

Teaching Plan:

Month _____ Topic to be Covered _____ Remarks _____

BCA - I Sem

September
2022

Fundamentals of Computers:
Introduction, Definition, characteristics
History, Types of Computers, Basic
Organization of Digital Computer,
Number Systems, Conversions, Computer
Codes BCD, Gray code, ASCII, Unicode
Boolean Algebra, operators with Truth
tables, Software, types of Software
Computer languages, Assembler,
Interpreter and Compiler, Algorithm.
Flowchart and pseudocode with
Examples

Assignments: Conversion Problems
Need of Conversion codes, Different
types of OS available, Need of
Application & utility software.
Need of Algorithm, Flowchart & Pseudo
Code.

October
2022

Classification of Computer Systems,
Functions and Components of Computer
System, Storage units, Microprocessor,
Input output devices
How a CPU works with Examples
Micro Controller Introduction.

Taranath Shikshana Samithi

BCA, Project

Clear
for smooth understanding and
Practically all CPU Components are
to be shown to the students as well as
Supportive youtube video are to be
used in teaching such as.

Assignments: Different types of
Input/output device used of
different applications.
Need of Secondary Storage
Devices.

• Various types of Microprocessors
use of it.

~~part~~

November: Operating System, ~~to~~ Functions
classification, System Programs
2022 utilities,
Unix Operating System.
Basic Commands of Unix OS.

Introduction of Database.

- * Differences between File System and DBMS.
- * Database Management System.
Users, applications advantages.

December
2020 Classification of DDL, DML,
DCL, TCL Commands and
Introduction of SQL.

Practical Sessions to teach
SQL Commands.

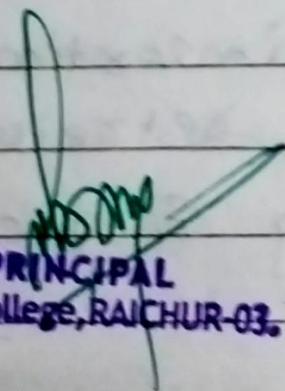
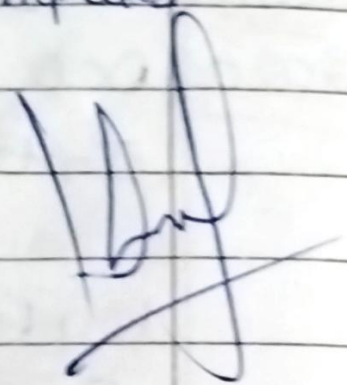
Creating a table, inserting
Data, updating, retrieving
Altering, deleting & dropping
etc.

Internet Basics, services,
Logical & Physical addresses,
Internet Service providers,
Domain name system. Introduction
to web, web browsers, HTTP/HTTPS,
URL, HTML5, CSS.

Practical Sessions on HTML5
Basic tags and CSS Cascading
Style sheets. So that students
can understand better.

Group
Assignments/Discussion on
web, web browsers, HTTP/HTTPS/URL;
Advantages and Disadvantages of
Internet & Social Platforms.

Reference Books: P K Sinha Computer
Fundamentals latest Edition.



PRINCIPAL
L.V.D. College, RAICHUR-03.

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BCA I Sem Mathematical Foundation

September 2022 Mathematical Logic Introduction:
Statements, Connectives, negation,
Conjunction, disjunction, Statement
formulas, Truth tables, Conditional
& Bi Conditional Statements, tautology
Contradiction, Equivalence formulas
duality law, Predicates, Quantifiers
Arguments.

Assignments: Practice problems.
Every day as Homework.
Class test to be Conducted.

October 2022 operations on sets: basic Concepts
of sets, Venn diagram, Cartesian
product, relations, functions

Composition of functions.
Detail Explanation of sets and types.
of operation on sets, problems to
be solved, Relations its types its
properties to Explained with practice
problems. etc.

Assignments: Practice problems every day,
as Homework.
Class test to be Conducted.

November
2022

Matrix algebra: Introduction,
Types of Matrices, Matrix operations
Transpose of a Matrix, Determinant
of Matrix - Adjoint, Inverse of a
Matrix, Cramer's Rule.
Finding rank of a Matrix.
Normal Form, Echelon Form.
Cayley Hamilton theorem - Eigen
Values.

: Home work Practice Problems to be given.

