

**CERTIFICATE PROGRAM**  
**IN**  
**LIBRARY AND INFORMATION SCIENCE**

### Credit Structure for C.L.I.Sc. Programme

<b>SI.No</b>	<b>Course code</b>	<b>Name of the Course</b>	<b>CIA Marks Max.</b>	<b>ESE Marks Max.</b>	<b>Total Marks Max.</b>	<b>Credits</b>
1	21511	Fundamentals of Library and Information Science	25	75	100	2
2	21512	Information Sources and Services	25	75	100	2
3	21513	Information Processing Practice – (Classification& Cataloguing)	25	75	100	4
<b>TOTAL</b>			<b>75</b>	<b>225</b>	<b>300</b>	<b>8</b>

CIA: Continuous Internal Assessment ESE: End semester Examination

## Detailed Syllabi

### 21511 - FUNDAMENTALS OF LIBRARY AND INFORMATION SCIENCE

#### Course objectives:

1. To enable students acquire knowledge regarding importance of Libraries in the context of social, economic, political, scientific and technological environment.
2. To enable the students to understand at different levels of information systems in the society and their functions.
3. To enable the students apply their knowledge in various library practice.

#### Course Outcome:

At the end of the program, students will be able to:

- Understand the historical development and role of libraries
- Appreciate the roles played by professional library associations
- Know the fundamentals of Library routine works.

**Unit 1:** Data, Information & Knowledge; Evolution of Information Science as a discipline, its scope and relation to Library Science Library: concept and definitions; Role of libraries in modern society - Library Movement in India

**Unit 2:** Types of Libraries: Academic libraries, Public libraries and Special Libraries. Evolution, growth and development of LIS schools in India. Current trends - Open Access to information; the inter-discipline nature of LIS.

**Unit 3:** Library concepts - Five laws of Library science and their implications - Library Legislation in India with special reference to Tamil Nadu Public Libraries Act of 1948 - Delivery of Books and Newspaper Act

**Unit 4:** Information Transfer Cycle; Ethics of librarianship. Information / Knowledge Society; information and knowledge as economic factors; economics of information; legal and ethical issues; the digital divide.

**Unit 5:** Various sections in a Library- Routine work in Acquisition, Technical, Circulation, Maintenance, Reference and Binding Sections - Library Rules & Regulations, Stock Verification, Annual Reports, Budget, Library building, furniture, and equipment.

**Unit 6:** Need and importance of library professional associations in India - Library Association and International Bodies: Library Association-ILA, IASLIC, ALA, IFLA and UNESCO - Library and information profession.

#### Recommended Books:

1. Library Administration: Theory & Practice by R.L. Mittal, ESS-ESS publication, New Delhi, 2007.
2. Learn Library Classification by Anil K. Dhiman, Yashoda Rani. ESS-ESS publication, New Delhi, 2005.
3. Theory of Classification, 4/e by Krishan Kumar; S.Chand Publication, New Delhi, 2000.
4. Library Administration by S.R. Ranganathan, ESS-ESS publication, New Delhi, 2006.
5. Reference Service, 5/ by Krishan Kumar, Vikas Publishing, New Delhi, 2010.
6. Library Manual, 4/e by Krishan Kumar, Vikas Publishing, New Delhi, 2008.
7. History of Libraries and in Librarianship in Modern India since 1850, by Jogesh Mishra, Alma Ramu& Sons: Delhi, 1979.
8. Fundamentals of Library organization, by J.K. Khanna: ESS-ESS publication, New Delhi, 1984.
9. Facets of Library and Information Science by A.A.N. Raju, ESS-ESS publication, New Delhi, 2012.
10. Ranganathan, SR. Library Administration, Bangalore, Sarada Ramanath Endowment for Library Science.

## 21512 - INFORMATION SOURCES AND SERVICES

### Objectives:

1. To enable the students acquire knowledge regarding various Information sources and services
2. To enable the students understand handling traditional and digital information services
3. To enable the students apply their knowledge in Information Sources and Services

### Course Outcome:

At the end of the program, students will be able to:

- understand the different types of information sources;
- understand the different types of information services;
- increase ability to critically examine information services

**Unit 1:** Data, Information, Knowledge: Definition, Need, Nature and Characteristics.

Information and its users - Information Transfer, Barrier to communication.

**Unit 2:** Sources of information – Documentary and Non Documentary sources, Types of Information sources- Primary, Secondary and Tertiary Sources.

**Unit 3:** Detailed study of reference books: Directories, Encyclopaedias, Year Books, Handbooks, Almanacs &, Atlases, Geographical Sources, News summaries.

**Unit 4:** Information services- nature and variety of information services in libraries. Reference services: definition, need and purpose of Reference Service, Kinds of Reference Service Ready reference and long range reference services of information science.

**Unit 5:** Current Awareness and Selective Dissemination of Information services. Reprography- User Education: Information for rural people information guidance centres.

**Unit 6:** Computerization and Networking - Web Resources and their evaluation criteria - ICT applications in Libraries and Information Centres.

### Recommended Books:

1. Reference Service, 5/e by Krishan Kumar, Vikas Publishing, New Delhi, 2009.
2. Reference Services and Sources of Information, J.S. Sharma & D.R. Grover, Ess Ess Publications, New Delhi, 1987.
3. Understanding Basics of Library and Information Science; Reference Services & Information Sources (Fifth Paper); by C. Lal & K. Kumar, Ess Ess Publications, New Delhi, 2005.
4. Reference Services and the Digital Sources of Information by Amjad Ali, Ess Ess Publication, New Delhi, 2004.
5. 10 Pillars of Library and Information Science (Pillar-4 Information Sources by Narendra Dodiya, Ess Ess Publications, New Delhi, 2015.

6. Advances in Library Computerisation by Dattatray N. Phadke, Ess Ess Publications, New Delhi, 2021.
7. Library Automation and Digitization by P. Balasubramanian & Sherin Yohannan, Ess Ess Publications, New Delhi, 2021.
8. Information Science, Information, Knowledge Communication and Libraries By C.A. Augustine, Ess Ess Publications, New Delhi, 2021.
9. Next Generation Libraries Emerging Technologies, Community Engagement & Future Librarianship by Bhojaraju Gunjal, Dibya Kishor Pradhan, Vinod Kumar Mishra , Pushpita Mishra & Kshirod Das, Ess Ess Publications, New Delhi, 2020.
10. Baruah, A, Library Database Management, Delhi, Kalpaz Publications

## 21513 - INFORMATION PROCESSING PRACTICE - (CLASSIFICATION AND CATALOGUING)

### Objectives:

1. Be familiarized with the CC 6<sup>th</sup> Rev. Edition
2. Be familiarized with the DDC 19<sup>th</sup> Edition
3. Understand the cataloguing and bibliographic description formats;
- 4.

### Course Outcome:

At the end of the program, students will be able to:

- Understand the classification systems;
- Understand the structure and layout of the classification systems.
- Understand the cataloguing and bibliographic description formats

### Classification

Colon Classification CC 6<sup>th</sup> Ed (**PMEST**)

Dewey Decimal classification (DDC Ed. 20) (**Seven Tables**)

### Cataloguing

**(Simple Title, Single Author, Multiple Authors, Pseudonym, Series, Collaborators, Corporate Authors**

Anglo American Cataloguing Rules (AACR - 2)

### Recommended Books:

1. Understanding Basics of Library and Information Science Library Cataloguing (Fourth Paper (Part-A: Theory) & (Part -B : Prctice) by C. Lal & K. Kumar ESS-ESS publication, New Delhi, 2005.
2. An Introduction to Cataloguing Practice by Krishan Kumar, Vikas Publishing, New Delhi, 2004.
3. Comaromi, John P. [et all. (1982). Manual for Use of Dewey Decimal Classification, 19<sup>th</sup> ed. Albany, New York: Forest Press.
4. Satija, M.P. and Comaromi, John P. (1987). Introduction to the Practice of Decimal. Classification: New Delhi: Sterling Publishers.

