine, Vacuum cleaners, etc
Activity planned outside the class room, if any	—do—
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Single phase induction motor is simple in construction, cheap in cost reliable and easy to repair and maintain. Due to all these advantages, this used in Vacuum cleaners, fan, washing machines, blowers, centrifugal pumps.


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Main parts of the Motor are a rotor and stator
Single phase
Ac is given to stator

Rotor is a rotating part of the Motor.

The rotor connects the mechanical load (rod ~~shaft~~ shaft)

$$N_s = \frac{120f}{p}$$

N_s : Speed of motor

f : Frequency of supply voltage

p : No. of poles of motor.

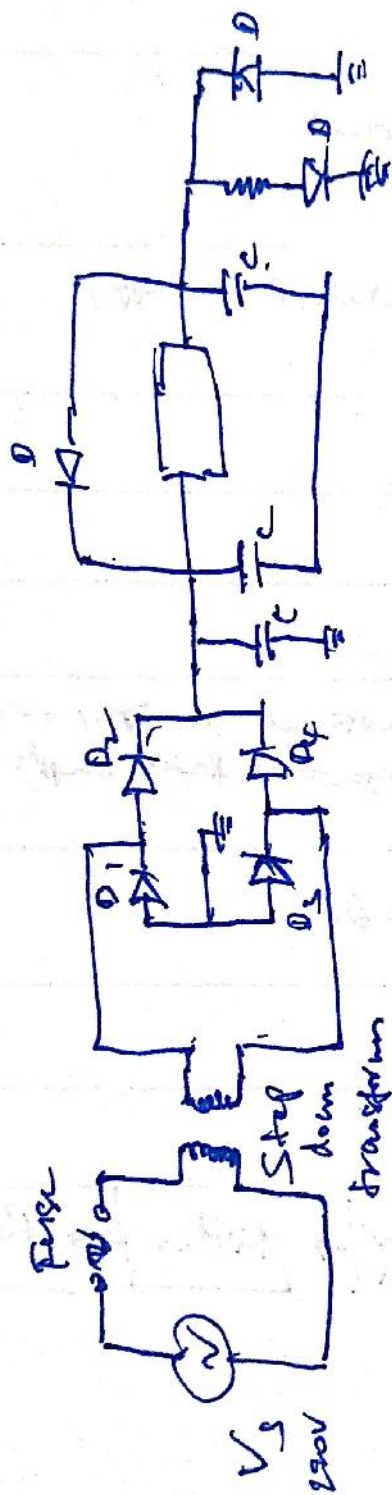
Principle: Faraday's law of EMI

Teaching Plan / Lesson No.

Name of the Topic	Power supplies :- Dc regulated Power supply (5V)
Hours required	2
Learning Objectives	Knowledge, Under standip
Previous knowledge to be reminded	rectifier circuits
Examples / Illustrations	Circuit of regulated power supply
Additional inputs	
Teaching Aids used	rectifier circuits
References cited	
Student Activity Planned after the teaching	Students the construct a 5V or any other 10V, etc regulated power supply
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Block diagram :-</u> <pre> graph LR A[Transformer] --> B[Rectifier circuit] B --> C[Filter] C --> D[Regulator] D --> E[Output] </pre>

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Circuit diagram of 5V Dc Power supply

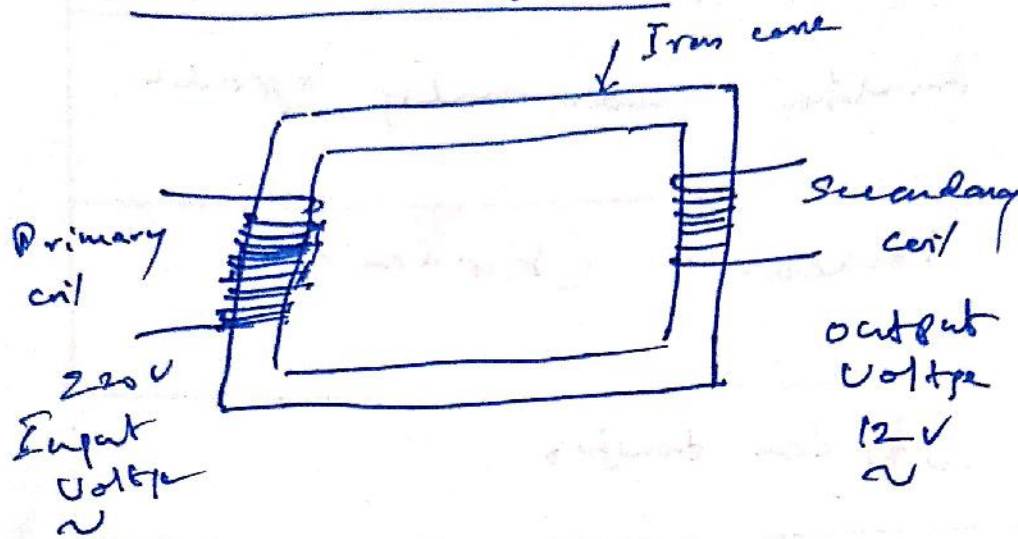


Teaching Plan / Lesson No.

Name of the Topic	Designing step up (120-240V), step down 240V-120V transformers
Hours required	2
Learning Objectives	Knowledge, understanding, application
Previous knowledge to be reminded	transformers (step down)
Examples / Illustrations	Step down transformers
Additional inputs	
Teaching Aids used	Step down transformers
References cited	
Student Activity Planned after the teaching	Aimed to Construct a step down transformer
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Step up transformer</u> Input voltage 120V Primary coil Iron core Secondary coil Output voltage 240V

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Step down Transformer :



Voltage ratio

$$n = \frac{V_p}{V_s} = \frac{N_p}{N_s}$$

V_p = Primary voltage

V_s = Secondary voltage

N_p = Primary coil turns

N_s = Secondary coil turns

Teaching Plan / Lesson No.

Name of the Topic	F-M radio circuit using LC series resonance
Hours required	checking out but voltage of circuit using multimeter
Learning Objectives	Knowledge, understanding, application
Previous knowledge to be reminded	LC series resonance circuit
Examples / Illustrations	LCR series circuit
Additional inputs	
Teaching Aids used	LCR series circuit
References cited	
Student Activity Planned after the teaching	Practice the radio circuit check the voltage by multimeter
Activity planned outside the class room, if any	
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) F M radio circuit (Receiver)

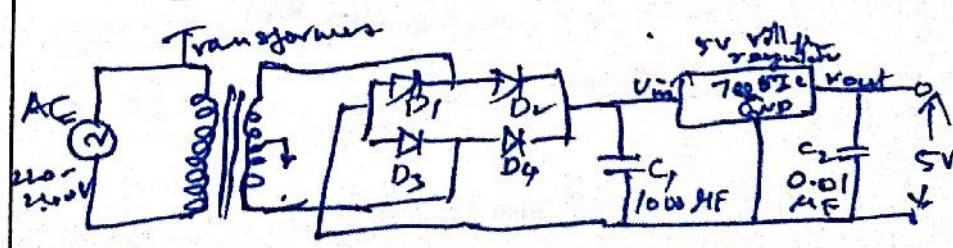
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Measure voltage of battery eliminator by a multimeter -

1. Power off the eliminator which is under test
2. Plug the black ground probe lead in to COM socket on the meter
3. Plug the red +ve probe lead in to the socket marked V
4. Turn the dial to select AC or DC and range 20V or 100V range
5. Multimeter should connect in parallel in a circuit to measure the voltage
6. Power up the circuit (equipment) or eliminator
7. Take the reading on LCD display.



Teaching Plan / Lesson No.

