SEMESTER II

Course Code	**MATHS201**
Course Title	**Differential Equations and Transforms**
Type of Course	Core
Course Assessment Methods End Semester Assessment(University Exam) Continuous Assessment (Minors, Assignments, Quiz)	 50 50
Course Prerequisites	Calculus (MATHS101)
Course Objectives (CO)	1. To learn the methods to formulate and solve linear differential equations and their applications to engineering problems 2. To learn the concepts of Laplace transforms and to evaluate Laplace transforms and inverse Laplace transform 3. To apply Laplace transforms to solve ordinary differential equations 4. To learn the concept of Fourier series, integrals and transforms. 5. To learn how to solve heat, wave and Laplace equations.
Course Outcome	1. The student will learn to solve Ordinary Differential equations. 2. The students will be able to apply the tools of Laplace Transforms to model engineering problems and solve the resulting differential equations. 3. Students will understand the nature and behavior of trigonometric (Fourier) series and apply it to solve boundary value problems.

SYLLABUS

Note for the examiner: The semester question paper will be of 50 Marks having 7 questions of equal marks. Students are required to attempt 5 questions in all. First question, covering the whole syllabus and having questions of conceptual nature, will be compulsory. Rest of the paper will be divided into two parts having three questions each and the candidate is required to attempt two questions from each section.

SECTION – A

ORDINARY DIFFERENTIAL EQUATIONS

Review of geometrical meaning of the differential equation, directional fields, exact differential equations(scope as in chapter 8, sections 8.1 – 8.10 of reference 5), solution of differential equations with constant coefficients; methods of differential operators (scope as in chapter 9, sections 9.1 – 9.5 of reference 5). Non-homogeneous equations of second order with constant coefficients: Solution by method of variation of parameters, reduction by order (scope as in chapter 9, section 9.7, 9.10 of reference 5). Power series method of solution (scope as in chapter 10, section 10.2 of reference 5)
(13 hours)

Laplace Trasforms

Laplace transform, Inverse transforms, shifting, transform of derivatives and integrals. Unit step function, second shifting theorem, Dirac's Delta function. Differentiation and integration of transforms. Convolution Theorem on Laplace Transforms. Application of Laplace transforms to solve ordinary differential equations with initial conditions (Scope as in Chapter 6, Sections 6.1 – 6.6 of Reference 2). (10 hours)

SECTION – B

Fourier Series and Transforms: Periodic functions, Fourier series, Even and odd series, half range expansions, Complex Fourier Series, Approximation by trigonometric polynomials. Fourier integrals, Fourier Cosine and Sine transforms, Fourier Transforms (Scope as in Chapter 11, Sections 11.1 – 11.2, 11.4-11.5, 11.7 – 11.9 of Reference 2). (8 hours)

Partial Differential Equations: Partial differential equations of first order, origin, solution of linear partial differential equations of first order, Integral surfaces passing through a given curve (Scope as in Chapter 2, Sections 1, 2, 4, 5 of Reference 1). (6 hours)

Boundary Value Problems: D'Alembert's solution of wave equation, separation of variables: one dimension and two dimension heat and wave equation (Scope as in Chapter 12, Sections 12.1, 12.3 – 12.4, 12.6, 12.9 of Reference 2). (8 hours)

RECOMMENDED BOOKS

S.No.	NAME	AUTHORS	PUBLISHER
1.	Elements of Partial Differential Equations	Ian N. Sneedon	McGraw Hill,Singapore 1957.
2.	Advanced Engineering Mathematics	E. Kreyszig.	10th edition , John Wiley.
3.	Advanced Engineering Mathematics	Michael D. Greenberg	2nd edition, Pearson Education.
4.	Advanced Engineering Mathematics	Wylie and Barrett	Tata McGraw Hill
5.	Higher Engineering Mathematics	B.V.Ramana	Tata McGraw Hill.
6.	Advanced Engineering Mathematics	R. K. Jain, S. R. K. Iyenger	Narosa Publications
7.	Theory and problems of Differential Equations	Frank Ayers	Shuam outline series, McGraw-Hill, Singapore, 1957

Course Code	**HSS202/ HSS102**
Course Title	**Communication Skills**
Type of Course	Core
Course Assessment Methods End Semester Assessment(University Exam) Continuous Assessment (Minors, Assignments, Quiz)	 50 50
Course Prerequisites	
Course Objectives (CO)	
Course Outcome	

SYLLABUS

Note for the examiner: The semester question paper will be of 50 Marks having 7 questions of equal marks. Students are required to attempt 5 questions in all. First question, covering the whole syllabus and having questions of conceptual nature, will be compulsory. Rest of the paper will be divided into two parts having three questions each and the candidate is required to attempt two questions from each section.