**CERTIFICATE COURSE  
IN  
GENDER STUDIES**



## Structure of the Program

Type (State Core/Elective/IDC/etc)	Course Code	Course	CIA (Max Marks)	ESE (Max Marks)	Total (Max Marks)	Number of Credits
<b>I Semester</b>						
Core	221 11	Introduction to Gender Studies	25	75	100	2
Core	221 12	Feminist Theories and Movements	25	75	100	2
Core	221 13	Women, Technology and Entrepreneurship	25	75	100	2
Core	221 14	Civil Society Organisation	25	75	100	2
		<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

**CIA:** Continuous Internal Assessment    **ESE:** End Semester Examination

## Detailed Syllabi

COURSE CODE: 221 11 - INTRODUCTION TO GENDER STUDIES

Credit: 2

### Course Objectives

- To gain knowledge on Gender Concepts
- To know the Women Development Policies and Programmes

### Course Outcome

- Understand the importance of Gender studies as an academic discipline and address gender equality in the society
- Gain knowledge on gender development models and its application by various public and private institutions

### Unit - I

**Gender Identity:** Gender Ideology - Sex Vs Gender - Biological Determinism – Dualism – Reductionism – Objectification - Socialization and Internalization

### Unit - II

**Gender Roles:** Division of Labour - Sex Role - Stereotypes - Gender Role - Work- Family and Gender – Motherhood - Production and Reproduction.

### Unit – III

**Gendering institutions:** Individual – Family – Class – Caste - Religion – Society – Patriarchal - Matrilineal – Women and Culture – Role Status – Socialization – Internalization

### Unit – IV

**Gender Equality/ Equity:** Equality Vs Equity, HDI, GDI and GEM - Gender Inequality in certain Vital measures of Development: Sex Ratio, Life Expectancy, Literacy level - Work Participation- Decision making and Political Participation

### Unit - V

**Strength of Women:** Hormones and Chromosomes- Physical Differences- record of the fastest Men and Women in the World – Athletes - Brain and intelligence – Emotions.

### Unit – VI

**Empowerment of Women:** Meaning and Concepts, Empowerment Levels – Framework - Empowerment Tools - Capability Approach.

### Reference and Textbooks

- Oakley, Ann. (1972). *Sex and Gender and Society*. London; Temple smith
- Robinson, Victoria., & Diane, Richardson. (Eds.). (1993). *Introducing Women's Studies: Feminist Theory and Practice*. London: Macmillan
- Krishnaraj, Maithreyi. (1995). *Remaking Society for Women: Visions Past and Present*. New Delhi: Indian Association for Women's Studies.
- Gokilavani. (2000). *Women's Studies: Principles, theories and Methodologies*. Department of Women's Studies: Alagappa University.
- Saraswati, Ayu. L., Shaw, Barbara & Rellihan, Heather. (2017). *Introduction to Women's, Gender, and Sexuality Studies: Interdisciplinary and Intersectional Approaches*. Oxford University Press.

## COURSE CODE: 221 12 - FEMINIST THEORIES AND MOVEMENTS

Credit: 2

### Course Objectives

- To impart knowledge about the feminist theories and movements
- To study about the role of women in Pre - Independence and Post Independence Movements.

### Course Outcome

- Can reinforce the importance of feminist thought
- Can promote knowledge on feminist movements

### Unit - I

**Feminism:** Definition – relation to Women's Studies – Origin – Goals – Elements – Feminist Intellectual Traditions

### Unit – II

**Kinds of Feminism:** Black – Cultural – Lesbian – Psycho-analytical; Eco-Develop mentalist – Visionary Feminism – Forms: Liberal Feminism: Rationality – Education – Civil Rights – Economic Opportunities – Equality Liberalism, Marxist Feminism – Socialist Feminism – Radical Feminism – Second Wave Feminism

### Unit – III

**Feminist Movement in Sexist Oppression:** Significance of Feminist Movement – Feminist Agenda – Education – End of Violence – Feminist Revolution – Women's War – Women's Liberation – Seneca Falls Convention.

### Unit – IV

**Women's Movement in India:** Freedom Struggle – SEWA – Sahada – United Women's Anti-price Rise Front – NavNirman – Saheti – Shakthi Kendra – Chipko, Telengana – Environmental Protection – IAWS – JACW

### Unit – V

**Social Reformers:** Ambedkar, Rajaram Mohan Roy, Eswara Chandra Vidyasagar, Dayanada Saraswathi, Mahatma Phule, Savtribai Phule, Annie Besant, Sarojini Naidu, Muthulakshmi Reddy, Durgabai Deshmukh, E.V.Ramasamy, Bharathiar

### Unit – VI

**Impact of Feminist Movements:** CEDAW – International Women's Conferences: Nairobi – Copenhagen, Mexico, Beijing – Post Beijing Conference – International Women Decade – International Women's Day.

### Reference and Textbooks

Mishra, Anupam&Tripathi, Satyendra. (1978). *Chipko Movement: Uttarakhand Women's Bid to Save Forest Wealth*. New Delhi: People's Action

- Desai, Neera. (1988). *A Decade of Women's Movement in India*. New Delhi: Himalaya.
- Kumar, Radha. (1993). *The History of Doing*. New Delhi:Kali for Women
- Bhaksh, R. (2015). *Handbook of Transnational Feminist Movements*. Oxford.
- Anagol. (2017). *The Emergence of feminism in India*, Routledge.

## COURSE CODE: 221 13 - WOMEN, TECHNOLOGY AND ENTREPRENEURSHIP

### Course Objectives

Credit: 2

- To promote knowledge on women and Entrepreneurship
- To study about the challenges faced by women in Technology

### Course Outcomes

- Gain knowledge on women and Entrepreneurship
- Understand the challenges faced by women in Technology

### Unit – I

**Entrepreneurship:** Meaning, Concept, definition, Need for Entrepreneurship, Employment generation through Entrepreneurship

### Unit - II

**Environment for Entrepreneurship Development:** Social, Economic and Psychological factors for Entrepreneurship Development

### Unit - III

**Women and Entrepreneurship:** Internal and External Barriers – Women Entrepreneurship in India – Problems and Prospects – Capacity Building Strategies – Women – Specific Entrepreneurship Development programme, Globalization and Women Entrepreneurship – Structural Adjustment and Women Micro Entrepreneurs- Case Studies

### Unit – IV

**Small Scale Industries:** SSI – Business Plan – Preparation of Project Proposal, Registration, License – Success and Challenges – Rehabilitation Measures, Policy measures for promoting and strengthening SSI - Funding Agencies and Government Schemes

### Unit – V

**Principles of Management Accountancy:** Book-Keeping –Single and Double Entry System – Types of Accounts-Journal, Ledger, Final Accounts and Balance Sheet. Cost Accounting: Nature, meaning and Scope of Cost Accounting, Break Even Analysis, Cost Sheet, Cost profit determination – GST - CGST - PAN -TAN – TIN

### Unit - VI

**Women and Technology:** Women's entry into Technology, commitment, perception and impact of Technology- Hurdles for Women in Technology and Women as catalyst

### Reference and Textbooks

- Boserup, Ester. (1970). *Women's Role in Economic Development*. New York: Martin's.
- Lalitha, Romi. D. (1996). *Women Entrepreneurs*. New Delhi: APH.
- Lakshmi, Sukaraiya. (1998). *Development of Women Entrepreneurship in India- problems and Prospects*. New Delhi: Discovery.
- Jain , S.P., & Narang, K.L. (2002). *Advanced Cost Accounting*. New Delhi: Kalyani.
- Jauhari, Vinnie, Griffy-Brown & Charla. (Eds.). (2009). *Women, Technology and Entrepreneurship: Global Case Studies*. EssEss.