Name of the Topic	Design of 5V DC charger, SMPS. (Power supply of Charger)
Hours required	2
Learning Objectives	Knowledge, understanding, skill
Previous knowledge to be reminded	regulated power supply
Examples / Illustrations	regulated power supply
Additional inputs	
Teaching Aids used	regulated Power Supply
References cited	
Student Activity Planned after the teaching	Asked the students to study various ICs including 7805.
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) 5V charger circuit from 230V  $I_C = 7805$

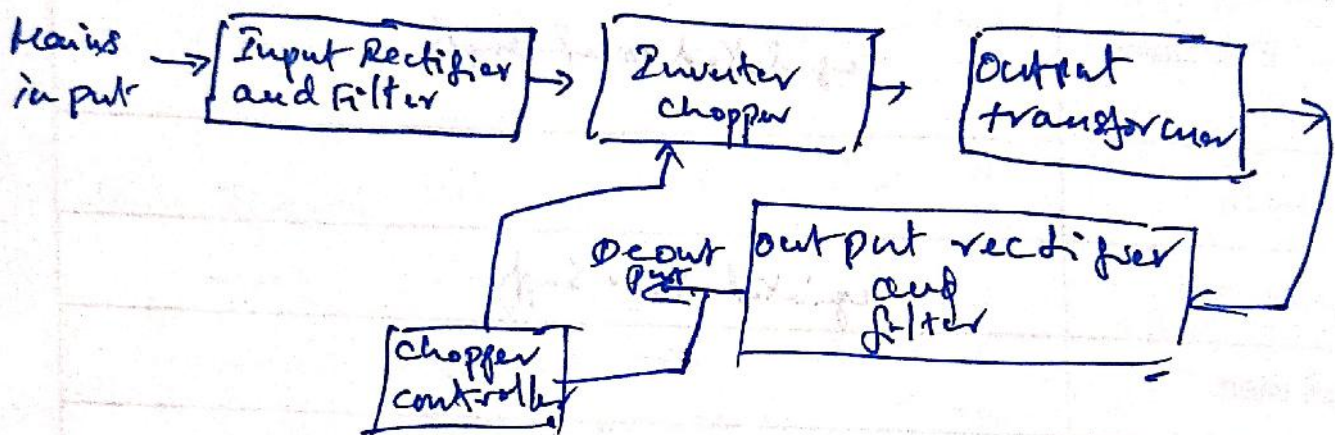
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Peak out-put voltage $V = 9V \times 1.414 = 12.72V$
 $\approx 4.33V$

Therefore $C = P/V$ | $P = i \cdot t$

$C = \frac{0.5A \times 0.01ms}{4.33V} = 1154 \mu F$
 $\approx 1000 \mu F$

SMPS :- (Switched Mode Power Supply)



Teaching Plan / Lesson No.

Name of the Topic	<u>Application of EMI:- 1. DC Motor Construction</u> principle
Hours required	✓
Learning Objectives	Knowledge, Understanding
Previous knowledge to be reminded	DC motor, principle
Examples / Illustrations	Fleming left hand rule
Additional inputs	
Teaching Aids used	for online (graph)
References cited	
Student Activity Planned after the teaching	Practice the DC Motor-diagram
Activity planned outside the class room, if any	—da
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>DC Motor</u>:- which converts Electrical energy into Mechanical Energy <u>Principle</u>:- EMI - Fleming left hand rule <u>Construction and working</u>:-

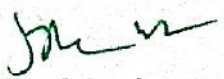
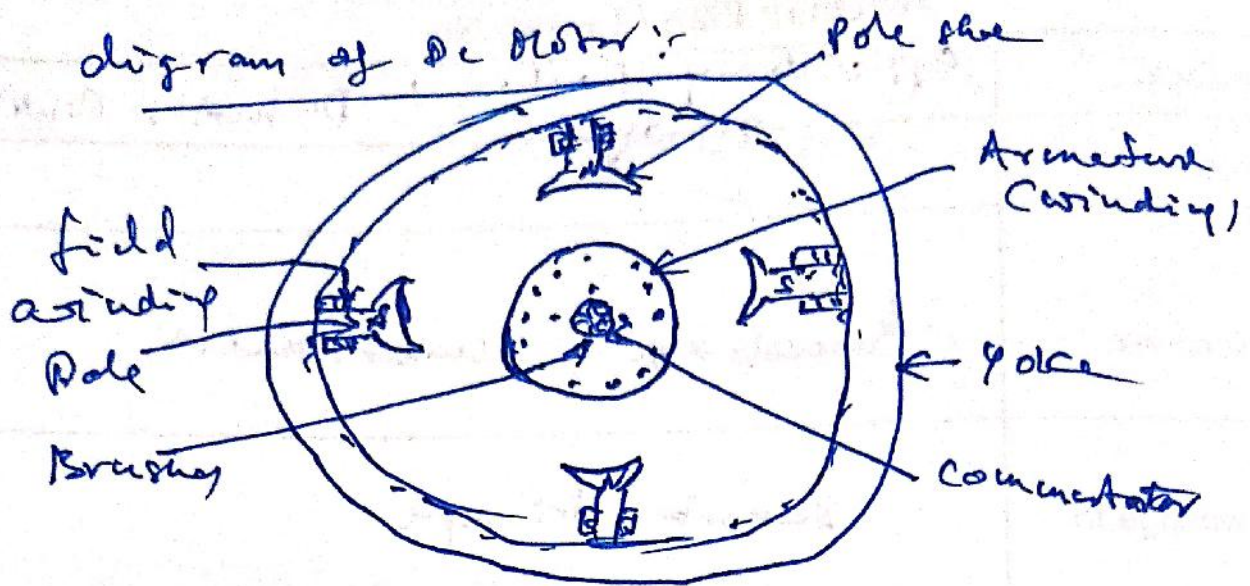

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Diagram of DC Motor:-



Teaching Plan / Lesson No.

Name of the Topic	Design a simple Motor (Gen), Degenator construction, principle
Hours required	2
Learning Objectives	Knowledge, Understanding
Previous knowledge to be reminded	DC Motor
Examples / Illustrations	DC Motor
Additional inputs	
Teaching Aids used	fig. online (Google)
References cited	
Student Activity Planned after the teaching	Asked the students to learn construction of Motor and Dc generator
Activity planned outside the class room, if any	— do —
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) <u>Simple Motor (Gen) Principle</u> :- Works on EMI Principle, Fleming left hand rule. <u>Construction</u> :- parts :- 1. Stator 2. Rotor 3. Bearings 4. air gap 5. windings

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2. commutator

D.C. Generator:

Principle :- EMF, Faraday's Law

Parts of D.C. Generator:-

1. Stator
2. Rotor
3. Armature
4. Yoke
5. poles
6. Pole-shoe
7. commutator
or Brushes

N : rotation of armature in r.p.m

E : emf induced in any parallel lane within the armature

Eg.: emf generated in any one of the parallel lane

$\frac{N}{60}$:- No. of turns per sec

The time for one turn will be
 $dt = 60/N$ sec

Differences bet AC and DC Generators

AC Generator -

1. converts M.E into AC Ele. Power
2. Ele current reverses dirn periodically
3. Construction is simple
4. doesn't have commutators
5. have slip rings
6. Brush efficiency is high
7. cost is high
8. Maintenance is highly reliable
9. short circuit in

DC Generator

- converts M.E into DC ele. Power
- Ele current flows in only one dirn.
- Construction is complex
- have commutators to make current flow in one dirn
- have commutators
- efficiency is less
- cost is less
- less reliable
- it circuit fails

Teaching Plan / Lesson No. 1

Name of the Topic	Electoral Politics in India
Hours required	3
Learning Objectives	What is Electoral Politics in India.
Previous knowledge to be reminded	The Significance of Voters
Examples/Illustrations	Election and Politics
Additional inputs	Nationality
Teaching Aids used	Black Board
References cited	Spoke
Student Activity planned after the teaching	Summary
Activity planned outside the Class room, if any	To prepare the notes on Electoral Politics.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Nature of Electoral Politics and its Significance of India

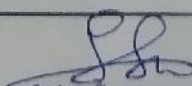
Teaching Plan / Lesson No. 2,

Name of the Topic	Election Commission In India
Hours required	3
Learning Objectives	Explain the election Commission In India
Previous knowledge to be reminded	The importance of how to work election Commission In India
Examples/Illustrations	Election and politics
Additional inputs	Election Commission
Teaching Aids used	Black Board and chalk
References cited	Google
Student Activity planned after the teaching	Summary
Activity planned outside the Class room, if any	To prepare notes on the topic
Any other activity	Group Discussion
Topic Synopsis	(Continue on the reverse side if needed) How work election Commission In India.

