

## Scheme of Teaching and Examination for

### 3 rd Semester of 3 Years Diploma in Computer Science &Engineering

Duration of Semester : 14 Weeks

Student Contact Hours : 36 Hrs

Total Marks : 800

Effective from : 2017 -18 Session

Sl. No.	Name of Subject	Subject Code	Subject	Teaching Scheme			Examination Scheme					
				L	T	P	Hours of Exam	Full Marks of Subject	Final Exam / committee marks	Internal Assessment	Pass Marks Final / Ext. Exam	Pass Marks in Subjects
1.	Math III	301	Theory	4		-	3	100	80	20	26	40
2.	Electronic Devices and circuits	ECE303	Theory	3	-	-	3	100	80	20	26	40
3.	Electrical Technology	ECE304	Theory	3	-	-	3	100	80	20	26	40
4.	Object Oriented Programming	CSE303	Theory	3	-	-	3	100	80	20	26	40
5.	Web Technology	CSE 304	Theory	3	-	-	3	100	80	20	26	40
6.	Electronic Devices and Circuits Lab	ECE307	Practical	-	-	4	4	100	80	20		40
7.	Electrical Technology Lab	ECE308	Practical	-	-	2	4	50	40	10		20
8.	Object Oriented Programming Lab	CSE305	Practical			2	4	50	40	10		20
9.	Web Technology Lab	CSE306	Sessional			2		50	30	20	-	25
10.	Development of Life Skills I	302	Sessional	-	-	4		50	30	20	-	25
<b>Total Hours of Teaching per week :</b>				<b>16</b>		<b>14</b>						

Total Marks : Theory : Practical : Sessional :  
 L : Lecture, T : Tutorial P : Practical

- Note:
1. Period of Class hours should be of 1 hrs duration as per AICTE norms.
  2. Remaining Hrs every week has been marked for students for Library and Student Centered Activities.
  3. Drawing / Graphics / Practical / Sessional examinations will be held at parent institution.
  4. Board will depute examiner for Practical examination.
  5. Regarding sessional examination the parent institution will form a three member committee and this committee will examine the sessional records and hold viva of the examinee for 60 % marks allotted to the subject. Marks for remaining 40 % will be provided by the Faculty concerned on the basis of evaluation of each job / work throughout the semester.

**Diploma in Engineering (All branch except Mining, Arch & Non Tech)**

**Semester : Third**

**Subject Title : Engineering Mathematics-III**

**Subject Code: 301**

**Teaching and Examination Scheme:**

Teaching Scheme			Examination Scheme					
L	T	P	Full Marks.	External Exam Marks	Internal Exam Marks	External Pas Marks	Total Pass Marks	Duration of External Exams
TH								
03	01		100	80	20	26	40	3 Hrs

**NOTE:Internal marks will be allotted on the basis of two snap tests and 2 assignment of equal marks to be conducted by the faculty teaching the subject.**

Rationale:

The subject is extension of Engineering Mathematics – 1 & 2 of First year and stepping into the prerequisites to learn Applied Mathematics applicable in engineering solutions. Engineering Mathematics lay down the foundation to understand and express principles and laws involved in other technological subjects. The study of Engineering Mathematics will help to develop the skills essential for new emerging avenues.

Objective:

The student will be able to acquire knowledge of mathematical terms, concepts and principles. They can acquire sufficient mathematical techniques and can develop the ability to apply mathematical methods to solve technical and day to day practical problems and to execute management plans with precision.

Sub Objective:

This course is divided into five units. After completion of this course one could become able to learn the following.

- Intuitive meaning and Methods of finding integration definite integration and its properties.
- Application of Integration in finding Area, volume of irregular shapes.
- Methods of solving differential equation of first order and first degree.
- Methods for finding approximate roots by using bisection, Regula-falsi, Newton-Raphson method, Gauss elimination, Jacobi and Gauss- Seidal methods.
- Use of Binomial, Normal and Poisson distributions for solving different examples.