## COURSE CODE: 221 14 - CIVIL SOCIETY ORGANISATION

Credits: 2

### Course Objectives

- To learn about the evolution, ideology and growth of Civil Society Organization
- To study about the Functions of various international CSO Funding agencies

### Course Outcome

- Can able to understand the principles and practices of Civil Society Organization
- Can gain knowledge about various international CSO Funding agencies

### Unit – I

**CSO:** Definition, Characteristics – Role of NGO's - Voluntary Social Services – Community Based Services.

### Unit – II

**Formation:** Trust – Charitable trust, Trust Deed, Registration, Society, Eligibility to form a Society, Documents required: Memorandum of Association – Rules and Regulations, Registration Procedures

### Unit - III

**Monitoring and Evaluation:** Need for monitoring and Evaluation of NGO Programmes- Roles of Donor Agencies – Steps in Monitoring and Evaluation – Problems in Monitoring and Evaluation - Need for Feminist Perspective

### Unit – IV

**Funding:** Internal Sources, Eligibility Conditions, Terms and Conditions of Grant –in-aid from Government, Grant in –aid- from Foreign Agencies – CIDA – SIDA – UNIFOM – UNICEF – WHO - World Bank.

### Unit – V

**Community Participation:** Linkage between Local Community and NGO, PRA, PLA, SHG, Case Studies of established Women's Rights CSO's – Local CSO's Working with Women's Issues.

### Unit – VI

**Gender Analysis in Various Contexts:** Mainstreaming Gender in Policy, Planning, Project Design and Programme Implementation

### Reference and Textbooks

- Bhose, Joel. S.G.R., (2003). *Hand Book of NGOs*, New Delhi: Nabhi.
- Ferrinton, John (et.al) (1993). *NGOs and the State in Asia*, London: Routledge.
- Lawani, B.T. (1999). *NGOs in Development*. Jaipur: Rawat.
- Padaki, Vijay (eds). (1995). *Development Intervention and programme Education*, New Delhi: Sage.
- Singh, Katar (1995). *Rural Development–Principles, Policies and Management*. New Delhi: Sage

**CERTIFICATE COURSE**  
**IN**  
**C PROGRAMMING**

### Course of Study and Scheme of Examinations

S.No	Course code	Name of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	Credits
1	22211	Principles of Programming	25	75	100	2
2	22212	Programming in C	25	75	100	2
3	22213	Data structure and Algorithms	25	75	100	2
4	22214	C and Data structure Lab	25	75	100	2
<b>TOTAL</b>			<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

CIA : Continuous Internal Assessment ESE : End semester Examination

## Detailed Syllabi

### 22211 PRINCIPLES OF PROGRAMMING

#### Course objectives

- To understand the fundamentals of computers, program logic and software life cycle.
- Able to understand various types of software's and its applications.

#### Course outcome

At the end of the course, student will be able to:

- Understand the nature of programming principles
- Know the fundamentals of computer and programming methods.
- have a strong understanding of the history of programming, and student will be ready to learn about programming concepts in more detail.

Unit I : Introduction to Computers, History of computers, Types of computers, Characteristics of computers, Basic Anatomy of a computer, Applications of computer. Memory Types– RAM -ROM.

Unit II: Programming: Programs – An Introduction - Programming Languages – First and second Generations: generations and levels. The instruction set, Machine Language – the first generation; assembly language – second generation. Third Generation: High level language - Procedural languages

Unit III : Translators – compilers – assemblers – interpreters – Programming methods: Data structure and algorithms; block structured programming, modular programming, object-oriented programming – Rapid Application Development.

Unit IV : System Development: How programs are developed – defining the problem, designing the solution – Flow chart – pseudocode – coding the program – testing the results – document final product.

Unit V : Corporate development: System Analysis and design - software development life cycle – analysis – design – development – implementation - maintenance.

Unit VI : Software- Kinds of Software - The five types of Applications software - Word processing – Spreadsheets - Database software, Presentation graphics software - Communications software- System Software – Operating system-functions.

#### Books for Reference

1. Dennis P.Curtin, Kim dolwy, KunL AWN, Xrhleen morin, Information Technology, the breaking wave, TMH 2000.
2. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies 2011
3. James O'Brien – Introduction to Information systems. 16<sup>th</sup> edition, 2005.

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## 22212 PROGRAMMING IN C

### Course Objectives:

- To provide an overview of working principles of C language.
- To understand and apply the functions, arrays, pointers.
- To implement the features of C language in real world applications

### Course Outcome:

At the end of the course, student will be able to:

- understand the C programming techniques
- solve the real-time problems using programming constructs

#### Unit I:

Introduction and Features: History of C, Importance of C, Basic Structure of C program, character set, Tokens, keywords and identifiers - Constants and variables and data types - declaration of variables, defining symbolic constants, declaring a variable as a constant - Operators and expressions: Evaluation of expressions, precedence of arithmetic operators.

#### Unit II:

Managing I/O operations: reading and writing a character, formatted input, output - Decision making and branching: IF statement, If..else statement, nesting if else statement, else if ladder, switch statement, goto statement, while statement, do statement, for statement.

#### Unit III:

Arrays: one-dimensional arrays, declaration, initialization, two dimensional arrays, multi-dimensional arrays, dynamic arrays. Strings : Declaration, Initialization of string variables, reading and writing strings, string handling functions.

#### Unit IV:

Functions basics: Elements of user defined functions, definitions, return values and their types, function calls, declaration, nesting of functions, recursion.

#### Unit V

Structures and Unions: Defining a structure, declaring a structure variable, accessing structure members, array of structures, array within structures, structures within structures, structures and functions

#### Unit VI:

Pointers: Basics, declaring, initialization of pointer variables, address of variable, accessing a variable through its pointer - Files: Introduction, Defining, opening and closing files, I/O operations on files

### Books for Reference

1. Yashavanth Kanetkar, Let Us C, BPB publications, 2016.
2. Programming with C, Schaum outline series, Gottfried, TataMcHill,2010.
3. Programming with ANSI and Turbo C, Ashok N Kamthane, Pearson Education, 2008.
4. C: The complete reference, H Schildt, TMH Edition, 2000.

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## 22213 DATA STRUCTURES AND ALGORITHMS

### Course Objectives:

- The learner should be well versed with the fundamentals of Algorithms, learn various data structures, able to use them appropriately as per need during development of programs.
- Also, the learner should know different sorting and searching techniques so that correct techniques can be used in different programs so that the complexity of the program does not increase due the sorting/ search technique employed.

### Course Outcome

After the completion of this course, the student will able to;

- Write programs using structures, strings, arrays, pointers and strings for solving complex computational problem using the data structures real time applications
- Able to analyze the efficiency of Data Structures

#### Unit I :

Introduction to Data Structure : Introduction – Define data structure - Types of Data Structure , Primitive data types - Algorithms –Time and space Complexity of algorithms.

#### Unit II:

Arrays: Array initialization, Definition of Array, Characteristic of Array, One- dimensional Array, Two-dimensional array and Multi-dimensional array.

#### Unit III:

Stack : Stack related terms, Operations on a stack - Representation of Stack: Implementation of a stack – application of Stack. Expression Evaluation Polish notation. Queues: Operations on queue Circular Queue, Representation of Queues, Application of Queues.

#### Unit IV:

List: Merging lists, Linked list, Single linked list, Double Linked List, Header - Linked list - Operation on Linked List : Insertion and Deletion of linked list -Traversal: Traversing a linked list , Representation of linked list.

#### Unit V:

Trees: Binary Trees, Types of Binary trees, Binary Tree Representation - Binary Tree operations / Applications : Traversing Binary Trees, Binary Search tree -Operations on Binary Tree: Insertion and Deletion operations, Hashing Techniques.