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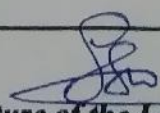
Teaching Plan / Lesson No. 3

Name of the Topic	Issues in electoral politics
Hours required	3.
Learning Objectives	Corruption, money power rigging, booth capturing, politics of money power
Previous knowledge to be reminded	What is Issues of electoral politics
Examples/Illustrations	Electoral Commission in India
Additional inputs	Nationality.
Teaching Aids used	Black Board and chalk.
References cited	Geo. Text Books
Student Activity planned after the teaching	Summary of the Topic
Activity planned outside the Class room, if any	To prepare the Topic in the Notebook.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Issues in electoral politics


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Teaching Plan / Lesson No. 4

Name of the Topic	Public opinion on the election
Hours required	3
Learning Objectives	Electoral System
Previous knowledge to be reminded	Electoral politics
Examples/Illustrations	Electoral Commission
Additional inputs	Union and State
Teaching Aids used	Black board and chalk
References cited	Text books
Student Activity planned after the teaching	To gather the note on the relative topic
Activity planned outside the Class room, if any	To prepare notes on the topic
Any other activity	Group discussion
Topic Synopsis	(Continue on the reverse side if needed) public opinion on the election in India,


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Teaching Plan / Lesson No. 5

Name of the Topic	Management of Election Commission
Hours required	3
Learning Objectives	Mode of Conduct; filling elections nominations and affidavits, Election Commissioners; booth management
Previous knowledge to be reminded	How management of Election Commission during the general Elections
Examples/Illustrations	Electoral System in India.
Additional inputs	Union and Not States
Teaching Aids used	Block Board and Chalks
References cited	Text books
Student Activity planned after the teaching	Summary
Activity planned outside the Class room, if any	To prepare notes on the The Topic
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Significance of Election Commission In India

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Teaching Plan / Lesson No. 1

Name of the Topic	Brief Introduction on ^{bodies.} Legislative
Hours required	2
Learning Objectives	Roles and Responsibilities - Constitution provisions of legislative procedures.
Previous knowledge to be reminded	What is the responsible of legislative procedures.
Examples/Illustrations	Parliament.
Additional inputs	State legislatures
Teaching Aids used	Black Board and chalk
References cited	Text Book.
Student Activity planned after the teaching	Summary.
Activity planned outside the Class room, if any	To prepare note Books in the class room.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) Parliament, State, Assembly Union. AD

Teaching Plan / Lesson No. 2

Name of the Topic	Articles 107-122
Hours required	2
Learning Objectives	India Articles 107-122
Previous knowledge to be reminded	What is the Articles of 107-122?
Examples/Illustrations	Parliament
Additional inputs	State Legislature
Teaching Aids used	Black Board
References cited	Text book
Student Activity planned after the teaching	Searched to Internet of related to the Subject.
Activity planned outside the Class room, if any	To prepare Notes Related to the lesson.
Any other activity	Group discussion.
Topic Synopsis	(Continue on the reverse side if needed) Article 107-122 Kind Bill, Ordinary bill, money bill, finance bill

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Teaching Plan / Lesson No.

Name of the Topic	రథ చక్రాలు - సమీక్ష వ్యాసం
Hours required	4
Learning Objectives	రథ చక్రాలు న వలలాని ఎవి ధ పత్రాల స్పృహ వముగు గురించి తెలుసుకోవటం
Previous knowledge to be reminded	న వలలాని నేపథ్యం గురించి విద్యార్థులు వివరించుట.
Examples / Illustrations	నక్షత్రాలు లాని వలు సంఘటనల గురించి విద్యార్థులకు వివరించుట.
Additional inputs	పలు ఇతర నమూన గురించి తెలుపటం.
Teaching Aids used	పాఠ్యాంశం - నల్లబల్ల - సుద్దమల.
References cited	రామమోహన రాజగోపాల నమూ రథ చక్రాలు.
Student Activity Planned after the teaching	విద్యార్థులకు చర్చించుట ద్వారా నవలలోని పత్రాల విశ్లేషణ చేయటం
Activity planned outside the class room, if any	ఇతర నమూన లాని ఇదాన తెలుపటం
Any other activity	ప్రశ్నోత్తర కార్యక్రమం గురించి తెలుపటం.
Topic Synopsis	(Continue on the reverse side if needed) 1. రథ చక్రాలపై సమీక్ష వ్యాసం 2. నవలలోని పత్రాల విశ్లేషణ 3. నవలలోని పత్రాల స్పృహ 4. ఇటు రాజగోపాల, సామాజిక పరిస్థితుల వివరణ.

A. A
B. Srinivasulu
26/11/2022
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Teaching Plan / Lesson No.

Name of the Topic	రథ చక్రాలు - నవల - మహాభారత రామాయణం
Hours required	4
Learning Objectives	రథ చక్రాలు నవల సారాంశం విద్యార్థులకు వివరించుట
Previous knowledge to be reminded	నవలలోని నెపథ్యం గురించి విద్యార్థులకు వివరించుట.
Examples / Illustrations	పలు నవలలలోని ఇతివృత్తాలు గురించి విద్యార్థులకు వివరించుట.
Additional inputs	పలు ఇతర నవలల గురించి తెలుపుట.
Teaching Aids used	పాఠ్య గ్రంథం - పల్లెటూరు - మధ్యమ కాల
References cited	రామ మోహన్ రామాయణం రథ చక్రాలు నవల
Student Activity Planned after the teaching	నవల ఇతివృత్తం వివరణ తర్వాత విద్యార్థులకు ప్రశ్నోత్తరం జవాబు రాబట్టుట.
Activity planned outside the class room, if any	ఇతర నవలల లాగా ఇతర కాలం గురించి విద్యార్థులకు వివరించుట.
Any other activity	ప్రశ్నోత్తర నవలలు చదువుచు సలహా ఇవ్వటం.
Topic Synopsis	(Continue on the reverse side if needed) 1. రథ చక్రాలు నవల నెపథ్యం 2. కవి పరిచయం 3. నవలలోని పాత్రలు - స్థానం 4. నవలలోని అంశ, రామాయణం, సాంస్కృతిక విశేషాలు.


 Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	శివతాండవం - పుష్పవతి నారాయణ చాళుక్య
Hours required	4
Learning Objectives	శివతాండవం పాఠ్యాంశం ద్వారా పుష్పవతి వారి కవిత్వం లాగి అంశాల తెలుసుకుంటారు
Previous knowledge to be reminded	భావ కవిత్వం లాగి భక్తి కవిత్వం గురించి విద్యార్థులు తెలుసుకుంటారు.
Examples / Illustrations	శైవ సింహాత్మం గురించి విద్యార్థులకు వివరించుట
Additional inputs	పలు శైవ సింహాత్మం గ్రంథాలు
Teaching Aids used	పల్లె బల్ల - నుట్టి మెరు - పాత్రి గ్రంథం పుష్పవతి వారి శివతాండవం కీర్తన కవిత్వం
References cited	పుష్పవతి వారి శివతాండవం కవిత్వం
Student Activity Planned after the teaching	కవిత్వం లాగి అంశాల గురించి విద్యార్థులను అడగటం ద్వారా విషయాలు తెలుసుకోవటం
Activity planned outside the class room, if any	వివిధ శైవ క్షేత్రాల గురించి వివరించుట.
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) 1. పుష్పవతి నారాయణ చాళుక్య వారి 2. శివ తాండవం నామధ్వం 3. కవితా భుగ్గిరేలాగిని సాగం.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	రథానంద - పరిచయం
Hours required	4
Learning Objectives	అధునక సాహిత్య ప్రక్రియలకు రథానంద ప్రక్రియ గురించి విద్యార్థులు తెలుసుకుంటారు
Previous knowledge to be reminded	అధునక సాహిత్యం పలు ప్రక్రియల గురించి వివరించారు.
Examples / Illustrations	సాహిత్యంలోని అవిధ ప్రక్రియలకు గురించి విద్యార్థులకు వివరించారు
Additional inputs	అధునక సాహిత్యం
Teaching Aids used	నల్ల బల్ల - పెన్సిల్ - పేజర్ - పేజర్
References cited	సమగ్రాంధ్ర సాహిత్యం
Student Activity Planned after the teaching	అధునక సాహిత్య ప్రక్రియల గురించి విద్యార్థులకు ప్రశ్నలు వ్రాసే తెలుసుకుంటారు
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) 1. అధునక సాహిత్య ప్రక్రియలకు రథానంద స్థానం 2. రథానంద - నామక 3. రథానంద లక్షణాలు 4. ముగింపు

Dr. Mani
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	భయం (కథ) - క్షాణపల్లం రామారావు
Hours required	4
Learning Objectives	భయం కథ ద్వారా కథానయ మెరి దోరణిని విద్యార్థులు తెలుసుకుంటారు.
Previous knowledge to be reminded	గతంలో తెలిసిన పలు కథానయలను గురించి పునశ్చేరణ గావించుట
Examples / Illustrations	ఉదాహరణల ద్వారా కథానయ గురించి విద్యార్థులకు వివరించుట
Additional inputs	వివిధ కథలు రచించిన కథలను తెలుపుట
Teaching Aids used	పేర్కొనబడిన - పల్లెటూరు - సుధామణి
References cited	కానీ నాటి భీష్మ సంపుటి
Student Activity Planned after the teaching	వారు చదివిన వివిధ కథానయల గురించి తెలుపుమని చెప్పుట
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) 1. క్షాణపల్లం రామారావు పరిచయం 2. భయం కథానయం 3. కథానయం గురించి. 4. ఈ కథ ద్వారా విద్యార్థుల మనస్తత్వాలు వివరించుట.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	స్వేదం భరితు - రెండవ నాగేశ్వరరావు.
Hours required	4
Learning Objectives	స్వేదం భరితు శిశువుల ద్వారా రైతులకు ఈ భరితు విద్యార్థులకు వివరించాలి
Previous knowledge to be reminded	గతంలో చదివిన భరితు పుస్తకం గురించి
Examples / Illustrations	వల భరితు ఉదాహరణలుగా తెలుపు
Additional inputs	వివిధ భరితులను చదివిన భరితు తెలుపు
Teaching Aids used	చిత్రరేఖలు - పటాలు - సుదీర్ఘము
References cited	'భరితు' భరితు సంస్థ.
Student Activity Planned after the teaching	విద్యార్థుల చదివిన వివిధ భరితులను గురించి విద్యార్థుల ద్వారా తెలుసుకోవాలి
Activity planned outside the class room, if any	రైతుల భరితులను పంటల నుంచి భరితులను గురించి తెలుసుకోవాలి
Any other activity	విద్యార్థుల వ్యవసాయ క్షేత్రాలను దర్శించి.
Topic Synopsis	(Continue on the reverse side if needed) 1. స్వేదం భరితు - వివరించాలి 2. భరితు నామము. 3. భరితు సారాంశం 4. ఈ భరితులను ద్వారా విద్యార్థులకు రైతుల భరితులను గురించి తెలుపు.

Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	తెలుగు నవల పరిచయం
Hours required	4
Learning Objectives	తెలుగు భాషలో వెలువడిన నవలల గురించి విద్యార్థులు తెలుసుకుంటారు.
Previous knowledge to be reminded	శతాబ్ద చరిత్రను వివిధ నవలల గురించి విద్యార్థులు తెలుసుకుంటారు.
Examples / Illustrations	నవలలలోని రకాలను గురించి విద్యార్థులకు వివరించుట.
Additional inputs	పలు ఇతర నవలల గురించి తెలియజేయుట.
Teaching Aids used	పాఠశాల - నవలలు - పుస్తకాలు
References cited	మహాభారత రామాయణం రామాయణం రామాయణం
Student Activity Planned after the teaching	విద్యార్థులు చదివిన వివిధ నవలలను గురించి విద్యార్థులకు తెలియజేయుట.
Activity planned outside the class room, if any	నవలలలో పాత్రల స్వభావాన్ని వివరించుట.
Any other activity	ప్రశ్నోత్తరములు చదువుకుండా విద్యార్థుల నుండి
Topic Synopsis	(Continue on the reverse side if needed) 1. తెలుగు నవల - పరిచయం 2. భారతీయ నవలలు 3. నవలల రకాలు 4. నవలల యుగ విభజన.

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Teaching Plan / Lesson No. 1 - Unit - 1 / Sem - 2

Name of the Topic	ఆధునిక కవిత్వం - పరిచయం
Hours required	4
Learning Objectives	ఆధునిక కవిత్వమును గురించి విద్యార్థులు తెలుసుకుంటారు
Previous knowledge to be reminded	ఆధునిక కవిత్వ వేనకవి గురించి విద్యార్థులకు వివరించుట
Examples / Illustrations	కవిత్వ స్వరూపాలు ఉదాహరణలు వివరించుట
Additional inputs	ఆధునిక కవిత్వం గురించి విద్యార్థులకు చెప్పటం
Teaching Aids used	గ్రామర్లు - సుదనమంత్రి
References cited	ఆచార్య ఎస్.ఎస్.పద్మావతి. దృక్పథాల
Student Activity Planned after the teaching	ఆధునిక కవిత్వమును గురించి విద్యార్థులు ప్రశ్నలు ద్వారా తెలుసుకుంటారు.
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) 1. ఆధునిక కవిత్వం పరిచయం 2. ఆధునిక కవిత్వం ప్రక్రియలు 3. ఆధునిక కవిత్వం లక్షణాలు 4. దళిత, స్త్రీవాద, అమెరికన్, ముక్తివాద కవిత్వాల పరిచయం 5. కవిత్వం రకాలు

B. S. S. S.
Signature of the Lecturer

Teaching Plan / Lesson No.

Name of the Topic	2. కొండ వీడు - దువ్వూరి రామిరెడ్డి.
Hours required	4.
Learning Objectives	దువ్వూరి రామిరెడ్డి కొండ వీడు పాత్రలో నటించిన తెలుగు రచయితల చరిత్ర గురించి విద్యార్థులు తెలుసుకుంటారు.
Previous knowledge to be reminded	ఈండ్రి దేశాన్ని పాలించిన శత్రు రాజుల చరిత్రలను గురించి తెలుసుకుంటారు.
Examples / Illustrations	రెడ్డి రాజుల చరిత్రను ఉదాహరణలుగా వివరించాలి.
Additional inputs	శత్రు రాజుల రాజుల పాత్ర తెలుపుతుంది
Teaching Aids used	వీలు ఉంటే - సుదీర్ఘ ముద్ర
References cited	దువ్వూరి - నర్సిరెడ్డి రామిరెడ్డి కవిత్వం
Student Activity Planned after the teaching	కవిత్వం లోని అంశాలను గురించి విద్యార్థులు ప్రశ్నలు పూర్తిగా తెలుసుకుంటారు
Activity planned outside the class room, if any	—
Any other activity	—
Topic Synopsis	(Continue on the reverse side if needed) 1. కొండ వీడు - కవిత్వం 2. కొండ వీడు - నాటకం 3. రైతు - అమాయక ముఖ్య సంఘం 4. రెడ్డి రాజుల కీర్తి తెలుపుతూ ఉంది

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Teaching Plan / Lesson No.

Name of the Topic	3. మాతృ సంగీతం - తినిశెట్టి సుబ్బరావు
Hours required	4
Learning Objectives	మాతృ సంగీతం పాఠ్యాంశం ద్వారా విద్యార్థులు దేశభక్తిని గురించి తెలుసుకుంటారు.
Previous knowledge to be reminded	దేశ స్వాతంత్ర్యం కోసం త్యాగిస్తోన్న వీరుల త్యాగాలను గురించి విద్యార్థులు తెలుసుకుంటారు.
Examples / Illustrations	దేశ స్వాతంత్ర్యం కోసం త్యాగిస్తోన్న ఎందరో వీరుల గురించి వివరించడం జరుగుతుంది.
Additional inputs	స్వాతంత్ర్య సమరయోధుల వీర గాథలు తెలుస్తూ ఉన్నాయి.
Teaching Aids used	వీరి చిత్రాలు - పోస్టర్లు
References cited	తినిశెట్టి గారి కవితలు మరియు రచనలు
Student Activity Planned after the teaching	రచనలు రాసి తురికించి విద్యార్థులు దేశాన్ని అభినందిస్తూ ఉంటారు.
Activity planned outside the class room, if any	దేశభక్తి సాహిత్యం పలు ప్రాంతాల, వీరుల గురించి తెలుస్తూ ఉంటుంది.
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) 1. తినిశెట్టి సుబ్బరావు పరిచయం 2. మాతృ సంగీతం సాహిత్యం 3. రచనలు మరియు సాహిత్యం.


 Signature of the Lecturer



COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023

Name of the Department : ZOOLOGY
NAME OF THE LECTURER : Dr. N. Chandra mohan.
Course / Group : B.Sc. B.Z.C.
Subject / Page : Zoology

Sl.No.	Subject	Paper	Page No.
1	Zoology	I	
2	Zoology	7B	
3	Zoology	IV	
4			

Teaching Plan / Lesson No. 004

Name of the Topic	Protozoa & plathelminths
Hours required	06
Learning Objectives	- To know the special character of Protozoa - To the Locomotory organs of Protozoa - To know the pathogenesis of Protozoan parasites - To know the characteristic family & its life cycle
Previous knowledge to be reminded	- Vertebrates / Invertebrates - unicellular / multicellular organisms. - parasites - Diseases.
Examples / Illustrations	- Glycophorus, Entamoeba, plasmodium - family hepatic
Additional inputs	- Life cycle of parasites, multicellular organisms.
Teaching Aids used	PPT, Chalk & Board.
References cited	A Textbook of Invertebrates, Jordan & Veen
Student Activity Planned after the teaching	Students note the main points of teaching their details.
Activity planned outside the class room, if any	Students prepare notes
Any other activity	Students prepare MCQs.
Topic Synopsis	(Continue on the reverse side if needed) - Protozoa → unicellular organism → Acellular → All have cilia → Locomotory organs → Respiration → Nutrition → Contractile vacuoles → Reproduction.