- Use of Laplace transform for solving problems of Differential Equations.
- Use of Fourier series for expansion of function at the given intervals

Contents: Theory

Chapter	Name of the Topic	Hours	Marks
01	<b>Integration:</b> 1.1 Definition of integration as anti-derivative. Integration of standard function. 1.2 Rules of integration (Integrals of sum, difference, scalar multiplication). 1.3 Methods of Integration. 1.3.1 Integration by trigonometrical transformation. 1.3.2 Integration by substitution 1.3.3 Integration by parts. 1.3.4 Integration of rational and irrational functions. 1.3.5 Integration by Partial fractions.	7	16
	<b>1.4 Definite Integration.</b> 1.4.1 Concept of definite integrations with examples. 1.4.2 Properties of definite integral with simple problems.	3	
	<b>1.5 Applications of definite integrals.</b> 1.5.1 Area under the curve. 1.5.2 Area bounded by two curves.	3	
2	<b>Differential Equation</b> 2.1 Definition of differential equation, order and degree of differential equation. Formation of differential equation. 2.2 Solution of differential equations of first order and first Degree such as variable separable form, reducible to Variable separable, Homogeneous and Linear Differential Equation.	6	16
	<b>2.3 Applications of Differential equations.</b> 2.3.1 Rectilinear motion (motion under constant and variable acceleration) 2.3.2 Newton's Law of Cooling	3	
	<b>Numerical Methods</b> <b>3.1 Solution of algebraic equations</b> Bisection method, Regula falsi method and Newton-Raphson method.	3	
3	<b>3.2 Solution of simultaneous equations containing 3 unknowns</b>		16

	3.2.1 Gauss elimination method. 3.2.2 Jacobi's Iterative method. 3.3.3 Gauss Seidal method.	3	
	<b>3.3 Interpolation</b> 3.3.1 Concept of interpolation and extrapolation. 3.3.2 Different operators ( $\Delta$ , $\nabla$ & $E$ ), relation between them, some problems based on operators, formation of Difference Table. 3.3.3 Newton's Forward and Backward difference interpolation formulae. 3.3.4 Lagrange's interpolation formula. 3.3.5 Problems based on above.	6	
	<b>3.4 Numerical Differentiation &amp; Integration.</b> 3.4.1 Newton's forward and backward difference formulae for first and second order differentiation at any point. 3.4.2 Numerical integration Trapezoidal rule and Simpson's $1/3^{\text{rd}}$ rule.	3	
4	<b>4.1 Probability:</b> 4.1.1 Definition of random experiment, sample space, event occurrence of event and types of events (impossible, mutually exclusive, exhaustive, equally likely) 4.1.2 Definition of probability, addition and multiplication theorems of probability.	05	16
	<b>4.2 Probability Distribution</b> 4.2.1 Binomial distribution. 4.2.2 Poisson's distribution. 4.2.3 Normal distribution 4.2.4 Simple examples based on above.	05	
5	<b>Laplace Transform</b> 5.1 Definition of Laplace transforms Laplace transform of standard functions. 5.2 Properties of Laplace transform such as Linearity, first shifting, second shifting, multiplication by $t^n$ , division by $t$ . 5.3 Inverse Laplace transforms. Properties-linearly first shifting, second shifting. Method of partial fractions,	3	
6	<b>Fourier Series</b> 6.1 Definition of Fourier series (Euler's formula). 6.2 Series expansion of continuous functions in the intervals $(0, 2l), (-l, l), (0, 2\pi), (-\pi, \pi)$	3	16

7	<b>Linear Programming</b> <b>7.1 Introduction</b> <b>7.2 Solution of Linear Programming problem (LPP) by Graphical Method.</b>	3	
	<b>TOTAL:</b>	56	80

**Tutorial:** Tutorials are to be used to get enough practice for solving problems. It is suggested that in each tutorial at least five problems should be solved.