December
2022

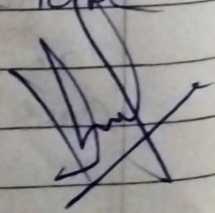
Differentiation Calculus:
Functions and Limits, Simple
differentiation of Algebraic Functions,
Evaluation of first and second
order Derivatives Maxima and
Minima.

Assignments: Practice problems to
be given as Homework every day.
Class Tests to be conducted.

* Class Notes & E Notes Study
Material to be given.

* Previous Year Questions papers
to be solved.

* All the Assignments given to be
valuated. And g.



Month _____ Topics to be Covered _____ Remarks _____

BCA III Semester: DBMS.

December Database Architecture:

2022 ~~Explanation~~ Introduction of Database System, applications characteristics, need of database uses of Database, Data models, schema architecture, Data independence, languages, interfaces and classification of DBMS.

Explanation with real world examples.

Assignments: Seminars on given topics. ^(above)

Group discussion: on Need for DBMS.

Difference b/w Filesystem & DBMS.

Advantages of ~~DBMS~~ DBMS & Disadvantages

Different applications of DBMS.

January E-R Model: E-R Modeling,

2023 E-R Model Concepts, Entity, Entity types

Sets, Attributes, Types of attributes

domain of an attribute, Relationships

between the Entities. Relationship

types, Roles and Structural Constraints

degree and Cardinality Ratio of a

Relationship Types of Entities.

Explaining above topics with different examples.

Making identifying Entity, attribute
Key attribute etc.
identifying Relationships.

Assignments: to identify Entities
and relationships and draw
E-R diagram for given real
world Examples.

February
2023

Relational Data Models: Concepts, characteristics
of relations, relational Model Constraints
Domain Constraints, Key Constraints
Primary and Foreign Key Constraints
integrity Constraints and null values

Relational Algebra: Basic Algebra.
Concepts, Set theoretical operations on
Relations. Join operations Aggregate
Functions and grouping Nested Sub
Queries. views,

Explanation of above Concepts by
Practical demonstration and practice
Sessions using Oracle software
and SQL Commands.

Assignments: Practical Sessions to
Formulate Queries in Relational Algebra
for real world Examples.

March 2023
2023
Data Normalization: Anomalies in
Real database design, Decomposition
Functional dependencies, Normalization
& Normal Forms.

Assignment:

- deduce given Examples to desired Normal form.

Query Processing
Transaction
Management: Transaction

Processing, Single user / Multi user
read/write operation, Concurrency
Control, Lost Update Problem.

Dirty read problem, Types of failures,
States of Transaction, ACID properties.

Concurrency Control Techniques: Locks
and Time stamp ordering, Deadlock and
Starvation.

Group Discussion: Need for Transaction
Management & Concurrency Control.

PRINCIPAL

L.V.D. College, RAICHUR-03.

LVD COLLEGE, RAICHUR- 584103
DEPARTMENT OF PHYSICS
Lesson Plan:2022-23

(NEP PROPOSED SYLLABUS FOR 2021-2022)

PHYSICS

(Effective from the academic year 2021-22)

Sub: Physics

Paper :Electricity and Magnetism

Name of the Faculty: Dr Chakradhar B /Miss Chaitra

No. of hours: 52

Sections: A

Date	Topic to be Covered		
15.06.2023	Bridge course		
17.06.2023	Bridge course		
20.06.2023	Bridge course		
21.06.2023	Bridge course		
22.06.2023	1.Electric Charge and Field Introduction and definition of electric charge and field	Understand	CO1
24.06.2023	Coulomb's law, electric field strength, electric field lines, point charge in an electric field	Understand	CO1
01.07.2023	Electric dipole, work done by a charge (derivation of the expression for potential energy)	Understand	CO1
06.07.2023	Derivation of the expression for potential energy	Understand	
08.07.2023	Problems solved	Apply	
27.06.2023	Gauss's law : Definition of Gauss's law and its applications electric fields of a (i) spherical charge distribution,	Understand	CO1
28.06.2023	(ii) line charge and (iii) an infinite flat sheet of charge.	Understand	CO1
04.7.2023	Uniformly charged infinite cylinder.	Understand	
05.7.2023	Problems solved	Apply	
13.07.2023	Electric potential :Electric potential, line integral, gradient of a scalar function,	Understand	CO1
15.07.2023	Relation between field and potential	Understand	CO1
20.07.2023	Examples: potential associated with a spherical charge distribution	Understand	
22.07.2023	Infinite line charge distribution, infinite plane sheet charge distribution	Understand	CO1
27.07.2023	Constant potential surfaces, Potential due to a dipole and electric quadrupole.	Understand	CO1
29.07.2023	Problems solved	Apply	CO1