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Classification of Protozoa:

Amoeba → Sarcodina, ciliates, flagellates, Sporozoa

Protozoa division

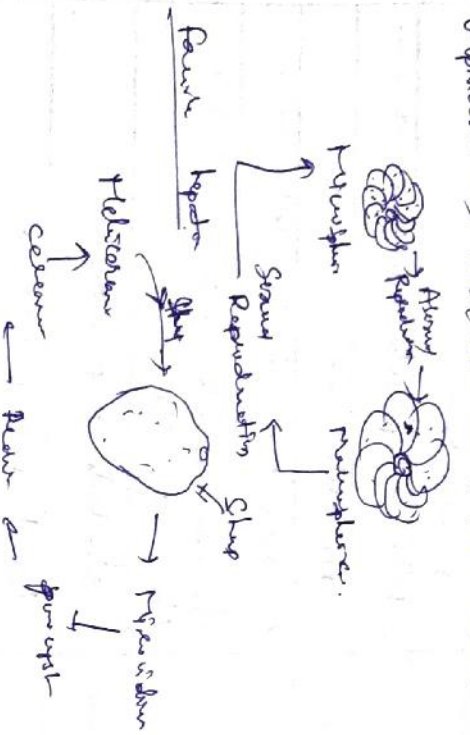
→ Trypanosoma - flagellates

→ Helicobacter - flagellates

→ Leishmania - flagellates

→ Trichomonas - flagellates

Alveolates → Rhizaria, ciliates, flagellates



Teaching Plan / Lesson No.

Name of the Topic	Microbiology: Protozoa
Hours required	07
Learning Objectives	- Know the structure & function of Protozoa - Know the life cycle of Protozoa - Know the importance of Protozoa - Know the structure & function of Protozoa
Previous knowledge to be reminded	- Protozoa - Amoeba - Rhizaria
Examples / Illustrations	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
Additional inputs	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
Teaching Aids used	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
References cited	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
Student Activity Planned after the teaching	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
Activity planned outside the class room, if any	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
Any other activity	- Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas
Topic Synopsis	(Continue on the reverse side if needed) - Amoeba - Rhizaria - Trypanosoma - Leishmania - Helicobacter - Trichomonas

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Let's say, 10000.

known
↓
deduction from known
↑
induction

- 10000 known
→ 10000 known
→ 10000 known

Teaching Plan / Lesson Plan

Name of the Topic	Topic: <u>Introduction to the world of the future</u>
Hours required	1 hour
Learning Objectives	- To know the importance of the world of the future. - To know the importance of the world of the future. - To know the importance of the world of the future.
Previous knowledge to be reminded	- Previous knowledge - Previous knowledge - Previous knowledge
Examples / Illustrations	- Examples - Examples - Examples
Additional inputs	- Additional inputs - Additional inputs - Additional inputs
Teaching Aids used	- Teaching Aids used - Teaching Aids used - Teaching Aids used
References cited	- References cited - References cited - References cited
Student Activity Planned after the teaching	- Student Activity - Student Activity - Student Activity
Activity planned outside the class room, if any	- Activity planned outside the class room, if any - Activity planned outside the class room, if any - Activity planned outside the class room, if any
Any other activity	- Any other activity - Any other activity - Any other activity
Topic Synopsis	Continued on the reverse side (if needed) <u>Topic: Introduction to the world of the future</u> <u>Objectives:</u> - To know the importance of the world of the future. - To know the importance of the world of the future. - To know the importance of the world of the future. <u>References:</u> - References - References - References <u>Additional inputs:</u> - Additional inputs - Additional inputs - Additional inputs <u>Teaching Aids used:</u> - Teaching Aids used - Teaching Aids used - Teaching Aids used <u>References cited:</u> - References cited - References cited - References cited <u>Student Activity:</u> - Student Activity - Student Activity - Student Activity <u>Activity planned outside the class room, if any:</u> - Activity planned outside the class room, if any - Activity planned outside the class room, if any - Activity planned outside the class room, if any <u>Any other activity:</u> - Any other activity - Any other activity - Any other activity

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Teaching Plan / Lesson No.

Name of the Topic	System of Irrigation in Dairy Farm.
Hours required	03, Nov
Learning Objectives	- To know the soil characteristics for the establishment of dairy farm → To know the different types of systems in dairy farm
Previous knowledge to be reminded	→ Soil characteristics → Soil. → Dairy farm. Dairy animal
Examples / Illustrations	- Loose water system → Intensive system, Semi-intensive system
Additional inputs	- Types of cattle & Buffalo
Teaching Aids used	- PPT, Chart & Board
References cited	- A Practical Guide to Dairy Farming, - Vivek. Google
Student Activity Planned after the teaching	- Student make the map of farm
Activity planned outside the class room, if any	- Student prepare notes
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) - Loose water system → Community Based Part-6 Part Head to Head. Soil selection for establishment of dairy farm - Soil, Land, Water, Light, Space, Reliability. - Pragati, Market, etc.

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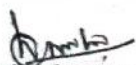
Teaching Plan / Lesson No.

Name of the Topic	Homogeneity of DAIRY animal.
Hours required	06 (days)
Learning Objectives	Identify the homogeneity of - Milk animal Calf & heifer - Dairy & Plague animal → Bull, Buller → Dehorn, Dehorning, Restraint,
Previous knowledge to be reminded	- Dairy animal → Dairy management.
Examples / Illustrations	- Different age & sex animals - Character of Milk & Plague animal.
Additional inputs	- DA Different types of farm to grow dairy animals
Teaching Aids used	- PPT, Chalk & Board.
References cited	- A good book of Animal husbandry - Vivek.
Student Activity Planned after the teaching	- Student notes to imp part
Activity planned outside the class room, if any	- Student prepare to notes.
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) - Milk animal → Dairy & Plague animal → Bull Calf & heifer - Buller Dehorn - Calf Dehorning - Restraint.


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Teaching Plan / Lesson No.

Name of the Topic	Types of milk, Sterilization, Homogenization.
Hours required	05
Learning Objectives	- To know the types of milk, - To know the process of Sterilization & Homogenization, and their importance.
Previous knowledge to be reminded	- Milk. - Types of milk - Sterilization, Homogenization.
Examples / Illustrations	- Different types of milk.
Additional inputs	- importance of sterilization, homogenization - Clean environment for different milk.
Teaching Aids used	- Chalk & Board.
References cited	- Wikipedia, Google
Student Activity Planned after the teaching	- students noted the key points
Activity planned outside the class room, if any	- students prepare the notes
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) - Types of milk - Sterilization, - Homogenization.


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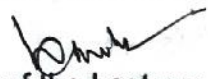
Teaching Plan / Lesson No.

Name of the Topic	Pasteurization, Cream Separation & Cream Separator
Hours required	05
Learning Objectives	- To know the importance of Pasteurization - To know the types of Cream Separator, Cream Separator
Previous knowledge to be reminded	- Milk - Milk products - Milk Heating - Cream
Examples / Illustrations	- Pasteurization of Milk. - Types of Cream.
Additional inputs	- Homogenization & Sterilization,
Teaching Aids used	- Chalk & Board.
References cited	- Wikipedia
Student Activity Planned after the teaching	- Student noted the imp points
Activity planned outside the class room, if any	- Student prepare the notes
Any other activity	-
Topic Synopsis	(Continue on the reverse side if needed) - Pasteurization — HTST, LTLT, & UHT. - Cream Separation — Gravity Method & Centrifugal method - Types of Cream Separator.

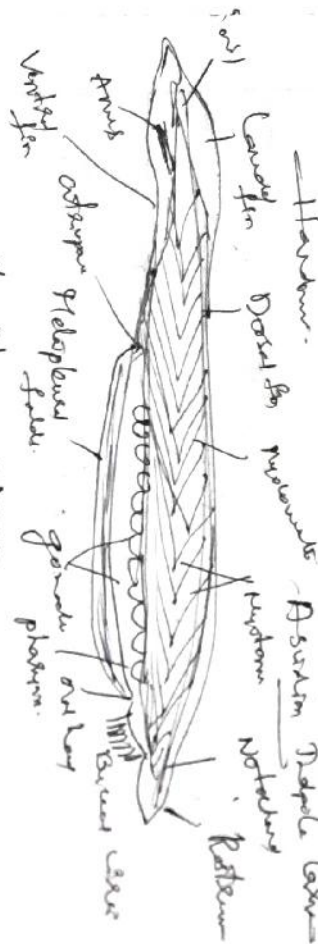
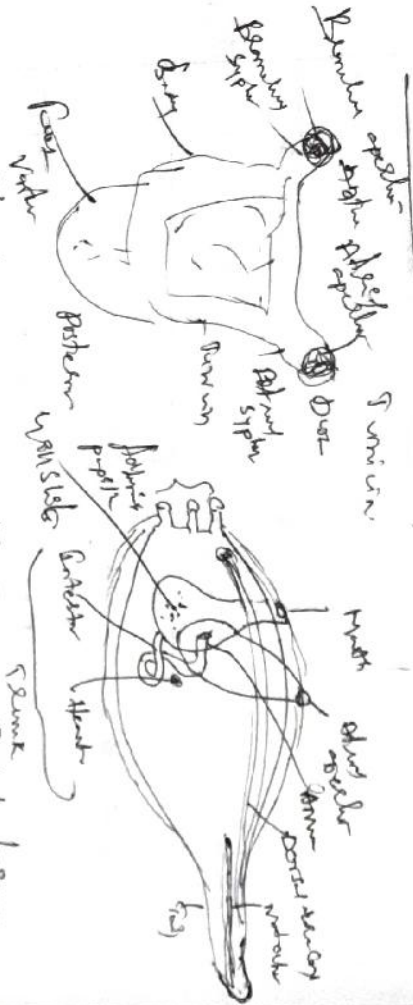
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Teaching Plan / Lesson No.