**Learning Resources:**

**Text Book:**

Sr. No	Title	Authors	Publications
1	Higher Engg. Mathematics	B. S. Grewal	Dhanpat Rai

**Ref. Books:**

Sr. No	Title	Authors	Publications
1	Engineering Mathematics	H.K.Das	S.Chand & Company LTD, New Delhi
2	Higher Engineering Mathematics	B.V,Ramana	Mcgraw Hill Education ( India) Private limited , New Delhi
3	Practical Mathematics	I.B. Prasad	Khanna
4	Introductory Method of Numerical Analysis	S.S.Shastri	P.H.I
5	Linear Programming	G. Hadley	
6	A text book for class 12, Part- I & II	NCERT	NCERT, Delhi

**Note:**

In board examination, question setter may be advised to select 20% questions of objective, 30% of short type and remaining 50% of long type based on basic concepts, formula and calculations respectively.



## 3<sup>rd</sup> Semester Diploma in Engineering (Common)

**Subject Title : Development of Life Skills- I**

**Subject Code :302**

**Rationale:**

In today's competitive world, the nature of organizations is changing at very rapid speed. In this situation the responsibility of diploma holder is not unique. He will be a part of a team in the organization. As such the individual skills are not sufficient to work at his best.

This subject will develop the student as an effective member of the team. It will develop the abilities and skills to perform at highest degree of quality as an individual as well as a member of core group or team. Such skills will enhance his capabilities in the field of searching, assimilating information, managing the given task, handling people effectively, solving challenging problems.

**THE SUBJECT IS CLASSIFIED UNDER HUMAN SCIENCE. Objectives:** The

students will be able to:

1. Develop team spirit i.e. concept of working in teams
2. Apply problem solving skills for a given situation
3. Use effective presentation techniques
4. Apply techniques of effective time management
5. Apply task management techniques for given projects
6. Enhance leadership traits
7. Resolve conflict by appropriate method
8. Survive self in today's competitive world
9. Face interview without fear
10. Follow moral and ethics
11. Convince people to avoid frustration

**CONTENTS: Interaction by faculty / professional**

<b>Chapter</b>	<b>Name of the Topic</b>	<b>Suggested HOURS</b>
<b>1</b>	<b>SOCIAL SKILLS</b> Society, Social Structure, Develop Sympathy And Empathy.	<b>01</b>
<b>2</b>	Swot Analysis – Concept, How to make use of SWOT.	<b>01</b>
<b>3</b>	<b>Inter personal Relation</b> Sources of conflict, Resolution of conflict , Ways to enhance interpersonal relations.	<b>02</b>

4	<p><b>Problem Solving</b></p> <p><b>I)STEPS IN PROBLEM SOLVING,</b></p> <p>1)Identify and clarify the problem,  2)Information gathering related to problem,  3)Evaluate the evidence,  4)Consider alternative solutions and their implications,  5)Choose and implement the best alternative,  6)Review</p> <p><b>II)Problem solving technique.</b>(any one technique may be considered)</p> <p>1) Trial and error, 2) Brain storming, 3) Lateral thinking</p>	02
5	<p><b>Presentation Skills</b></p> <p>Body language --  Dress like the audience  Posture, Gestures, Eye contact and facial expression. STAGE FRIGHT,  Voice and language – Volume, Pitch, Inflection, Speed, Pause  Pronunciation, Articulation,  Language, Practice of speech.  Use of aids –OHP,LCD projector, white board</p>	03
6	<p><b>Group discussion and Interview technique –</b></p> <p>Introduction to group discussion,  Ways to carry out group discussion,  Parameters— Contact, body language, analytical and logical thinking, decision making</p> <p><b>INTERVIEW TECHNIQUE</b></p> <p>Necessity,  Tips for handling common questions.</p>	03
7	<p><b>Working in Teams</b></p> <p>Understand and work within the dynamics of a groups.  Tips to work effectively in teams,  Establish good rapport, interest with others and work effectively with them to meet common objectives,  Tips to provide and accept feedback in a constructive and considerate way ,  Leadership in teams, Handling frustrations in group.</p>	02
8	<p><b>Task Management</b></p> <p>Introduction,  Task identification,  Task planning ,organizing and execution, Closing the task</p>	02
<b>TOTAL</b>		<b>16</b>