#### Unit VI:

Searching Techniques: Introduction, Searching, Types of searching, Linear Search, Binary search technique-Applications.

### Text Books:

1. Fundamentals of data structures, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition, Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.

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## 22214 C AND DATA STRUCTURE LAB

### Course Objectives

- To be able to solve data structure problems using C language
- To learn and implement C language programming techniques.
- To know about the implementation of data structures..

### Course Outcome

- Students can develop programming knowledge
- Students can solve any kind of problems using C language
- Data Structure based problems can be solved

### Lab Experiments based on C programming and Data Structures

Simple C Programs

Using if and switch constructs Programs

Looping statements Problems

Functions and Recursive programs

Arrays, Strings and Matrices Programs

File Handling Programs

Pointers and Arrays Programs

Programs using structure and union

Programs based on file handling

Exercises using Stacks, queues, expression evaluation programs

Infix to postfix conversion Program

Linked List programs: Single linked list, Double Linked List, Insertion and Deletion of linked list

### REFERENCE BOOKS:

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.
3. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
4. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

**CERTIFICATE COURSE**  
**IN**  
**COMPUTER FUNDAMENTALS**

### Course of Study and Scheme of Examinations

S.No	Course code	Name of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	Credits
1	22311	Computer fundamentals	25	75	100	2
2	22312	Digital Logic Fundamentals	25	75	100	2
3	22313	Application Programs	25	75	100	2
4	22314	Application Programs Lab	25	75	100	2
<b>TOTAL</b>			<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

CIA : Continuous Internal Assessment ESE : End semester Examination

## Detailed Syllabi

### 22311 COMPUTER FUNDAMENTALS

#### Course Objectives

This course will introduce you to the field of computer science and the fundamentals of computer programming. It is specifically designed for students with no prior programming experience, and touches upon a variety of fundamental topics. The goal of the computer science curriculum is to provide students with the knowledge and tools that will allow them to design and implement effective, economical, and creative solutions for the needs of individuals, society, and the high-tech economy.

#### Course Outcome

At the end of this course, the student will be able to;

- Compare and contrast various types of computers
- Explain the purpose of CPU and how it works
- Describe how information is stored in memory
- Know about various types of software's and its applications

#### UNIT I

Introduction to Computers, History of computers, Types of computers, Characteristics of computers, Basic Anatomy of a computer, Applications of computer.

#### UNIT II

Input and Output devices - Introduction – inputting text: keyboards, OCR, Bard codes and speech recognition - Inputting graphics- scanners – pointing devices

#### UNIT III

Output devices – types of screens- CRT- flat panel displays, Printers - Laser Printers, Ink-jet printers - other printers – color printers.

#### UNIT IV

Memory and Types: Memory types – Main Memory - RAM, ROM, Types of ROMs - PROM, EPROM, EEPROM, Cache memory, virtual memory, buffers.

#### Unit V

Secondary storage - Diskettes - Hard Disks - Optical Disks - Magnetic Tapes – External Hard Disks, USB Flash Drive.

#### UNIT VI

Software- Kinds of Software - The five types of Applications software - Word processing – Spreadsheets - Database software, Presentation graphics software - Communications software- System Software – Operating system - functions.

#### References:

1. Dennis P.Curtin, Kim dolwy, KunL AWN, Xrhleen morin, Information Technology, the breaking wave, TMH 2000.
2. Sanjay saxena, A First Course in Computers (Based on Windows Xp and Office Xp) Vikas Publishing House; Second edition (2010).

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## 22312 DIGITAL LOGIC FUNDAMENTALS

### Course Objectives:

To impart the knowledge in the field of digital logic fundamentals

To impart knowledge about the various components of a computer and its internals.

### Course Outcome:

After the completion of this course, the student will be able to :

- Basic principles of number system
- Concepts of digital, Boolean and instruction
- Design and realize the functionality of the computer hardware with basic gates and other components using combinational and sequential logic.

### Unit I:

Number Systems: Binary, Octal, Decimal and Hexadecimal number systems – Conversion from one base to another base – Use of complements – binary arithmetic – Numeric and Character codes.

### Unit II:

Boolean algebra and Combinational Circuits: Fundamental concepts of Boolean Algebra – DeMorgan's theorems.

### Unit III:

Simplification of expressions – Sum of products and products of sums – Karnaugh map simplification – Quine - McCluskey method – two level implementation of Combinational Circuits.

### Unit IV:

Combinational Circuits: Half Adder – Full Adder – Subtractors – Decoders – Encoders – Multiplexers – Demultiplexer.

### Unit V:

Sequential Circuits: Flip flops – Registers – Shift Registers – Binary Counters – BCD Counters – Memory Unit.

### Unit VI:

Data Representation : Data Types – Complements – Fixed Point Representations – Floating Point Representations – Other Binary Codes – Error detection codes.

### Reference Books:

1. Digital Computer Fundamentals, 6th Edition, Thomas C. Bartee, Tata McGraw Hill, 2008.
2. Digital Logic and Computer Design, M. Morris Mano, Pearson Education, 2008.
3. Digital fundamentals, Floyd & Jain, eighth edition, 2005, Pearson Education.
4. Digital Principles and applications, Donald P leach, Albert Paul Malvino, Goutam saha, Sixth edition, Tata McGraw Hill,2006.

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## 22313 APPLICATION PROGRAMS

### Objective of the Course:

- To help the students to understand how to format, edit, and print text documents and prepare for desktop publishing.
- Students will be able to create various documents newsletters, brochures, making document using photographs, charts, presentation, documents, drawings and other graphic images.
- To work with the worksheet and presentation software.

### Learning Outcomes:

After completion of the course, students would be able to;

- know the basics of computers and prepare documents, spreadsheets, make small presentations with audio, video and graphs and would be acquainted with internet.
- create, edit, save and print documents with list tables, header, footer, graphic, spellchecker, mail merge and grammar checker
- attain the knowledge about spreadsheet with formula, macros spell checker etc.
- go for higher studies such as diploma, bachelors or master's degree in related discipline.

### Unit I :

MS-Word -Working with Files – Working with Text – Formatting, Moving, copying and pasting text Styles – Lists – Bulleted and numbered lists, Nested lists, Formatting lists. Table Manipulations. Graphics – Adding clip Art, add an image from a file, editing graphics, Spelling and Grammar, AutoCorrect - Page formatting, Header and footers, page numbers, Mail Merge, Macros - Creating & Saving web pages, Hyperlinks.

### Unit II:

MS-Excel- Modifying a Worksheet – Moving through cells, Adding worksheets, rows and columns Resizing rows and columns, Selecting cells, Moving and copying cells, Freezing panes - Macros – recording and running. Formatting cells – Formatting toolbar, Dates and times, Auto formatting. Formula and Functions. Linking worksheets.

### Unit III:

MS-Excel : Sorting and Filling, Alternating text and numbers with Auto fill, Auto filling functions. Graphics – Adding clip art, add an image from a file, Charts – Using chart Wizard, Copy a chart to Microsoft Word.

### Unit IV

MS-Power Point -Create a Presentation from a template- Working with Slides – Insert a new slide, Applying a design template, Changing slide layouts -Slides: Reordering slides, Hide slides, Create a Custom slide show. Adding Content – Resizing a text box, Text box properties, Delete a text box. Video and Audio effects, Color Schemes & Backgrounds Adding clip art, Adding an image from a file, Save as a web page.

### UNIT V

MS-Access - Using Access database wizard, pages and projects. Creating Tables – Create a Table in design view. Datasheet Records – Adding, Editing, deleting records, Adding and deleting columns Resizing rows and columns, finding data in a table & replacing, Print a datasheet. Queries.