Name of the Topic	Pleurochordate ^{General Character of Chordates} Cyclostomes & Pisces.
Hours required	08 Hrs.
Learning Objectives	- To know the Character of Pleurochordates, Cyclostomes & Pisces. - To know the Importance of Retzius's Melanophore
Previous knowledge to be reminded	- Chordates / non-chordates. - Melanophores. - Pichon's & Myer, Pisces.
Examples / Illustrations	- Herdman's, Amphioxus, Subrodon, Pisces - Gasteri,
Additional inputs	- origin of Chordates, Phagocytosis melanophores in Amphioxus.
Teaching Aids used	- Chalk, Board & PPT
References cited	- A Textbook of Chordates, Tardieu & Kerm
Student Activity Planned after the teaching	- students noted the imp points
Activity planned outside the class room, if any	- student prepared notes
Any other activity	- student prepared Chalk.
Topic Synopsis	(Continue on the reverse side if needed) - General Character of Chordates - Notochord - Dorsal Tubular Neurons - Latent pharyngeal epithelium - Branchial Symplect - Gill Cords - Lungs, water breathing


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Mechanisms of Vision, Smell



Diffusion of light in the eye

Structure

Protein
Amino acids
Sugars
Nucleic acids

Genetic material of fish

Genetic material of fish

Genetic material of fish

Genetic material of fish

Genetic material of fish

Genetic material of fish

Teaching Plan / Lesson No.

Name of the Topic	Structure, Respiration, Digestion, Excretion, Circulation, Reproduction, Growth, Development, Migration, Hibernation, Estivation, Dormancy, etc.
Hours required	100 hours
Learning Objectives	- Understand the structure and function of the various organs of the fish. - Understand the process of respiration, digestion, excretion, circulation, reproduction, growth, development, migration, hibernation, estivation, dormancy, etc.
Previous knowledge to be reminded	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Examples / Illustrations	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Additional inputs	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Teaching Aids used	Charts, Board, PPT
References cited	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Student Activity Planned after the teaching	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Activity planned outside the class room, if any	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Any other activity	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.
Topic Synopsis	- Structure of the fish. - Respiration. - Digestion. - Excretion. - Circulation. - Reproduction. - Growth. - Development. - Migration. - Hibernation. - Estivation. - Dormancy.

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watermark

- Ammonium
- Potassium
- Sodium
- Calcium
- Magnesium
- Barium
- Strontium
- Lithium
- Hydrogen
- Helium
- Neon
- Argon
- Krypton
- Xenon
- Radon

Open 1 day
1 Long Ash

- Arabians
- Africans
- South Americans

Ogen 2 Sudan fish

- phases, grain
cyclical state. Blumson, Channing

Teaching Plan / Lesson No.	
Name of the Topic	Frog - types Frogs - Rophila, Tree-shrew, catfish & mammals.
Hours required	Mar 23
Learning Objectives	- To know the different species of frog & catfish. - To know the various characters classification of Rophila. - To know its comparative study of mammals & Invertebrates.
Previous knowledge to be reminded	- Amphibians, - Reptiles, - Mammals.
Examples / Illustrations	- Frog, Catfish, Description on mammals.
Additional inputs	- Comparative Study of Frog, Catfish, Tree shrew.
Teaching Aids used	PPT.
References cited	
Student Activity Planned after the teaching	Students note the frog & catfish their details.
Activity planned outside the class room, if any	Structure preparation.
Any other activity	
Topic Synopsis	(Continue on the reverse side if needed) - Frog system - Evolutionary course - Ancestral state - Phylogenetic analysis. - Respiratory system. - Reproductive system. - Digestive system. - Excretory system. - Circulatory system. - Nervous system. - Endocrine system. - Immune system. - Sensory system. - Motor system. - Behavior. - Ecology. - Conservation. - Management. - Education. - Research. - Application. - Future prospects. - Conclusion. - Summary. - References. - Appendix. - Glossary. - Index. - Bibliography. - Acknowledgement. - Certificate. - Cover page. - Title page. - Abstract. - Introduction. - Background. - Significance. - Scope. - Limitation. - Assumption. - Hypothesis. - Objective. - Methodology. - Results. - Discussion. - Conclusion. - Recommendation. - Suggestion. - Note. - Footnote. - Page number. - Date. - Time. - Place. - Author. - Editor. - Publisher. - Distributor. - Retailer. - Wholesaler. - Supplier. - Manufacturer. - Exporter. - Importer. - Agent. - Broker. - Dealer. - Merchant. - Trader. - Vendor. - Supplier. - Provider. - Source. - Origin. - Base. - Hub. - Center. - Core. - Heart. - Soul. - Spirit. - Essence. - Substance. - Matter. - Form. - Shape. - Size. - Color. - Texture. - Smell. - Taste. - Sound. - Touch. - Feel. - Thought. - Idea. - Concept. - Theory. - Model. - Framework. - Structure. - System. - Mechanism. - Process. - Procedure. - Protocol. - Policy. - Principle. - Rule. - Law. - Regulation. - Standard. - Norm. - Custom. - Habit. - Tradition. - Culture. - Society. - Community. - Group. - Team. - Organization. - Institution. - Establishment. - Enterprise. - Business. - Industry. - Sector. - Market. - Economy. - Finance. - Banking. - Insurance. - Investment. - Trade. - Commerce. - Industry. - Manufacturing. - Service. - Hospitality. - Tourism. - Entertainment. - Media. - Communication. - Technology. - Innovation. - Research. - Development. - Progress. - Growth. - Expansion. - Increase. - Decrease. - Reduction. - Elimination. - Removal. - Disposal. - Destruction. - Annihilation. - Extinction. - Eradication. - Deletion. - Cancellation. - Termination. - Completion. - Fulfillment. - Realization. - Achievement. - Success. - Failure. - Defeat. - Loss. - Gain. - Profit. - Benefit. - Advantage. - Disadvantage. - Risk. - Danger. - Hazard. - Threat. - Challenge. - Opportunity. - Possibility. - Probability. - Certainty. - Uncertainty. - Ambiguity. - Confusion. - Clarity. - Understanding. - Knowledge. - Wisdom. - Intelligence. - Reasoning. - Logic. - Argument. - Debate. - Discussion. - Conversation. - Dialogue. - Interaction. - Relationship. - Connection. - Link. - Bridge. - Pathway. - Route. - Direction. - Orientation. - Position. - Location. - Address. - Contact. - Information. - Data. - Fact. - Truth. - Reality. - Existence. - Being. - Entity. - Object. - Subject. - Thing. - Item. - Article. - Piece. - Part. - Component. - Element. - Factor. - Variable. - Parameter. - Attribute. - Property. - Characteristic. - Feature. - Quality. - Quantity. - Measure. - Unit. - Scale. - Range. - Spectrum. - Continuum. - Gradient. - Slope. - Angle. - Area. - Volume. - Mass. - Weight. - Force. - Energy. - Power. - Work. - Heat. - Temperature. - Pressure. - Density. - Viscosity. - Conductivity. - Permeability. - Porosity. - Elasticity. - Plasticity. - Brittleness. - Toughness. - Hardness. - Strength. - Stiffness. - Flexibility. - Resilience. - Durability. - Longevity. - Lifespan. - Mortality. - Survival. - Viability. - Fertility. - Reproduction. - Growth. - Development. - Maturation. - Senescence. - Aging. - Death. - Burial. - Cremation. - Funeral. - Mourning. - Grief. - Bereavement. - Loss. - Pain. - Sorrow. - Sadness. - Anger. - Frustration. - Disappointment. - Regret. - Guilt. - Shame. - Embarrassment. - Humiliation. - Jealousy. - Envy. - Greed. - Lust. - Pride. - Vanity. - Arrogance. - Egoism. - Narcissism. - Selfishness. - Altruism. - Compassion. - Empathy. - Sympathy. - Pity. - Mercy. - Forgiveness. - Tolerance. - Patience. - Perseverance. - Persistence. - Determination. - Resolve. - Willpower. - Discipline. - Self-control. - Moderation. - Balance. - Harmony. - Unity. - Oneness. - Wholeness. - Integrity. - Honesty. - Truthfulness. - Sincerity. - Candor. - Openness. - Transparency. - Accountability. - Responsibility. - Obligation. - Duty. - Commitment. - Dedication. - Devotion. - Loyalty. - Faithfulness. - Reliability. - Dependability. - Trustworthiness. - Credibility. - Reputability. - Respectability. - Dignity. - Honor. - Prestige. - Status. - Rank. - Position. - Role. - Function. - Purpose. - Mission. - Vision. - Goal. - Aim. - Objective. - Target. - Benchmark. - Milestone. - Landmark. - Turning point. - Inflection point. - Pivot point. - Crossroads. - Fork in the road. - Junction. - Intersection. - Convergence. - Divergence. - Separation. - Division. - Split. - Breakup. - Dissolution. - Disintegration. - Fragmentation. - Dissection. - Analysis. - Synthesis. - Integration. - Synthesis. - Consolidation. - Unification. - Harmonization. - Balancing act. - Juggling act. - Tightrope walk. - Acrobatics. - Circus. - Show business. - Entertainment industry. - Film industry. - Music industry. - Sports industry. - Gaming industry. - Technology industry. - Healthcare industry. - Financial industry. - Legal industry. - Political industry. - Military industry. - Aerospace industry. - Defense industry. - Energy industry. - Environmental industry. - Agriculture industry. - Forestry industry. - Fishing industry. - Mining industry. - Manufacturing industry. - Construction industry. - Transportation industry. - Logistics industry. - Retail industry. - Wholesale industry. - Distribution industry. - Supply chain management. - Procurement management. - Inventory management. - Quality management. - Project management. - Event management. - Wedding planning. - Travel agency. - Hotel management. - Restaurant management. - Bar management. - Club management. - Casino management. - Gambling industry. - Lottery industry. - Betting industry. - Horse racing industry. - Football industry. - Basketball industry. - Tennis industry. - Golf industry. - Cricket industry. - Baseball industry. - American football industry. - Ice hockey industry. - Figure skating industry. - Artistic gymnastics industry. - Olympic Games industry. - World Cup industry. - Super Bowl industry. - NBA Finals industry. - Stanley Cup industry. - Wimbledon industry. - Tour de France industry. - Formula One industry. - MotoGP industry. - IndyCar industry. -