## CONTENTS: PRACTICAL -

### List of Assignment: (Any Eight Assignment)

1. SWOT analysis:- Analyse yourself with respect to your strength and weaknesses, opportunities and threats. Following points will be useful for doing SWOT.
  - a) Your past experiences,
  - b) Achievements,
  - c) Failures,
  - d) Feedback from others etc.
2. Undergo a test on reading skill/memory skill administered by your teacher.
3. Solve the true life problem.
4. Form a group of 5-10 students and do a work for social cause e.g. tree plantation, blood donation, environment protection, camps on awareness like importance of cleanliness in slump area, social activities like giving cloths to poor etc.( One activity per group)
5. Deliver a seminar for 10-12 minutes using presentation aids on the topic given by your teacher.
6. Watch/listen an informative session on social activities. Make a report on topic of your interest using audio/visual aids. Make a report on the programme. ####
7. Conduct an interview of a personality and write a report on it.
8. Discuss a topic in a group and prepare minutes of discussion. Write thorough description of the topic discussed
9. Arrange an exhibition, displaying flow-charts, posters, paper cutting, photographs etc on the topic given by your teacher.

**Note:** - Please note that these are the suggested assignments on given contents/topic. These assignments are the guide lines to the subject teachers. However the subject teachers are free to design any assignment relevant to the topic. The **term work** will consist of any eight assignments.

**Mini Project** on Task Management: Decide any task to be completed in a stipulated time with the help of teacher. Write a report considering various steps in task management.

### LEARNING RESOURCES:

#### BOOKS:

Sr. No	Title of the book	Author	Publisher
1	Adams Time management	Marshall Cooks	Viva Books
2	Basic Managerial Skills for All	E.H. Mc Grath , S.J.	Pretice Hall of India
3	Body Language	Allen Pease	Sudha Publications Pvt. Ltd.
4	Creativity and problem solving	Lowe and Phil	Kogan Page (I) P Ltd
5	Decision making & Problem Solving	by Adair, J	Orient Longman
6	Develop Your Assertiveness	Bishop , Sue	Kogan Page India
7	Make Every Minute Count	Marion E Haynes	Kogan page India
8	Organizational Behavior	Steven L McShane and Mary Ann Glinow	Tata McGraw Hill
9	Organizational Behavior	Stephen P. Robbins	Pretice Hall of India, Pvt Ltd
10	Presentation Skills	Michael Hatton ( Canada – India Project)	ISTE New Delhi

11	Stress Management Through Yoga and Meditation	--	Sterling Publisher Pvt Ltd
12	Target setting and Goal Achievement	Richard Hale ,Peter Whilom	Kogan page India
13	Time management	Chakravarty, Ajanta	Rupa and Company
14	Working in Teams	Harding ham .A	Orient Longman

#### INTERNET ASSISTANCE

1. <http://www.mindtools.com>
2. <http://www.stress.org>
3. <http://www.ethics.com>
4. <http://www.coopcomm.org/workbook.htm>
5. <http://www.mapfornonprofits.org/>
6. <http://www.learningmeditation.com> <http://bbc.co.uk/learning/courses/>
7. <http://eqi.org/>
8. <http://www.abacon.com/commstudies/interpersonal/indisclosure.html>
9. <http://www.mapnp.org/library/ethics/ethxgde.htm>
10. [http://www.mapnp.org/library/grp\\_cnfl/grp\\_cnfl.htm](http://www.mapnp.org/library/grp_cnfl/grp_cnfl.htm)
11. <http://members.aol.com/nonverbal2/diction1.htm>
12. [http://www.thomasarmstron.com/multiple\\_intelligences.htm](http://www.thomasarmstron.com/multiple_intelligences.htm)
13. <http://snow.utoronto.ca/Learn2/modules.html>
14. <http://www.quickmba.com/strategy/swot/>

**Semester:- 3<sup>rd</sup> Semester**

**Subject Name : Object Oriented Programming**

**Subject Code : CSE303**

**L T P**

**Total Hours 42 Th**

**3 2**

**FM Marks : 100 (80+20)**

**1. Concept of Object Oriented Programming 4 hrs**

Basic concepts, Benefits of OOPs, Procedure Oriented Programming versus Object Oriented Programming, Structure of C++ Programs.