### UNIT VI



MS-Access Forms - Forms – Create a form using the wizard, Create a form in Design View. Form Controls. Sub forms- Create a form and sub form at once, Sub form wizard, Drag and drop method. Reports – Using the wizard, Create in Design View, Printing reports. Importing, Exporting, Linking.

**REFERENCE BOOKS:**

1. Sanjay Saxena, A First Course in Computers (Based on Windows 8 And MS Office 2013) Vikas Publishing 2015.
2. Jennifer fulton, Sherri Kinkoph, and Joe Kraynak, The Big Basics Book of Microsoft Office 1997, PHI, 1998.
3. Laura Acklen et al, Microsoft Office 97 Professional Essentials,EEE Que E&T, PHI (1998).

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## 22314 APPLICATION PROGRAMS LAB

### Objective of the Course:

- To help the students to understand how to format, edit, and print text documents and prepare for desktop publishing.
- Students will be able to create various documents newsletters, brochures, making document using photographs, charts, presentation, documents, drawings and other graphic images.
- To work with the worksheet and presentation software.

### Learning Outcomes:

Upon successful completion of this assignment, students will be able to:

- Integrate both graphs and tables created in Microsoft Excel into a laboratory report in Microsoft Word.
- Generate equations, sample calculations, and basic diagrams in Microsoft Word.
- Input experimental data into Microsoft Excel.
- Perform calculations in Microsoft Excel using both manually inputting formulas and built-in functions.
- Generate simple and effective tables and graphs to describe experimental data in Microsoft Excel.
- Properly format and organize a formal laboratory report in Microsoft Word.

### Exercises based on MS-Word

- ❖ Working with Text, spell check and grammar
- ❖ Table manipulation
- ❖ Flow chart drawing
- ❖ Mail merge
- ❖ Create organization chart
- ❖ Real-time document preparation (Covering letter, greeting cards, invitation, brochure etc)

### Exercises based on MS-Excel

- ❖ Performing arithmetic calculations using worksheet
- ❖ Using functions
- ❖ Using Graphs and charts
- ❖ Sorting and filtering

### Exercises based on MS-Power Point

- ❖ Designing slides for real time applications
- ❖ Using image, audio and video effects
- ❖ Using Animation and transition
- ❖ Using Wizard
- ❖ Using template

### Exercises based on MS Access

Table manipulation

- ❖ Creating, altering and drop tables
- ❖ Inserting values
- ❖ Selecting and calculating values from the table
- ❖ Real-time application development ( employee database , student database etc.)

**REFERENCE BOOKS:**

4. Sanjay Saxena, A First Course in Computers (Based on Windows 8 And MS Office 2013) Vikas Publishing 2015.
5. Jennifer fulton, Sherri Kinkoph, and Joe Kraynak, The Big Basics Book of Microsoft Office 1997, PHI, 1998.
6. Laura Acklen et al, Microsoft Office 97 Professional Essentials,EEE Que E&T, PHI (1998).

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**CERTIFICATE COURSE**  
**IN**  
**WEB DESIGNING**

### Course of Study and Scheme of Examinations

S.No	Course Code	Name of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	Credits
1	22411	Fundamentals of Information Technology	25	75	100	2
2	22412	Open source software	25	75	100	2
3	22413	Web Designing	25	75	100	2
4	22414	Web Designing Lab	25	75	100	2
<b>TOTAL</b>			<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

CIA : Continuous Internal Assessment ESE : End semester Examination

## Detailed Syllabi

### 22411 FUNDAMENTALS OF INFORMATION TECHNOLOGY

#### Course Objectives

- To understand the revolution in computers and communications
- To know about various application software
- To understand the information systems and software development
- 

#### Course Outcome

At the end of the course, students will be able to;

- To know the latest trends in information technology
- To understand the fundamentals of computers

#### Unit I :

Information Technology: Introduction – Information systems – Definition of computer and system – Software and Data - IT in business and Industry – IT in the Home and at Play – It in Education and Training – IT in Entertainment and the Arts – IT in Science, Engineering, and Mathematics – Global Positioning System.

#### Unit II:

Introduction to Computers, History of computers, Types of computers, Characteristics of computers, Basic Anatomy of a computer, Applications of computer – Memory – Memory types.

#### Unit III:

Software- Kinds of Software - The five types of Applications software - Word processing – Spreadsheets - Database software, Presentation graphics software - Communications software- System Software – Operating system - functions.

#### Unit IV :

Computer Networks: Introduction – Definition Computer Networks - Types of Networks – Local Area Network – Metropolitan Area Network - Wide Area Network – Personal Area Network - internet – Intranet – firewalls - Network Topology – Bus – Ring – Hybrid – Star.

#### Unit V:

Basic Internet Concepts: – Analog and Digital Signals - modems and communication Software, ISDN lines, and Cable Modems - Definition of Internet - The World Wide Web - Connecting to the Internet – Browsing the web – Web browser – Uniform Resource Locator (URL) – E-mail communication.

#### Unit VI :

Internet address - Domain Name System – Locating information on the net – Internet Search Engines – Chatting and conferencing on the Internet Online Chatting –Messaging – Usenet Newsgroup.

#### References:

1. Dennis P.Curtin, Kim dolwy, KunL AWN, Xrhleen morin, Information Technology, the breaking wave, TMH 2000.
2. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies 2011
3. James O'Brien – Introduction to Information systems. 16<sup>th</sup> edition, 2005.

## 22412 OPEN SOURCE SOFTWARE

### Course Objectives:

- To understand the need, advantages and applications of open source software in web designing.

### Course Outcome

At the end of the course, students will be able to;

- Attained to know and work with open source software like Linux, MySql, PHP etc in designing web pages.
- To be able to design a web page using PHP

#### Unit I :

Introduction to Open sources – Need of Open Sources – Advantages of Open Sources–Application of Open Sources.

#### Unit II:

Open source operating systems: LINUX: Introduction– General Overview–Kernel Mode and user mode–Process–Advanced Concepts–Scheduling – Personalities – Cloning – Signals – Development with Linux. .

#### Unit III:

MySQL: Introduction Setting up account Starting, terminating and writing your own SQL programs  
Record selection Technology– Working with strings – Date and Time

#### Unit IV:

MySQL: Sorting Query Results – Generating Summary – Working with metadata –Using sequences – MySQL and Web.

#### Unit V:

PHP: Introduction – Programming in web environment – variables – constants–data types – operators –Statements - Functions– Arrays – OOP –String Manipulation and regular expression –File handling and data storage.

#### Unit VI:

PHP and SQL database – PHP and LDAP – PHP Connectivity –Sending and receiving E-mails –Debugging and error handling – Security – Templates.

### Text Books:

1. Remy Card, Eric Dumas and Frank Mevel, “The Linux Kernel Book”, Wiley Publications, 2003
2. Steve Suchring, “MySQL Bible”, John Wiley, 2002

### Books for Reference:

1. Rasmus Lerdorf and Levin Tatroe, “Programming PHP”, O’Reilly, 2002
2. Steven Holzner, “PHP: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
3. Vikram Vaswani, “MYSQL: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.

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## 22413 WEB DESIGNING

### Course Objectives

- Students will gain the web design knowledge, skills and project-based creativity is needed for entry into web design and development careers.
- Students to learn to work as freelancers in web design or prepare to become employed at a website design firm.

### Course Outcome

At the end of the course, student will be able to:

- Be acquainted with elements, Tags and basic structure of HTML files.
- Develop the concept of basic and advanced text formatting.
- Practice the use of multimedia components in HTML documents.
- Designing of webpage-Document Layout, Working with List, Working with Tables.
- Practice Hyper linking, Designing of webpage-Working with Frames, Forms and Controls.
- Prepare creating style sheet, CSS properties, Background, Text, Font and styling etc.
- Working with List, HTML elements box, Positioning and Block properties in CSS.