SECTION - A

Fundamentals of Communication Skills

Scope and Significance of Communication Skills, Listening, Speaking, Reading and Writing (2 hours)

Writing Skills

Basics of Grammar – Word Order, Sentence Construction, Placing of Subject and Verbs, Parts of Speech, Use of Tenses, Articles, Prepositions, Phrasal Verbs, Active-Passive, Narration (4 hours)

Vocabulary Building and Writing

Word Formations, Synonyms, Antonyms, Homonyms, One-Word Substitutes, Idioms and Phrases, Abbreviations of Scientific and Technical Words. (3 hours)

Speaking Skills

Introduction to Phonetic Sounds, English Phonemes, Stress, Rhythm and Intonation, Countering Stage Fright and Barriers of Communication. (3 hours)

Reading and Comprehension (2 hours)

Section – B

Advanced Communication Skills

Scope, Significance, Process of Communication in an organization, Types and Levels,Communication Networks, Technical Communication, Tools of Effective Communication. (2 hours)

Speaking Skills and Personality Development

Interpersonal Communication, Presentation Skills, Body Language and Voice Modulation, Persuasion,Negotiation and Linguistic Programming, Public Speaking, Group Discussions, Interviews and Case Studies, Power Point Presentations , Relevant to the context and locale, Technical Presentations, Conducting , Meeting and Conferences (5 hours)

Communication and Media

Social and Political Context of Communication, Recent Developments in Media (1 hour)

Advanced Techniques in Speaking Skills

Importance of Listening/Responding to native and global accents, Telephonic Interviews and Video Conferencing (2 hours)

Advanced Techniques in Technical Writing

Job Application, CV Writing, Business Letters, Memos, Minutes, Reports and Report Writing Strategies, E-mail Etiquette, Blog Writing, Instruction Manuals and Technical Proposals (4 hours)

Practical Sessions

1. Individual presentations with stress on delivery and content
2. Overcoming Stage Fright - Debates, extempore
3. How to discuss in a group - Group Discussion
4. Discussion on recent developments and current debates in the media
5. How to prepare for an Interview and face it with confidence
6. Conducting meeting and conferences
7. Exercises on Composition & Comprehension, Reading Improvement

TEXT BOOKS			
S.No.	**NAME**	**AUTHORS**	**PUBLISHER**
1.	The Essence of Effective Communication	R. Ludlow and F. Panton	Prentice Hall
2.	Unversity Grammer of English	Randolph. Quirk and Greenbaum Sidney	Pearson Education
3.	Effective Technical Communication	M. Rizvi Ashraf	McGraw Hill
4.	Business Communication Today	Bovee L. Courtland, V. Thill John	Pearson Education
REFERENCE BOOKS			
S.No.	**NAME**	**AUTHOR(S)**	**PUBLISHER**
1.	Essential of Business Communications	Mary E. Guffrey	South-Western College Publishing
2.	Technical Communications :	Minakshi Raman and S.	Oxford University press

	Principles and Practice	Sharma	
3.	Effective Communication	M. V. Rodrigues	Himalaya Publishing House
4.	English Vocabulary in Use	Michael. McCarthy, Felicity O'Dell	Cambridge University Press
5.	The Pronunciation of English	Daniel Jones	University Book Stall
6.	Business Correspondence and Report Writing	R. C. Sharma and K. Mohan	Tata McGraw Hill
7.	Communications for Professional Engineers	Bill Scott	Thomas Teleford Ltd.
8	Handbook for Technical Writing	David A. McMurrey, Buckley Joanne	Cengage Learning
9	Enhancing Employability and Recognizing Diversity	L. Harve, W. Locke, A. Morey	Universities UK and CSU
10	Student Activities for taking charge of your carrer direction and Job Search	R. Locke	Core Publishing
11	Body Language	A. Pease	Sheldon Press
12	Technical Communication: Principles and Practice	Minakshi Raman and S. Sharma	Oxford university Press