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For - Heart - 3 Chambers heart
- 2 Atria
- 1 Ventricle.

For Brain - Fore Brain, Mid Brain & Hind Brain

General Characters Reptile

- Lateral eyes
- Anurole
- Epidermal Scales.
- Toes, Claws.
- Limbs.
- Vertebrate column.

Classification - Anapside, Synapside, Parapside
{ Skull Euryapside, Diapside

Typical Cavity - gular cavity.
Head, neck, Trunk & Tail.

Typical system - Cavity - Digestive system & Circulatory system, Brain.

Mammals. Prototheria, Metatheria, & Eutheria

Dentition in mammals. - Arrangement of teeth

Heterodont - Types.

Dental formula

Structure of Teeth

Formation of Teeth.

Functions of Teeth.



COMMISSONERATE OF COLLEGIATE EDUCATION,



GOVT. DEGREE COLLEGE

RAJAMPET, KADAPA. Dt.

(Affiliated to Yogi Vemana University, Kadapa.)

TEACHING PLAN

ACADEMIC YEAR 2022-2023

Name of the Department : ZOOLOGY

NAME OF THE LECTURER : B. SWATHA

Course / Group : B.Sc (BZC)

Subject / Page : Zoology

Sl.No.	Subject	Paper	Page No.
1	Animal diversity of chordates	Part II	01-05
2	Cell biology, Genetics, Molecular biology & Evolution	Part III	06-11
3	B.B - Dairy animals (Livestock Management)	V B	13-17
4	Immunology and Animal biotechnology	V	

Teaching Plan / Lesson No. 1

Name of the Topic	chordata animals
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Gr. Inter
Examples / Illustrations	Herdmania
Additional inputs	Tadpole larva uses in Herdmania
Teaching Aids used	PPT, BBT
References cited	Saras, Vikas
Student Activity Planned after the teaching	Life history of Herdmania chart prepared
Activity planned outside the class room, if any	Study of Urochordata animals
Any other activity	Affinities of cephalochordata animals
Topic Synopsis	(Continue on the reverse side if needed) <u>chordata animals</u> General characters and classification of chordata upto classes.

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Protochordata - Salient features of

Cephalochordata

Affinities of Cephalochordata

Salient features of Urochordata

Structure and life history of Herdmania

Retrospective metamorphosis

process and significance.

Teaching Plan / Lesson No. 2

②

Name of the Topic	cyclostomata and fishes
Hours required	6
Learning Objectives	Understanding Application
Previous knowledge to be reminded	Sr. Ints
Examples / Illustrations	Myxine, Labeo, catla
Additional inputs	Identify the dipnoi fishes
Teaching Aids used	PPT, BBT
References cited	Saras, vikas text books
Student Activity Planned after the teaching	Heart diagram practice in the class room
Activity planned outside the class room, if any	Brain structure model prepared
Any other activity	M&G ration uses.
Topic Synopsis	(Continue on the reverse side if needed) cyclostomata and fishes General characters of cyclostomata Comparison of petromyzon and myxine

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General characters of fishes

classification of fishes

Type study - Scoliodon

Migration in fishes

Types of scales

Dipnoi fishes

Teaching Plan / Lesson No. 3

Name of the Topic	Amphibia and Reptilia
Hours required	6
Learning Objectives	Knowledge Drawing skills
Previous knowledge to be reminded	Gr. Inter
Examples / Illustrations	Hyla, bufo, Naja naja
Additional inputs	To collect the specimens in Reptilia
Teaching Aids used	PPT, BBT
References cited	Vikas, Saras
Student Activity Planned after the teaching	Frog respiratory system chart prepared
Activity planned outside the class room, if any	Digestive system chart prepared
Any other activity	Functions of pancreas and liver
Topic Synopsis	(Continue on the reverse side if needed) Amphibia and Reptilia General characters and classification of Amphibia Type study - Rana

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General characters and classification
of Reptalia upto orders level with examples

Type study - catoloes

Identification of poisonous snakes

and non-poisonous snakes

Skull in reptiles.

Teaching Plan / Lesson No. 4

Name of the Topic	Aves
Hours required	6
Learning Objectives	Knowledge Understanding
Previous knowledge to be reminded	Gr Inter
Examples / Illustrations	columba livia, crow, passer
Additional inputs	To visit a local bird sanctuary
Teaching Aids used	PPT, BBT
References cited	Saras, vikas
Student Activity Planned after the teaching	chart in Respiratory system
Activity planned outside the class room, if any	Migrated birds list collected
Any other activity	uses of birds
Topic Synopsis	(Continue on the reverse side if needed) <u>Aves</u> General characters and classification of Aves Type study - Pigeon

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Migration in birds
Flight adaptations in birds

Teaching Plan / Lesson No. 5

Name of the Topic	Mammalia
Hours required	6
Learning Objectives	Understanding Application
Previous knowledge to be reminded	Sr. Inter
Examples / Illustrations	Monkey, Elephant, Dog, Humans
Additional inputs	To visit a local dental doctor.
Teaching Aids used	BBT, PPT, chart
References cited	Saras, Vikas
Student Activity Planned after the teaching	chart in Mammalia classification
Activity planned outside the class room, if any	comparison of prototheria and metatheria
Any other activity	chart prepared by students in Mammalia teeth
Topic Synopsis	(Continue on the reverse side if needed) <u>Mammalia</u> General characters and classification of Mammalia upto species level with examples

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Comparison of prototherians and
metatherians and Eutherians

Dentition in mammals.