#### Unit I :

Web Design using HTML – Introduction – Basic Tags - Comments – attributes – headings - Paragraphs - Text formatting – Hyperlinks – Table manipulation -Lists - frames -forms -images -videos. Introduction to Dynamic HTML.

#### Unit II:

Cascading Style Sheets - Introduction – Syntax – selectors – comments – color -font – background - image - link - table – border -margin - CSS types – Inline – Internal – External.

#### Unit III:

XML: Introduction – benefits of XML – XML syntax - XML declaration – processing -comments – XML schema – XML with CSS.

#### Unit IV:

Document Type Definition (DTD) – building blocks of XML documents – creating DTD – internal DTD – external DTD - Introduction to Document Object Model.

#### Unit V:

JavaScript - Introduction – features of java script - syntax – variables – constants - operators – dialog boxes - arrays – control statements – if-else – nested if - switch – for loop – while loop - functions – string handling – JavaScript objects – events – events handling.

#### Unit VI:

VBscript – Introduction – syntax -variables -constants – operators – arrays - control statements – if-else – nested if – looping : for loop – do-while loop- functions – string handling , date and time functions – events - events handling.

### Books for Reference:

1. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
2. Chris Bates, “Web Programming, building internet applications”, 2ndEdition, WILEY, Dreamtech, 2008.

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## 22414 WEB DESIGNING LAB

### Course Objectives

- Students will gain the web design knowledge, skills and project-based creativity is needed for entry into web design and development careers.
- Students to learn to work as freelancers in web design or prepare to become employed at a website design firm.

### Course Outcome

At the end of the course, student will be able to:

- Be acquainted with elements, Tags and basic structure of HTML files.
- Develop the concept of basic and advanced text formatting.
- Practice the use of multimedia components in HTML documents.
- Designing of webpage-Document Layout, Working with List, Working with Tables.
- Practice Hyper linking, Designing of webpage-Working with Frames, Forms and Controls.
- Prepare creating style sheet, CSS properties, Background, Text, Font and styling etc.
- Working with List, HTML elements box, Positioning and Block properties in CSS.

### Exercises based on the following;

- Acquaintance with elements, Tags and basic structure of HTML files.
  - Practicing basic and advanced text formatting.
  - Practicing use of multimedia components (Image, Video & Sound) in HTML.
  - Designing of webpage-Working with List, tables
  - Practicing Hyper linking of webpages.
  - Designing of webpage-Working with frames, forms and Controls.
  - Designing of webpage for real-time applications
- Acquaintance with creating style sheet, CSS properties and styling.
  - Working with Background, Text, list and Font properties.
  - Designing with cascading style sheet-Internal style sheet , external style sheet
  - Designing of webpage for real-time applications using CSS
- Simple exercises based on XML
- Introduce the concepts of JavaScript
  - Working with basic arithmetic operations, arrays and functions
  - Designing forms with validation
  - String manipulation exercises
  - Event handling exercises
- Simple Exercises based on VBscript
  - Working with basic arithmetic operations, arrays and functions
  - Designing forms with validation
  - String manipulation exercises
  - Event handling exercises

### Books for Reference:

1. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
2. Chris Bates, “Web Programming, building internet applications”, 2ndEdition, WILEY, Dreamtech, 2008.

**CERTIFICATE PROGRAMME**  
**IN**  
**GST**

**Course of Study and Scheme of Examinations**

<b>S.No</b>	<b>Course code</b>	<b>Name of the Course</b>	<b>CIA Marks Max.</b>	<b>ESE Marks Max.</b>	<b>Total Marks Max.</b>	<b>Credits</b>
1	22511	Evolution of GST	25	75	100	2
2	22512	GST and Accounting Package	25	75	100	2
3	22513	GST and Customs Duty	25	75	100	2
4	22514	Integrated GST	25	75	100	2
<b>TOTAL</b>			<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

CIA: Continuous Internal Assessment ESE: End semester Examination

## SYLLABI

### 22511- EVOLUTION OF GST

Course Objectives	
1	To acquire the theoretical knowledge of GST and its Evolution in India
2	To enable the students to understand the GST Law, ITC, Valuation of supply and returns.

### PAPER -1

UNIT	COURSE CONTENTS	Hours: 5
<b>Unit – I</b>	<b>Introduction, Overview and Evolution of GST:</b> Indirect tax structure in India- Introduction to Goods and Service Tax (GST) – Key Concepts, Phases of GST, GST Council Taxes under GST, Cess	
UNIT -II	<b>Registration under GST:</b> Threshold for Registration-Regular Tax Payer- Composition Tax Payer-Casual Taxable Person-Non-Resident Taxable Person-Unique Identification Number-Registration Number Format	
UNIT -III	<b>Supply under GST and Valuation of Supply:</b> Supply Place of Supply, Interstate Supply, Export of Service, Export of Goods, Import of Service, Import of Goods Valuation of Supply (Numerical on valuation and calculation of tax)	
UNIT -IV	<b>Input Tax Credit under GST &amp;Returns:</b> Input tax credit process-Negative List for Input tax credit-Input Tax Credit Utilization and Input Tax Credit Reversal-Types of GST returns and their due dates, late filing, late fee and interest	
UNIT - V	<b>Custom Duty:</b> Definitions of certain terms relating to the custom act, custom tariff act, Levy and types of custom duties -.	
UNIT - VI	<b>Indirect Taxation-</b> Indirect taxation applicable to few commodities levied by either Central or State Government	
	<b>References and Textbooks: -</b> Datey, V.S. (2019) . <i>Indirect Taxation</i> . New Delhi. Nadhani, A.K. (2019), <i>Implementing Tally</i> . BPB Publications.	

	<i>Indirect Taxes</i> , New Delhi: Institute of Chartered Accountants of India Publications. <i>Indirect Taxes</i> , Kolkata: Institute of Cost Accountants of India. Mehrotra, H.C. & Goyal, S.P.(2019), <i>Indirect Taxes</i> , Agra: Bhawan Publications.
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>➤ After the completion of the Course, students will be able to acquire deep knowledge on indirect taxes, GST and Customs Law.</li> <li>➤ Understand the basic principles underlying the Indirect Taxation Statutes</li> </ul>

## 22512- GST and Accounting Package

<b>Course Objectives:</b>	
1	To understand the concept of CGST, IGST and IGST.
2	To enable the students to understand the Accounting Software Interface with Accounting Package.