**2. Objects & Classes 6 hrs**

Specifying a Object & Class, Access Specifiers, Defining member functions, Inline function, Arrays within a class, Static data& member functions, Arrays of Objects, Objects as Function Arguments, Friend function.

**3. Constructors & Destructors 5 hrs**

Concept of Constructor, Types of Constructors (Parameterized, Copy, Default), Overloaded Constructors (Multiple constructor), Constructor with default arguments, Destructors.

**4. Inheritance 7 hrs**

Concepts of Inheritance, Types of Inheritance(Single, Multilevel, Multiple, Hierarchical, Hybrid), Virtual Base Class, Abstract Class, Constructor in Derived Class, Member Classes, Concepts of Overriding.

**5. Polymorphism 6 hrs**

Concepts of Polymorphism, Types of Polymorphism, Function overloading, Operator Overloading(Unary & Binary Operator), Rules for overloading operators, Virtual Functions, Rules for Virtual Functions, Pure Virtual Function.

**6. I/O Operations and File Processing 8 hrs**

C++ Stream Classes, Formatted & Unformatted I/O Operations, Managing output with Manipulators, Classes for file stream operations, Opening and Closing a file, Reading and Writing character from a file(get(), put(), getline(), write(),eof()), File Pointers and their manipulations, Command-Line Arguments.

**7. Exception Handling 6 hrs**

Basics of Exception Handling, Exception Handling Mechanism, Throwing Mechanism, Catching Mechanism, Rethrowing an Exception Specifying Exceptions.

### **Reference Books:-**

1. Object Oriented Programming with C++ - E.Balagurusamy (Tata McGraw Hill)
2. Object Oriented Programming in Turbo C++ - Lafore Robert (Galgotia)
3. C++ The Complete Reference - Schilt( Tata McGraw Hill)

### **Subject :-OOPS Lab**

### **Subject Code :-CSE305**

### **List of Practicals:**

1. WAP to input integer ,float, char and string using c in and display using c out statement.
- 2.WAP to create objects of class.
- 3.WAP to access static member variables and static member functions.
- 4.WAP to print all even numbers in between two values entered by user using loop statement.
- 5.WAP to print list of prime numbers between any two entered values.
- 6.WAP to print factorial of a given number.
- 7.WAP to display whether a number is Palindrome or not.
- 8.WAP to display whether a number is Armstrong or not.
- 9.WAP to display Fibonacci series up to n times entered by user.
- 10.WAP to demonstrate execution of constructor and destructor.
- 11.WAP to implement inline and friend function.
- 12.WAP to declare a pointer to array and display the elements.
- 13.WAP to implement this pointer.
- 14.WAP to overload unary and binary operator.
- 15.WAP to show hierarchical inheritance.
- 16.WAP to access private member variables of base class using pointers.
- 17.WAP to overload member function in base and derived class.
- 18.WAP to implement virtual function.
- 19.WAP to format output using manipulators.
- 20.WAP to read and write contents of file. Use of () function.