Date	Topic to be Covered		
11.07.2023	Conductors in electrostatic field: Introduction of Conductors and insulators, conductors in electric field.	Understand	CO2
12.07.2023	Capacitance and capacitors, calculating capacitance in a parallel plate capacitor	Understand	CO2
18.07.2023	parallel plate capacitor with dielectric	Understand	
19.07.2023	Dielectrics: an atomic view. Energy stored in a capacitor,	Understand	CO2
25.07.2023	Dielectric and Gauss's law Problems	Understand	
26.07.2023	Problems		
4.08.2023	DC current: Electric currents and current density. Electrical conductivity and Ohm's law.	Understand	CO2

1.08.2023	Physics of electrical conduction, conduction in metals and semiconductors, circuits and circuit elements	Understand	C02
12.08.2023	Variable currents in capacitor circuits, Resistor, inductor and capacitor and their combination.	Apply	C02
12.08.2023	force on a moving charge and Numerical problems	Apply Understand	C02

Date	Topic to be Covered		
1.08.2023	Magnetism: Definition of magnetic field, Ampere's law and Biot-Savart law (magnetic force and magnetic flux),	Understand	C03
2.08.2023	Magnetic force on a current carrying conductor,	Understand	C03
8.08.2023	Hall effect in conductors Electromagnetic induction,		
9.08.2023	Conducting rod moving in a magnetic field		
16.08.2023	Faraday's laws of induction expression for self inductance and energy stored in a magnetic field.	Understand	C03
22.08.2023	Mutual inductance and Problems solved	Apply Understand	
23.08.2023	Problems solved		
17.08.2023	AC circuits :Alternating current circuits: Resonant circuit, alternating current, quality factor,	Understand	C03
19.08.2023	RL, RC,circuits, admittance and impedance, power and energy in AC circuits.	Understand	C03
24.08.2023	LC, LCR circuits, admittance and impedance, power and energy in AC circuits.	Understand	C03
26.08.2023	Numerical problems	Apply	C03

Date	Topic to be Covered		
02.09.2023	Introduction to electromagnetic waves	Understand	C04
07.09.2023	Equation of continuity, Maxwell's equations,	Understand	
09.09.2023	displacement current and its characteristics	Understand	
14.09.2023	Electromagnetic wave, energy transported by electromagnetic waves.	Understand	C04
16.09.2023	Electromagnetic waves in different frames of reference	Understand	C04
21.09.2023	Field of a current loop, magnetic moment, Electric current in atoms.	Understand	C04
23.09.2023	Electron spin and magnetic moment, magnetization and magnetic susceptibility	Understand	C04
30.09.2023	Numerical problems	Understand	
05.09.2023	Types of magnetic materials: diamagnetic and paramagnetic	Understand	C04
06.09.2023	Ferromagnetic materials	Understand	
12.09.2023	B-H hysteresis curves.	Understand	C04
13.09.2023	Numerical problems	Understand	
20.09.2023	Numerical problems	Apply	C04
26.09.2023	Discusses University question paper		

References Books:

SI No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Physics-Part-II,	David Halliday and Robert Resnick	Wiley Eastern Limited	2001
2	Berkeley Physics Course, Vol-2, Electricity and Magnetism, Special Edition	Edward M Purcell	Tata Mc Graw-Hill Publishing Company Ltd, New Delhi	2008

B.Sc II Semester

Paper :Electricity and Magnetism Lab

List of Experiments to be performed in the Laboratory

Dates	Title of the Experiment
05/07/2023 to 04/07/2023	Basic Introduction to Instruments and Safety in Lab
10/06/2023 to 30/09/2023	Determination of components of earth's magnetic field along the axis of circular coil.
	Charging and discharging of a capacitor(energy dissipated during charging and time constant measurements).
	Series resonance circuits (LCR circuits).
	Determination of self inductance of a coil using Maxwell's bridge
	Determination of B_H using Helmholtz double coil galvanometer .
	Parallel resonance circuits (LCR circuits).
	Verification of laws of combination of capacitances and determination of unknown capacitance using de-Sauty bridge.
	Determination of self inductance of a coil using Anderson's bridge
	Study the characteristics of a series RC and RL Circuit.
	Determination of high resistance by leakage using B.G.
05/10/2019	INTERALS

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Physics Department,
L. V. D. College, Raichur.