### PAPER -2

UNITS	COURSE CONTENTS	Hours: 5
UNIT – I	<b>Introductions of Goods and Services Tax, 2017 (GST) And Registration</b> Meaning of GST – Scope – Features – GST Council - Classification of GST – CGST – IGST – SGST – Definitions – Person – Business – Goods – Services – Registration Procedures - Taxable Person – HSN/SAC classification - Meaning of Supply – Place of Supply – Time and Value of Supply – Charge and Levy.	
UNIT –II	<b>Input Tax Credit (ITC)</b> Meaning – Eligible and Ineligible Input Tax Credit – Tax Credit in respect of Capital Goods – Transfer — Reverse charge Mechanisms – Rates of Taxes – Zero Rated - Exemptions – Job work – Works Contract – Composition Scheme	
UNIT –III	<b>Compounded Levy Scheme for CGST and IGST</b> Preparation of Tax invoice – Credit and Debit Notes - Filing of Returns –E-Payment of Tax – E-Way Bill - Computation of GST liability	
UNIT -IV	<b>A ccounting Software Interface and Company Management:</b> Introduction to Tally ERP9 - Creating a Company – Altering and Deleting Company – Data Security: - Multi Language, Export, Import, Backup and Restore:- Ledgers- Creation- Single and multiple group – Altering – Deleting. Default Vouchers: Kinds of Vouchers - Cheque Printing- Inventory- Introduction- Stock Group - Godown and Locations - Stock Category - Units of Measure - Stock Items	
UNIT - V	<b>Accounting package with Goods and Services Tax (GST) - I</b> Activating Tally in GST – Introduction - GST Taxes & Invoices - Creating GST Masters in Tally, Purchase Voucher with GST: Updating GST Number for Suppliers -Intra-State Purchase Entry in GST (SGST+CGST+IGST) - GST Purchase Entry for Unregistered Dealer in Tally.	
UNIT - VI	<b>Accounting package with Goods and Services Tax (GST) -II</b> Reverse Charge Mechanism Entry for GST in Tally, Sales Voucher with GST: Updating GST Number for Suppliers - Intra-State Sales Entry in GST (SGST + CGST) - Inter-State Sales Entry in GST (IGST) - Printing GST Sales Invoice from Tally ERP9 Software, GST Reports and Returns	
	<b>References and Text books:-</b> Datey, V.S. (2019) . <i>Indirect Taxation</i> . New Delhi. Nadhani, A.K. (2019), <i>Implementing Tally</i> . BPB Publications. Rizwan Ahmed, P. (2019), <i>Tally ERP 9</i> , Margham Publications. Nandhani, K.K.(2019), <i>Computerized Accounting under Tally, Implementing Tally</i> , BPB Publication. Deva Publications. Namrata Agrawal(2008), <i>Tally9</i> , Dreamtech Publications.	
	□	
<b>Outcomes:</b>	<ul style="list-style-type: none"> <li>➤ The students will get employment in firms with the knowledge of latest Accounting Package.</li> <li>➤ The students will be able to understand the interface between Tally ERP 9 and A ccounting Software packages.</li> </ul>	

## 22513 - GST & Customs Duty

### Course Objectives:

1	To help the students develop a theoretical and practical exposure of GST and Customs Duty
2	To acquire knowledge regarding the CGST/SGST in India

### PAPER -3

UNIT	COURSE CONTENTS	Hours: 5
<b>Unit – I</b>	<b>CGST/SGST: Important Terms and Definitions</b> under Central Goods and Service Tax Act, 2017 and State Goods and Service Basic elements of GST. Meaning and Scope of Supply Levy and Collection Tax	
UNIT –II	<b>CGST/SGST: Time and Value of Supply of Goods and Services</b> Input Tax Credit Transitional Provisions Computations of GST Liability, Registration Under CGST/SGSCT Act and Necessary Documentation, Filing of Returns, Assessment, Payment of Tax, Payment of Tax on Reverse Charge Basis, Refund Under the Act.	
UNIT –III	<b>CGST/SGST: Maintenance of Accounts and Records</b> , Composition Scheme, Job work and its procedure, Various exemptions under GST, Demand, and recovery under GST Miscellaneous provisions under GST	
UNIT –IV	<b>IGST: Scope of IGST</b> . Important Terms and Definitions under integrated Goods and Services Tax Act, 2017, Levy and Collection of IGST, Principles for Determining the place of supply of goods and services, Zero Related supply.	
UNIT – V	<b>Introduction and brief background of customs duty</b> , Important definition: Goods dutiable goods, person In-Charge, Indian customs water, types of customs duty.	
UNIT -VI	<b>Valuation for custom duty</b> - Items to be included and excluded in customs value, computation of Assessable value and custom duty (Practical)	

#### References and Text books:-

Datey, V.S. (2019) . *Indirect Taxation*. New Delhi.

Nadhani, A.K. (2019), *Implementing Tally*. BPB Publications.

*Indirect Taxes*, New Delhi: Institute of Chartered Accountants of India Publications.

*Indirect Taxes*, Kolkata: Institute of Cost Accountants of India.

Mehrotra, H.C. & Goyal, S.P.(2019), *Indirect Taxes*, Agra: Bhawan Publications

#### Outcomes:-

- After the completion of the Course, Students will be able to acquire knowledge on indirect taxes, GST and Customs Duty.
- Understand the impact of latest regulations and prepare for adopting the changes.

## 22514 - Integrated GST

Course Objectives:	
1	To enable the students to acquire knowledge about GST and its appeals.
2	To enable the students to apply their knowledge about Procedure for GSTIN and their registration methods.

### PAPER -4

UNIT	COURSE CONTENTS	Hours: 5
Unit – I	<p><b>Levy, Tax Collection and Reverse Charge Mechanism</b></p> <p>Levy and Collection of Tax –Rates of GST- Scope of Supply – Composite and Mixed Supplies –E-commerce under GST regime- Liability to pay tax, Reverse Charge</p> <p>Mechanism- Composition Scheme of Levy-Value of taxable supply- Interstate supply- Intra state supply</p>	
UNIT –II	<p><b>Concept of time and place of supply &amp; Import and Export</b></p> <p>Time of supply- Place of supply- Significance- Time and place of supply in case of intra state supply, interstate supply and import and export of goods and services</p>	
UNIT –III	<p><b>Registration, Returns and Accounts and Assessment</b></p> <p>Registration - Persons Liable for Registration – Compulsory Registration – Deemed Registration- Procedure For Registration – GSTIN – Amendment of Registration – Cancellation of Registration – Revocation of cancellation - Furnishing Details of Supplies – Returns – Accounts and Records- Forms for above – Assessment- An overview of various types of assessment</p>	
UNIT –IV	<p><b>Payment under GST</b></p> <p>Type of payment, Due date, modes of payment with Rules and collection of tax and also address: - Collection of incorrect amount / rate of GST – Omission to collect GST in invoice – Right to retain tax collected in excess and duty to deposit all taxes collected – Invoice to refer tax charged or omission to disclose any tax on invoice – Ensuring reversal of credit by recipient in case of credit note – Duty to deposit</p>	
UNIT – V	<p><b>Refund under GST</b> Type of refund, Forms, Period, Terms &amp; Conditions, Provisional refund % with Rules including: - Refund under earlier law – Refund in case of delayed collection of statutory forms – Refund arising from re-assessment / appeal under earlier law – Error in payment of CGST-SGST or IGST</p>	
UNIT – VI	<p><b>Appeals</b></p> <p>First Appeal – Second Appeal- Departmental appeal – High Court-Revision jurisdiction</p>	

**References and Textbooks:-**

Datey, V.S. (2019) . *Indirect Taxation*. New Delhi.

Nadhani, A.K. (2019), *Implementing Tally*. BPB Publications.

*Indirect Taxes*, New Delhi: Institute of Chartered Accountants of India Publications.

*Indirect Taxes*, Kolkata: Institute of Cost Accountants of India.

Mehrotra, H.C. & Goyal, S.P.(2019), *Indirect Taxes*, Agra: Bhawan Publications.

**Outcomes:**

- The students will be able to get employment as GST Accountants in financial institutions and business entities.
- Understand the procedure for registration, payment and refund of GST.