**Subject :Electronic Devices and Circuits**

**Subject Code : ECE303**

**L T P**

**Full Marks- 100 (80+20)**

**3 2**

- 1. SEMICONDUCTOR & PN Junction Diodes : (10 hrs)**  
Difference between Conductor, Insulator and Semiconductor, Mobility and conductivity, Charge densities in a semiconductor, Fermi Dirac distribution, Carrier concentrations and Fermi levels in semiconductor, Generation and recombination of charges, Diffusion and continuity equation, P and N Type semiconductor, Formation of homogenous and heterojunction diodes and their energy band diagrams, PN Junction, V-I characteristics, Small signal models of diode, Diode as a circuit element, Diode parameters and load line concept, Applications of diodes in rectifier, Clipping, Clamping circuits and voltage multipliers, Breakdown diodes, Schottky diodes, and Zener diode as voltage regulator
- 2. TRANSISTORS : (06 hrs)**  
Characteristics, Current components, Current gains: alpha and beta. Variation of transistor parameter with temperature and current level, Operating point, Hybrid model, DC model of transistor, h-parameter equivalent circuits. CE, CB and CC configuration. DC and AC analysis of single stage CE, CC (Emitter follower) and CB amplifiers AC & DC load line, Ebers-Moll model. Biasing & stabilization techniques. Thermal runaway, Thermal stability.
- 3. JFET & MOSFET : (06 hrs)**  
Construction and operation, Noise performances of FET, Parasitic of MOSFET, Small signal models of JFET & MOSFET, Biasing of JFET's & MOSFET's, Low frequency single stage CS and CD (source follower) JFET amplifiers, FET as voltage variable resistor and FET as active load, CMOS.
- 4. SMALL SIGNAL AMPLIFIERS : (06 hrs)**  
Analysis of BJT and FET multistage amplifier, DC and RC coupled amplifiers. Frequency response of single and multistage amplifier, mid-band gain, gains at low and high frequency. Analysis of DC and differential amplifiers, Cascade and cascade configuration of multistage amplifiers (CE-CE, CE-CB, CS-CS and CS-CD), Darlington pair
- 5. FEEDBACK AMPLIFIERS & Oscillators : (06 hrs)**  
Classification, Feedback concept, Feedback Topologies, Transfer gain with feedback, General characteristics of negative feedback amplifiers. Analysis of voltage-series, voltage-shunt, current-series and current-shunt feedback amplifier. Stability criterion. OSCILLATORS- Classification. Criterion for oscillation. Tuned collector, Hartley, Colpitts, RC Phase shift, Wien bridge and crystal oscillators, pulse generator.

- 6. TUNED AMPLIFIER :** (06 hrs)  
Band Pass Amplifier, Parallel resonant Circuits, Band Width of Parallel resonant circuit. Analysis of Single Tuned Amplifier, Primary & Secondary Tuned Amplifier with BJT & FET, Double Tuned Transformer Coupled Amplifier. Stagger Tuned Amplifier. Pulse Response of such Amplifier, class C tuned amplifiers, Shunt Peaked Circuits for Increased Bandwidth.( Discussion and use as RF and IF stages)
- 7. POWER AMPLIFIERS –** (06 hrs)  
Classification, Power transistors & power MOSFET (DMOS, VMOS). Output power, power dissipation and efficiency analysis of Class A, class B, class AB, class C, class D and class E amplifiers as output stages. Push pull amplifiers with and without transformers, Complementary symmetry & quasi complimentary symmetry amplifiers

**Subject : Electronic Devices and Circuits**

**Subject Code : ECE307**

**List of experiments**

1. Study the following devices: (a) Analog & digital multimeters (b) Function/ Signal generators (c) Regulated d. c. power supplies (constant voltage and constant current operations) (d) Study of analog CRO, measurement of time period, amplitude, frequency & phase angle using Lissajous figures.
2. Plot V-I characteristic of P-N junction diode & calculate cut-in voltage, reverse Saturation current and static & dynamic resistances.
3. Plot V-I characteristic of zener diode and study of zener diode as voltage regulator. Observe the effect of load changes and determine load limits of the voltage regulator.
4. Plot frequency response curve for single stage amplifier and to determine gain bandwidth product
5. Plot drain current - drain voltage and drain current – gate bias characteristics of field effect transistor and measure of  $I_{DSS}$  &  $V_p$
6. Application of Diode as clipper & clamper
7. Plot gain- frequency characteristic of two stage RC coupled amplifier & calculate its bandwidth and compare it with theoretical value.
8. Plot gain- frequency characteristic of emitter follower & find out its input and output resistances.
9. Plot input and output characteristics of BJT in CB, CC and CE configurations. Find their h-parameters
10. Study half wave rectifier and effect of filters on wave. Also calculate theoretical & practical ripple factor.
11. Study bridge rectifier and measure the effect of filter network on D.C. voltage output & ripple factor.
12. Oscillator circuits



**Subject :Electrical Technology**  
**Subject Code : ECE304**

**L T P**  
**3 2**

**Full Marks 100 (80+20)**  
**Hours - 42**

**Objectives:**

This is a foundation course to understand the basic principles and behavior of electrical circuits, electrical power apparatus and utilization of electrical energy.