Course Code	**CH101 / CH201**
Course Title	**Applied Chemistry**
Type of Course	Core
Course Assessment Methods End Semester Assessment(University Exam) Continuous Assessment (Minors, Assignments, Quiz) Practical (Continuous and end semester evaluation)	 50 50 50
Course Prerequisites	10+2
Course Objectives (CO)	To teach the fundamentals of basic chemical sciences essential for the development of new technologies to all branches of engineering.
Course Outcome	1) Thermodynamics will help the students learn different thermodynamic laws, heat changes and energy calculations. 2) Studying catalysis will be beneficial to understand the role and mechanism of various heterogeneous and homogeneous catalysts in increasing reactions rate of many synthetically important chemical reactions. 3) By studying corrosion, the students will learn about basic nature and reasons of corrosion, its impact in many sectors of our lives. 4) Studying spectroscopy will help to understand the basic principles of spectroscopy and its use to determine chemical structures. 5) By studying coordination chemistry and CFT, explanation about different properties of coordination compounds will be given.

SYLLABUS

Note for Examiner: The semester question paper will be of 50 Marks having 7 questions of equal marks. Students are required to attempt 5 questions in all. First question, covering the whole syllabus and having questions of conceptual nature, will be compulsory. Rest of the paper will be divided into two parts having three questions each and the candidate is required to attempt two questions from each section.

SECTION - A

Thermodynamics: Review of objectives and limitations of chemical thermodynamics, State

functions, Thermodynamic equilibrium, work, heat, internal energy, enthalpy, heat capacity, Zeroth law of thermodynamics, First law of thermodynamics, Reversible, isothermal and adiabatic expansion & compression of an ideal gas. Irreversible isothermal and adiabatic expansion of an ideal gas. Carnot cycle and efficiency of reversible engines, Enthalpy change and its measurement. Flame temperature, Second and third law of thermodynamics. Concept of entropy. Gibb's and Helmholtz equations. Simple numerical for calculating w, q, ΔE, ΔH and entropy.
(10 hours)

Catalysis: Catalysis and general characteristics of a catalytic reactions, homogeneous catalysis, kinetics of acid, base and enzyme catalysis – Michealis Menten equations. Heterogenous catalysis. Application of catalysis for industrially important processes– hydrogenation (Wilkinson's catalyst), hydroformylation, acetic acid process and Wacker process. (6 hours)

Electrochemistry: Introduction to electrochemistry, types of electrodes, Ion selective electrodes, Reference electrodes, Fuel cells (hydrogen-oxygen, propane-oxygen, methanol-oxygen fuel cells), Corrosion: Types of corrosion, dry and wet corrosion and their mechanisms, types of electrochemical corrosion (galvanic, pitting, waterline, differential aeration, soil, microbiological, inter-granular, stress corrosion), Factors influencing corrosion, Prevention of corrosion. (8 hours)

SECTION - B

Polymer chemistry: Classification of polymers, Mechanism and methods of polymerisation, idea of number average and weight average molecular masses of polymers, preparation, properties and uses of polystyrene, polyester, polyamide, phenol-formaldehyde, silicones and epoxy resins. (5hours)

Spectroscopy: UV- Introduction, Lambert-Beer's Law, selection rules, electronic transitions, Application to simple organic molecules (auxochrome, chromophore), effect of conjugation and solvent on transition of organic molecules, Woodward-Fieser Rules for calculating λ_{max} for dienes. IR-Introduction, Principle of IR spectroscopy-Fundamental vibrations, Application to simple organic molecules (effect of masses of atoms, bond strength, nature of substituent, hydrogen bonding on IR frequency), sample preparation for IR. (10 hours)

Coordination chemistry: Introduction, Crystal Field Theory, Splitting of octahedral, tetrahedral and square planar complexes, crystal field stabilization energies of octahedral and tetrahedral complexes and its applications. (6 hours)

RECOMMENDED BOOKS			
S.No.	**NAME**	**AUTHOR(S)**	**PUBLISHER**
1.	Organic Chemistry	Joseph M. Hornback Brooke	Cole Publishing Company U.S.A.
2.	Atkin's Physical Chemistry	Peter Atkins, Julio de Paula	7th Edition, Oxford University Press.
3.	Concise Inorganic Chemistry	J D Lee	Vth Edition, Chapman & Hall, 2003
4.	A Textbook of Engineering Chemistry	Shashi Chawla	Dhanpat Rai & Co. Pvt. Ltd
5.	Introductory Polymer Chemistry	G.S.Mishra	John Wiley & Sons, New York, 1993.
6.	Principles of Physical Chemistry	Puri, Sharma and Pathania	W.H. Freeman & Co, 2008.
7.	Introduction to spectroscopy	D. S. Pavia, G.M. Lasmpman and G.S. Kriz	4th Edition, Thomson learning, Indian Edition 208.
8	Basic Inorganic Chemistry	F.A. Cotton, G. Wilkinson and P.L. Gaus	3rd Ed., John Wiley & Sons.