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Teaching Plan / Lesson No. 6

Name of the Topic	cell biology
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Gr. Inter
Examples / Illustrations	Animal and plant cell
Additional inputs	Cell structure see in the digital microscope
Teaching Aids used	PPT, BBT
References cited	Text books
Student Activity Planned after the teaching	chart prepared Animal cell
Activity planned outside the class room, if any	Types of Ribosomes
Any other activity	chromosomes chart prepared
Topic Synopsis	(Continue on the reverse side if needed) <u>cell biology</u> Definition, History prokaryotic and Eukaryotic cells Animal cell structure plasma membrane

B. ~~Signature~~
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Golgi complex

Endoplasmic Reticulum

Lysosomes

Ribosomes

Mitochondria

Nucleus

Chromosomes

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	Topic

Teaching Plan / Lesson No. 7

8

Name of the Topic	Genetics
Hours required	6
Learning Objectives	Knowledge Understanding
Previous knowledge to be reminded	Gr. Inter
Examples / Illustrations	<i>Pisum sativum</i>
Additional inputs	awareness programmes in colour blindness
Teaching Aids used	PPT, BBT
References cited	Vikas
Student Activity Planned after the teaching	Identification of ABC Blood grouping
Activity planned outside the class room, if any	Importance of lethal genes
Any other activity	Haemophilia symptoms observed
Topic Synopsis	(Continue on the reverse side if needed) <u>Genetics</u> Mendel's work on transmission of traits Gene Interaction poly genes, multiple alleles

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blood group inheritance
sex determination
sex linked inheritance

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Act the
Any
Topic

Teaching Plan / Lesson No. 8

Name of the Topic	Genetics - II
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	3 rd - 4 th level
Examples / Illustrations	Human, Rat
Additional inputs	chromosomal disorders
Teaching Aids used	PPT, BBT
References cited	text books
Student Activity Planned after the teaching	Autosomal chromosomal disorders chart prepared
Activity planned outside the class room, if any	Karyotyping chart
Any other activity	Genomics and proteomics
Topic Synopsis	<i>(Continue on the reverse side if needed)</i> <u>Genetics - II</u> Mutation & Mutagenesis chromosomal disorder Human Genetics Karyotyping Pedigree Analysis Basics on Genomics and proteomics

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(10)

Teaching Plan / Lesson No. 9

Name of the Topic	Molecular biology
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Sr. Inter
Examples / Illustrations	Yeast, Humans
Additional inputs	DNA Replication methods
Teaching Aids used	PPT, BBT
References cited	Vikas
Student Activity Planned after the teaching	chart prepared by semi conservative mechanism
Activity planned outside the class room, if any	Transcription
Any other activity	DNA structure model prepared
Topic Synopsis	(Continue on the reverse side if needed) Central Dogma of Molecular Biology DNA Replication Transcription Translation lac Operon concept

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Teaching Plan / Lesson No. 10

10

Name of the Topic	Evolution
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Gr. Inter
Examples / Illustrations	Rat, cow, Dog
Additional inputs	Modern synthetic theory
Teaching Aids used	BBT, PPT
References cited	Vikas, Sarav
Student Activity Planned after the teaching	Mutation theories
Activity planned outside the class room, if any	Examples of Isolation birds
Any other activity	Hardy weinberg law
Topic Synopsis	(Continue on the reverse side if needed) <u>Evolution</u> Origin of life Theories of Evolution, Darwinism Neo-Darwinism, New synthetic theory Hardy weinberg law Isolation, speciation, Genetic drift Natural selection

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Teaching Plan / Lesson No. 11

17

Name of the Topic	Live stock census
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Vocational course
Examples / Illustrations	cow, buffaloes
Additional inputs	To visit a local dairy farm
Teaching Aids used	PPT, BBT
References cited	Dairy animals text book
Student Activity Planned after the teaching	chart prepared Exotic cows
Activity planned outside the class room, if any	Examples of Dairy cattle
Any other activity	Live stock census
Topic Synopsis	(Continue on the reverse side if needed) Live stock census, Breeds of Dairy cattle, Buffaloes and Goats - Indigenous, Exotic and crossbred cattle breeds any three

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Teaching Plan / Lesson No. 12

Name of the Topic	Anatomy of udder
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Dairy farm
Examples / Illustrations	cow, buffaloes
Additional inputs	local dairy farm
Teaching Aids used	PPT, BBT
References cited	Dairy books
Student Activity Planned after the teaching	Development of udder chart prepared
Activity planned outside the class room, if any	Lactogenesis functions
Any other activity	Udder Anatomy chart prepared
Topic Synopsis	(Continue on the reverse side if needed) Anatomy of udder, Development of udder, Lactogenesis and Galactopoiesis Let down of milk

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Name of the Topic	Artificial Insemination
Hours required	6
Learning Objectives	Application Understanding
Previous knowledge to be reminded	Dairy farm
Examples / Illustrations	cow, buffaloes
Additional inputs	To visit a goshala in Tirupathi
Teaching Aids used	PPT, BBS
References cited	Dairy books
Student Activity Planned after the teaching	Oestrous cycle chart prepared
Activity planned outside the class room, if any	Artificial Insemination Functions
Any other activity	Pregnancy diagnosis in cattle
Topic Synopsis	(Continue on the reverse side if needed) Artificial Insemination, Oestrous cycle, Symptom of heat in cows and buffaloes - Conception, pregnancy diagnosis in cattle, Mithovulation and Embryo transfer techniques Cloning.

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Teaching Plan / Lesson No. 14

15

Name of the Topic	Dairy cattle
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Dairy books
Examples / Illustrations	cow, buffaloes.
Additional inputs	To visit a local dairy farm
Teaching Aids used	PPT, BBT
References cited	Dairy books
Student Activity Planned after the teaching	Economic importance of dairy cattle.
Activity planned outside the class room, if any	Selection of dairy animals.
Any other activity	dairy animals uses.
Topic Synopsis	(Continue on the reverse side if needed) Economic traits of dairy cattle. Methods of selection of dairy animals.

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(17)

Teaching Plan / Lesson No. 15

Name of the Topic	Dairy cattle Breeding
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Dairy books
Examples / Illustrations	cow, buffaloes
Additional inputs	Tirupati gosamrakshanasala visit
Teaching Aids used	PPT, BBT
References cited	Dairy books
Student Activity Planned after the teaching	Grading system in cows
Activity planned outside the class room, if any	Breeding system in buffaloes
Any other activity	Cross breed examples
Topic Synopsis	(Continue on the reverse side if needed) systems of dairy cattle breeding, Inbreeding, out breeding, Cross breeding, Grading up. Breeding systems.

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Teaching Plan / Lesson No. 16

Name of the Topic	Immune System
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Gr. Inter
Examples / Illustrations	cow, Humans
Additional inputs	Importance of immune system.
Teaching Aids used	PPT, BBT
References cited	Vikas text book
Student Activity Planned after the teaching	Lymphoid organs chart prepared
Activity planned outside the class room, if any	Lymphnode model prepared
Any other activity	cells of immune system.
Topic Synopsis	(Continue on the reverse side if needed) <u>Immune System</u> Basic concepts in Immunology Innate and adaptive immunity Vaccines and Immunization Programme cells of immune system Organs of immune system.

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Teaching Plan / Lesson No. 17

Name of the Topic	Immunology
Hours required	6
Learning Objectives	Understanding Application
Previous knowledge to be reminded	Sr. Inter
Examples / Illustrations	Pathogens, Rat
Additional inputs	properties of Antigens
Teaching Aids used	PPT, BBT
References cited	Vikas
Student Activity Planned after the teaching	Structure of Antigens
Activity planned outside the class room, if any	Antibody model prepared
Any other activity	MHC molecules functions
Topic Synopsis	(Continue on the reverse side if needed) Antigens, B and T cell Epitopes Antibodies MHC molecules Exogenous and Endogenous pathways Hypersensitivity

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Teaching Plan / Lesson No. 18

Name of the Topic	cell culture
Hours required	6
Learning Objectives	Knowledge understanding
Previous knowledge to be reminded	Sr. Inter
Examples / Illustrations	E. coli, Viro bacteria
Additional inputs	cell culture
Teaching Aids used	PPT, BBT, chart
References cited	Saras, Vikas
Student Activity Planned after the teaching	establish cell lines
Activity planned outside the class room, if any	stem cells uses
Any other activity	cell culture media prepared
Topic Synopsis	(Continue on the reverse side if needed) Animal cell, Tissue and organ culture primary cell culture, secondary cell culture stem cells Hybridoma technology

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Teaching Plan / Lesson No. 19

Name of the Topic	Application of Animal biotechnology
Hours required	6
Learning Objectives	Knowledge Understanding
Previous knowledge to be reminded	Sr. Inter
Examples / Illustrations	Humans, Rats
Additional inputs	Manipulation of reproduction in animals
Teaching Aids used	PPT, BBT
References cited	Vikas, Saras
Student Activity Planned after the teaching	Gene delivery methods
Activity planned outside the class room, if any	Transgenic animals uses.
Any other activity	In vitro fertilization methods
Topic Synopsis	(Continue on the reverse side if needed) Basic Concept, vectors, RE, Recombinant DNA Technology Gene delivery Transgenic animals Manipulation of reproduction in animals

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Teaching Plan / Lesson No. 20

Name of the Topic	PCR, DNA Hybridization Techniques
Hours required	6
Learning Objectives	Knowledge Application
Previous knowledge to be reminded	Gr Inter
Examples / Illustrations	Fishes, Humans
Additional inputs	DNA finger printing uses
Teaching Aids used	PPT, chart, BBT
References cited	Vikas, Saras
Student Activity Planned after the teaching	PCR uses
Activity planned outside the class room, if any	Sanger's method uses
Any other activity	Hybridization techniques uses
Topic Synopsis	(Continue on the reverse side if needed) - PCR - DNA sequencing - Hybridization Techniques - DNA finger printing - Applications - Agriculture

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