**1. Electrical Engg Fundamentals (5 hrs)**

Introduction to electrical circuits: Electric field, electric current, potential and potential difference, electric power, basic circuit components, ohm's law. Sources and its types, Ideal and practical sources, Source Conversion, independent and dependent sources, Energy Stored in Inductor and Capacitor, series, parallel and series and parallel circuit.

**2. DC Networks & Theorems: (05 hrs)**

Laws and Theorems applicable to DC networks (KCL & KVL, Node voltage & Mesh current analysis, Star-Delta and Delta-Star conversion, Superposition principle, Thevenin & Norton theorem), Transients in R-L and R-C circuits with DC excitation, Simple problems.

**3. AC Fundamentals (6 hrs)**

Single-Phase AC Circuits: Single-phase EMF Generation, Average and Effective value of periodic ac signals, Peak factor & Form factor, Phasor and Complex representation of sinusoids, Power factor, complex power. Three-Phase AC Circuits: Comparison between single-phase and three-phase systems, three phase EMF Generation, Line and Phase quantities in star and delta networks,

**4. Magnetic circuits & Transformers (10 hrs)**

Introduction to Magnetic Circuits: Introduction to Electromagnetism, B-H curve, Permeability, Reluctance, Solution of magnetic circuits, Hysteresis and Eddy current loss.

Single-Phase Transformers: Construction and principle of operation, EMF Equation, Transformation ratio, Practical and Ideal transformers, Transformer losses, Brief idea on Transformer Phasor diagram and transformer rating, Auto transformer. Introduction to 3 phase transformer

**5. D C Machines (8 hrs)**

D.C. Machines: Principle of operation, construction, classification of DC machines, EMF equation of DC generator, Speed Equation of DC Motor. Series, shunt and compound dc moters.



## **6. AC Machines**

**(4 hrs)**

Induction Motors: Introduction to Single-phase and Three-phase Induction Motors, Concept of Slip. Synchronous motors and special types of ac motors.

## **7. Power Systems:**

**(04 hrs)**

Introduction to generation, transmission and distribution of AC Power, basic idea on grounding, and safety, illumination

### **Text/reference books:**

1. Rizzoni, Principles and Applications of Electrical Engineering., McGrawHill
2. Hughes, "Electrical & Electronic Technology", Ninth Edition Pearson Education.
3. V.D.Toro, "Basic Electrical Engineering", Prentice-Hall of India.
4. B.L.Theraja, A.K.Theraja, "A textbook of Electrical Technology" S.Chand. Ltd.
5. Rajendra Prasad, "Fundamentals of Electrical Engineering", PHI,
6. D P kothari and I J Nagratha "Basic electrical engineering" 2nd ed, TMH.
7. N.N.ParkerSmith, "Problems in Electrical Engineering", CBS Publisher

### **Subject : Electrical Technology Laboratory**

**Subject Code :- ECE308**

### **List of Experiments :**

1. Connection and measurement of power consumption of various lamps.
2. Measurement of armature and field resistance of DC machine.
3. V-I Characteristics of incandescent lamps and time fusing current characteristics of a fuse.
4. Calculation of current, voltage and power in series R-L-C circuit excited by single phase AC supply and calculation of power factor.
5. Study of various parts of DC machine.
6. Study of single phase induction motor and fan motor.
7. Verification of superposition, Thevenin's and Norton's theorem.
8. Study of single phase energy meter.
9. Open circuit and short circuit test of single phase transformer.
10. Study of solar photo voltaic system.