List of Experiments

Instruction for Students: The candidate will be attending a laboratory session of three hours weekly and has to perform any eight experiments.

1. Volumetric analysis: Iodometric titrations, complexometric titrations, Acid-base titrations (conductometric), Precipitation titrations
2. Analysis of lubricants: Viscosity/surface tension/saponification value/acid value
3. Instrumental techniques for chemical analysis: Conductometry, potentiometry, UV-visible/IR spectrophotometer.
4. Preparation of few organic compounds/inorganic complexes/polymer.

RECOMMENDED BOOKS			
S.No.	**NAME**	**AUTHOR(S)**	**PUBLISHER**
1.	A textbook of Quantitative Inorganic Analysis	A. I. Vogel	Longman Gp. Ltd, 4th editon
2	Essentials of Experimental Engineering Chemistry	Shashi Chawla	Dhanpat Rai and Co. Delhi (2001)

3	Vogel's text book of quantitative chemical analysis	J. Mendham, R. C. Denny, J. D. Barnes and M. J. K. Thomas	Pearson Education

Course Code	**ME 203 / ME103**
Course Title	**Workshop Practice**
Type of Course	Core
Course Assessment Methods Practical (Continuous and end semester evaluation)	50
Course Prerequisites	Basic Workshop Practices
Course Objectives (CO)	1. Know different machines, tools and equipment, Identify different Engineering materials, metals and non-metals. 2. Understand different Mechanisms, Use of Machines, Tools and Equipment. 3. Knowledge of basic Manufacturing Processes in Electronics, Electrical, Machine, Welding, Fitting, Sheet Metal.Smithy, Foundry and Carpentry Workshops.
Course Outcome	1. Familiarity with common machines, Tools and Equipment in basic Workshop Practices. 2. On hand basic workshop practices in Electronics, Electrical, Machine, Welding, Fitting, Sheet Metal. Smithy, Foundry and Carpentry Workshops in Engineering professions. 3. Applications of Basic Workshop Practices..

SYLLABUS

Instruction for Students: The candidate will be attending a laboratory session of three hours weekly. Practice of basic exercises related with different shops. On hand basic workshop practices in Electronics, Electrical, Machine, Welding, Fitting, Sheet Metal. Smithy, Foundry and Carpentry Workshops in Engineering professions.

Welding Workshop :

(Theory)Joining Processes, Welding and its Classification, Welding Processes, Fusion Welding, Pressure Welding, Electric Arc Welding, Gas Welding, Resistance Welding, Metal Inert gas Welding, Welding Joints, Welding Positions, Welding defects, Welding Applications, Basic welding design and Procedures, identification of materials,

Jobs: Butt Joint in Flat Position using SMAW, Lap Joint using Spot Welding, Edge Joint in Horizontal Position using SMAW, Tee Joint in Flat position using SMAW, Corner Joint in vertical position using SMAW.

Defect Identification and marking, Edge preparation and Fillet making, Tacking, Distortion identification.

Electronics Workshop

To know about Soldering mechanism and techniques, Familiarity with Electronic Components / symbols, Testing of electronic components, Application of Soldering : Circuit Assembly

List of Jobs :

Practice of Soldering and de-soldering, Identification and testing of a) passive electronic components b) Active electronic components, Assembly of Regulated Power supply circuit.

Electrical Workshop

Introduction of Various Electric wirings, Wiring Systems, Electrical wiring material and fitting, different type of cables, Conduit pipe and its fitting, inspection points, switches of all types, Distribution boards, M.C.B's etc., Electric Shock and its management.

Electric Tools: Conversance with various tools and to carry out the following:

1. Measurement of wire sizes using SWG and micrometer
2. Identification of Phase and neutral in single phase supply

Jobs:

To control a lamp with a single way switch

To control a lamp from two different places

To assemble a fluorescent lamp with its accessories

To control a lamp, fan and a three pin socket in parallel connection with single way switches

Fitting Shop

Introduction of Fitting, different type of operations, Tools, materials, precision instruments like Vernier caliper and Micrometer etc, Safety precautions and Practical demonstration of tools and equipments

Jobs:

To make a square from MS Flat, Punching, Cutting, Filling techniques and practice, Tapping, Counter Drilling.

Smithy Workshop

Introduction of Smithy and Forging process, Tools and Equipment's, Operations, Heat Treatment processes, Advantages, Dis-advantages, Defects and Safety precautions.

Jobs:

Drawing and Upsetting Practice using Open Hearth Furnace, Cold working process practice, Heat Treatment \: Annealing and hardening process

Machine Shop

Application, Function and different parts, Operations of Lathe, Type of Cutting Tools and their materials, Drill machine Types, applications and Functions. Hacksaw machines and functions, Work Holding devices and tools, chucks, Vices, machine Vices, V Block, Measuring Instruments uses, Shaper and Milling machine Applications.

Jobs:

To perform Marking, Facing, Turning,taper Turing, Grooving, Knurling, parting, Drilling, Reaming operations on lathe machine,Hacksawing practice on Power hacksaw,Shaping operation practice on Shaper.

Carpentry Shop

Classification of Tree, Timber. Advantages and uses of Timber, Seasoning of Wood, Tools Used, Defects and Prevention of Wood,

Jobs:

Tee Joint, Cross Joint,Tenon Joint, L Shape Joint, Practice of Wood Working Lathe, Practice on multi-purpose Planer.

Foundry Shop

Introduction to Foundry, Advantages and Disadvantages of castings process, Introduction to pattern and various hand tools, Ingredients of Green sands, Various Hand Molding processes, Introduction to Casting Defects.

Jobs:

Identification and uses of hand tools, Preparation of Green sand in Muller, Preparation of Sand Mould of Single piece solid pattern, Split pattern, Preparation of Green sand Core, casting of a Mould and study its defects.

RECOMMENDED BOOKS			
S.No.	**NAME**	**AUTHOR(S)**	**PUBLISHER**
1.	Introduction to Basic Manufacturing Processes and Workshop Technology	Rajender Singh	New Age International Publication
2	Manufacturing Processes	Chapman	Viva Books Private Limited

Course Code	**CS203**
Course Title	**Digital Electronics and Logic Design**
Type of Course	Core
Course Assessment Methods End Semester Assessment(University Exam) Continuous Assessment (Minors, Assignments, Quiz) Practical (Continuous and end semester evaluation)	 50 50 50
Course Prerequisites	
Course Objectives (CO)	The objective of this course is to provide knowledge about digital electronics circuitry.
Course Outcome	

SYLLABUS

Note for the examiner: The semester question paper will be of 50 Marks having 7 questions of equal marks. Students are required to attempt 5 questions in all. First question, covering the whole syllabus and having questions of conceptual nature, will be compulsory. Rest of the paper will be divided into two parts having three questions each and the candidate is required to attempt two questions from each section.

Section - A

Module 1

IC Digital Logic Families -Characteristics of digital IC.s, Transistor – Transistor Logic family, Standard TTL characteristics, Other TTL series, Open collector TTL, Wired OR/AND connection, Tristate TTL, Emitter-Coupled Logic family, ECL NOR/OR gate and its characteristics, Metal-oxide semi-conductor (MOS) family, NMOS and CMOS gates and their characteristics, CMOS transmission gate circuits . (7 hours)

Module 2

Simplification of Boolean Functions -Using Karnaugh map and Quine-Mccluskey methods, SOP, POS simplification, NAND and NOR implementations, other two-level implementation (AND-OR-INVERT). (6 hours)

Module 3

Combinational Logic Design-Design procedure, Adder : Half adder, Full adder, Serial adder, Parallel adder & Carry look-ahead adder, Subtractors : Half subtractor & Full subtractor, BCD to Excess-3 code convertor, BCD to 7-segment decoder, Parity generator and checker / .