## **SUBJECT : WEB TECHNOLOGY**

**Subject Code : CSE304**

**L T P**

**Full marks 100 th + 50 Pr**

**3 2**

**Hours 42 Th + 28 Pr**

### **1. Web Essentials:**

**6**

Clients, Servers, and Communication. The Internet-Basic Internet Protocols -The World Wide Web-HTTP request message-response message-Web Clients Web Servers-Case Study. Markup Languages: XHTML. Basics of HTML, XHTML Syntax and Semantics, URLs-Lists-tables-Frames-Forms-XML Creating HTML Documents, Case Study.

### **2. Style Sheets:**

**10**

CSS- Introduction to Cascading Style Sheets-Features-Core Syntax-Style Sheets and HTML Style Rle Cascading and Inheritance-Text Properties-Box Model Normal Flow Box Layout-Beyond the Normal Flow-Other Properties-Case Study. Client-Side Programming: The JavaScript Language-History and Versions Introduction JavaScript in Perspective-Syntax-Variables and Data Types-Statements-Operators-Literals-Functions-Objects-Arrays-Built-in Objects-JavaScript Debuggers.

### **3. Host Objects :**

**10**

Browsers and the DOM-Introduction to the Document Object Model DOM History and Levels-Intrinsic Event Handling-Modifying Element Style-The Document Tree-DOM Event Handling-Accommodating Noncompliant Browsers Properties of window-Case Study. Server-Side Programming: Java Servlets- Architecture -Overview-A Servlet-Generating Dynamic Content-Life Cycle-Parameter Data-Sessions-Cookies-URL Rewriting-Other Capabilities-Data Storage Servlets and Concurrency-Case Study-Related Technologies.

### **4. Representing Web Data:**

**8**

XML-Documents and Vocabularies-Versions and Declaration - Namespaces JavaScript and XML: Ajax-DOM based XML processing Event-oriented Parsing: SAX-Transforming XML Documents-Selecting XML Data: XPATH- Template based Transformations: XSLT- Displaying XML Documents in Browsers-Case Study-Related Technologies.

### **5. JSP Technology**

**8**

Introduction-JSP and Servlets- Running JSP Applications Basic JSP- JavaBeans Classes and JSP-Tag Libraries and Files- Support for the Model- View- Controller Paradigm-Case Study- Related Technologies.

## **TEXT BOOK**

1. Jeffrey C.Jackson, "Web Technologies--A Computer Science Perspective", Pearson Education, 2006.

## **REFERENCES BOOK**

1. Robert. W. Sebesta, "Programming the World Wide Web", Fourth Edition, Pearson Education, 2007.

2. Deitel, Deitel, Goldberg, "Internet & World Wide Web How To Program", Third Edition, Pearson Education, 2006.

3. Marty Hall and Larry Brown,"Core Web Programming" Second Edition, Volume I and II, Pearson Education, 2001.

4. Bates, "Developing Web Applications", Wiley, 2006.

## **Subject : Web Technology Lab**

### **Subject Code : CSE306**

### **LIST OF PRACTICAL :**

1. Design web pages for your college containing a description of the courses, departments, faculties, library etc, use href, list tags.
2. Write html code to develop a webpage having two frames that divide the webpage into two equal rows and then divide the row into equal columns fill each frame with a different background color.
3. Create your resume using HTML tags also experiment with colors, text , link ,size and also other tags you studied.
4. Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).
5. Use Inline CSS to format your resume that you created.
6. Develop a JavaScript to display today's date.
7. Create HTML Page with JavaScript which takes Integer number as input and tells whether the number is ODD or EVEN.
8. Create HTML Page that contains form with fields Name, Email, Mobile No , Gender , Favorite Color and a button now write a JavaScript code to combine and display the information in textbox when the button is clicked.
9. Create XML file to store student information like Enrollment Number, Name , Mobile Number , Email Id.
10. Create a web page with the following.
  - i. Cascading style sheets.
  - ii. Embedded style sheets.
  - iii. Inline style sheets. Use your college information for the web pages.