(7 hours)

Section - B

Module 4

Combinational Logic Design using MSI Circuits -Application of typical IC.s like 4-bit parallel adder (ex : 7483), Encoders (ex :74148), Multiplexers (ex: 74151, 74153, 74157) and their use in realising boolean functions, Multiplexer trees, Demultiplexer / Decoders (e.g.: 74138, 74154) and their use in

realising a boolean function and demultiplexer trees, 4-it magnitude comparator (ex:7485). (7 hours)

Module 5

Synchronous Sequential Logic-Analysis of clocked sequential logic, State reduction and assignment, Flip-flop excitation tables, Design procedure, Design of sequential ciruits ex : 3-bit up/down counter (mod < 8), 3-bit up/down gray code counter, Serial adder. (5 hours)

Module 6

Counters-Dependancy notation, Symbols for Decoder, Multiplexer, Flipflops, Registers, Counters, RAM. Flipflops, Asynchronous counters (mod 8 and less than 8), IC asynchronous counters (7493, 7490) and cascading, synchronous counters, binary and binary up-down counters, IC synchronous counters (74192, 74190) and cascading. (6 hours)

Module 7

Registers-Registers and their different modes of operation SISO, SIPO, PISO, PIPO, Shift registers (7495 / 74195), bidirectional universal shift register (74194), Applications of shift registers, Time delay, Ring counter, Johnson counter, Sequence generator; Programmable Logic Devices-PLD, PLA, PAL, FPGA structures & applications. (7 hours)

TEXT BOOKS			
S.No.	**NAME**	**AUTHOR(S)**	**PUBLISHER**
1.	Digital Design	M Morris Mano	3rd edition, 2006, PHI
2	Modern Digital Electronics	R. P. Jain	2nd edition, TMH
3	Digital Electronics	Bignell & Donovan Digital Electronics	4th edition, 2007, Thomson Learning
Reference Books			
1.	Digital Systems	Tocci	PHI, 6e, 2001
2.	Digital Systems Design	Uyemeru	2003, Thomson Learning
3.	Digital Integrated Electronics	Anand Kumar	2ed 2009

List of Experiments

1. To study truth tables of AND, OR, NOR, NAND, NOT and XOR Gates.
2. To verify the truth tables of RS, of JK and T Flip Flops.
3. To fabricate and test the truth table of half and full adder.
4. To design and implement a Modulo-N Counter.
5. To design and implement a Universal shift register.
6. Design and fabrication of synchronous counter
7. Design and fabrication of combinational circuits using Multiplexers
8. To convert 8 bit Digital data to Analog value using DAC.
9. To convert Analog value into 8 bit Digital data using ADC

Course Code	**CS202**
Course Title	**Object Oriented Programming**
Type of Course	Core
Course Assessment Methods End Semester Assessment(University Exam) Continuous Assessment (Minors, Assignments, Quiz) Practical (Continuous and end semester evaluation)	 50 50 50
Course Prerequisites	Programming Fundamentals (CS101/201)
Course Objectives (CO)	To understand the basic concepts of object oriented programming languages and to learn the techniques of software development in C++.
Course Outcome	

SYLLABUS

Note for the Examiner: The Semester question paper of a subject will be of 50 marks having 7 questions of equal marks. First question, covering the whole syllabus and having questions of conceptual nature, will be compulsory. Rest of the paper will be divided into two parts having three questions each and the candidate is required to attempt at least two questions from each part.

SECTION - A

Principles of Objective Oriented Programming (2 hours)

Tokens, Expressions and control structures, various data types, and data structures, Variable declaration, Operators and scope of operators. (4 hours)

Pointers, Functions, Classes and Objects: Prototyping, referencing the variables in functions, memory allocation for classes and objects, Array of objects, pointers to member functions. (8 hours)

Constructors and Destructors, Operator Overloading and type conversion. (4 hours)

Inheritance: Derived classes, types of inheritance, and various types of classes. (5 hours)

SECTION - B

Virtual functions and Polymorphism. (5 hours)

I/O operations on files: Classes for files, Operations on a file, file pointers. (8 hours)

Exception Handling and Generic programming with templates: Introduction to templates, overloading of template functions and Inheritance. Introduction to standard Template Library (9 hours)

TEXT BOOKS			
S.No.	**NAME**	**AUTHORS**	**PUBLISHER**

1.	Turbo C++	Robert and Lafore	Galgotia Publications
Reference Books			
1	C++ Primer Plus	Stephan & PRAT	Galgotia Publications
2	Object oriented programming with C++	Bala Guruswamy	Tata McGraw Hill
3	Object oriented Programming with ANSI and Turbo C++	Ashok N. Kamthane	Pearson Education

List of Experiments

Note: Practical should be covered based on the following directions:

1. Functions, Classes and Objects
2. Constructors and Destructors
3. Operator Overloading and Type Conversion
4. Inheritance and Virtual Functions
5. Files
6. Exception Handling and Generic Programming