**CERTIFICATE COURSE**  
**IN**  
**ASTROLOGY**

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my; gUtk;	jhs; vz;	jhs; FwpaPl; L vz;	ghlq;fs;	mf kjpg; ngz;fs;	Njh;T kjpg; ngz;fs;	nkhj;jk pg;ngz; fs;	kjpg;gP Lfs;
1	1	22611	Nrhjplmbg;gilfs;	25	75	100	2
	2	22612	Nrhjplf; \$Wfs;	25	75	100	2
	3	22613	Nrhjplgydfs;	25	75	100	2
	4	22614	nra;Kiw: Nrhjplmbg;gilfs;> Nrhjplf; \$Wfs;> Nrhjplgydfs;	25	75	100	2
			<b>nkhj;jk;</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

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2. fpufq;fSk;> el;rj;jpuq;fSk;

**myF-II :yf;dk;> ,uhrp> ethk;trk;**

3. yf;dk;> ,uhrp>ethk;trk;

**myF-III:MI;rp> cr;rk;> ePr;rk;**

4. fpufq;fspd; MI;rp> cr;rk;> ePr;rk;

**myF-IV : th;Nfhj;jkk;> ghpth;j;jid**

5. th;Nfhj;jkk;> ghpth;j;jid
6. fhufj;JtKk; Mjjpgj;jpaKk;
7. gu];gughh;it

**myF-V :vz; fzpjk;> etuj;jpdq;fs;**

8. gpwe;jvz; kw;Wk; etuj;jpdq;fs;

**myF- VI : Nahfq;fs;> Njh~q;fs;**

9. Nahfq;fs;
10. Njh~q;fs;
11. tpjptpyf;Ffs;

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czh;it Vw;gLj;Jk; jpwidts;h;j;jy;

**myF-I : jpUkzg; nghUj;jk;**

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**myF-II : [hjfk; fzpf;Fk; Kiw**

2. [hjff; fzpjKk; gQ;rhq;fg; gbg;Gk;

**myF-III : ,uhrpAk; mjd; tptuq;fSk;**

3. ,uhrpAk; nghJj; jd;ikfSk;

**myF-IV: Nrhjplk; ghh;j;jy;**

4. Nrhjplh; filgpb;f;fNtz;bait
5. ghpfhquq;fs;
6. mwpe;jJk; mwpahjJk;

**myF-V : Nfhs;fSk; ,aw;ifAk;**

7. Nfhs;fSk; fITSk;
8. ,aw;ifjUk; ghIk;

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gyd;fs;**

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gyd;fs;
2. jdpf;fpufk;> \$l;Lfufq;fs; gyd;fs;
3. gpwe;jkhjk;>tUlk;>fpoikgyd;fs;

**myF-II : ,U jpUehfq;fs;> Nrhjplg; gonkhopfs;**

4. ,U jpUehfq;fs;
5. gonkhopfSk; tpjtpyf;FfSk;
6. [hjPag; gonkhopfs;

**myF-III : ghtk;> cr;rk;> ePr;rk;> th;Nfhj;jkk;> mjpgjp gyd;fs;**

7. gd;dpU ghtk;> cr;rk;> ePr;rk;> th;Nfhj;jkk; gyd;fs;
8. mjpgjpf; mit ,Uf;Fk; tPLfs; gyd;fs;
9. ,uhrp. mk;rk;>yf;fpdk; gyd;fs;

**myF-IV : Nfhs;rhuk; gyd;fs;**

10. NrhjpltpaYk; r%ftpaYk;
11. Nfhs;rhuk; gyd;fs;

**myF-V : jrh Gj;jp gyd;fs;**

12. jrh Gj;jp gyd;fs;

13. NrhjplKk; ,iwj;jd;ikAk;

**myF-VI : gd;dpUghtq;fs; gyd;fs;**

14. gd;dpUghtq;fs; gyd;fs; - 1> 2> 3> 4 tPLfs;

15. gd;dpUghtq;fs; gyd;fs; - 5> 6> 7> 8 tPLfs;

16. gd;dpUghtq;fs; gyd;fs; - 9> 10> 11> 12 tPLfs;

**jhs; - 4 :nra;Kiw gapw;rp: Nrhjpl mbg;gilfs;**

**Nrhjplf; \$Wfs;> Nrhjpl gyd;fs;**

ghpe;Jiuf;fg;gl;l nra;Kiw gapw;rpfs;

1) mwptpaypd; ghh;itapy; Nrhjplk; ePq;fs; mwpe;jtw;iw \$wTk;.

2) el;rj;jpuq;fspd; ngah;fSk; mtw;wpd; mikg;igAk; tpsf;Ff.

3) vz; fzpjj;jpd; %yk; xUtUila ,uhrp vz;iz vt;thW fzyhk;?

4) [hj;j;ppy; cs;s tpjp tpyf;Ffs; gw;wp tpthp.

5) jpUkzg; nghUj;jj;ppy; u[;[{ nghUj;jk; Vd; Kf;fpaj;Jtk; mspf;fg;gLfpwJ.

6) gQ;rhq;fj;jpd; le;J mq;fq;fis gw;wp tphpthf \$W.

7) Nk~ ,uhrpfhuh;fspd; jd;ikfis tpthp.

8) ,aw;ifapd; %yk; Nfhs;fis gw;wp ehk; mwpe;J nfhs;Sk; ghlk; vit.

9) th;Nfhj;jkk;> ghpth;j;jid gyd;fis tphpthf \$W.

10) ,U jpUehfq;fs; Fwpj;J ePq;fs; mwpe;jtw;iw \$Wf.

11) FU fpufj;jpd; Nfhrhu nghJtpjpf; ahit.

12) Vohk; ghtfj;jpy; Nfhs;fs; ,Uf;Fk; gyd;fis tpthpf;fTk;.

13) Ml;rp> cr;r kw;Wk; ePr tPLfis gw;wp vOJf.

14) Njh~q;fSk; kw;Wk; mtw;wpd; tpjptpyf;Ffs; gw;wp Fwpg;gpLf.

15) Nfhs;rhuk; kw;Wk; gyd;fis tpsf;Ff.

16) ,uhrpfSf;Fhpa etuj;jpdq;fs; gw;wp tpthpf;fTk;.

17) jpUf;fzpj; kw;Wk; thf;fpa Kiw gQ;rhq;fk; gw;wp ePq;fs; mwpe;jij  
tpthp.

18) gpwe;j khjk;> tUlk;> fpoik %yk; gyd; fhZjy;.

**CERTIFICATE COURSE  
IN  
OFFICE AUTOMATION**



### Course of Study and Scheme of Examinations

S.No	Course Code	Name of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	Credits
1	22711	Computer Fundamentals	25	75	100	2
2	22712	Principles of Information Technology	25	75	100	2
3	22713	Office Automation	25	75	100	2
4	22714	Office Automation – LAB	25	75	100	2
<b>TOTAL</b>			<b>100</b>	<b>300</b>	<b>400</b>	<b>8</b>

CIA: Continuous Internal Assessment ESE: End semester Examination

## Detailed Syllabi

### 11 COMPUTER FUNDAMENTALS

#### Course Objectives

This course will introduce you to the field of computer science and the fundamentals of computer programming. It is specifically designed for students with no prior programming experience, and touches upon a variety of fundamental topics. The goal of the computer science curriculum is to provide students with the knowledge and tools that will allow them to design and implement effective, economical, and creative solutions for the needs of individuals, society, and the high-tech economy.

#### Course Outcome

At the end of this course, the student will be able to;

- Compare and contrast various types of computers
- Explain the purpose of CPU and how it works
- Describe how information is stored in memory
- Know about various types of software's and its applications

#### UNIT I

Introduction to Computers, History of computers, Types of computers, Characteristics of computers, Basic Anatomy of a computer, Applications of computer - Input and Output devices - Introduction – inputting text: keyboards, OCR, Bar codes and speech recognition - Inputting graphics- scanners – pointing devices - Output devices – types of screens- CRT- flat panel displays, Printers - Laser Printers, Ink-jet printers - other printers – color printers.

#### UNIT II

Memory and Types: Memory types – Main Memory - RAM, ROM, Types of ROMs- PROM, EPROM, EEPROM, Cache memory, virtual memory, buffers - Secondary storage - Diskettes - Hard Disks - Optical Disks - Magnetic Tapes – External Hard Disks, USB Flash Drive.

#### UNIT III

Number Systems: Binary, Octal, Decimal and Hexadecimal number Systems – Conversion from one base to another base – use of complements – binary arithmetic – Numeric and Character codes - Boolean Algebra and Combinational Circuits: Fundamental concepts of Boolean Algebra – DeMorgan's theorems.

#### UNIT IV

Program Language Translators: Assembler – Compiler – Interpreter – Utility Programs – Machine Language – Assembly Language – High Level Language – Flowchart - Algorithms

#### UNIT V

Operating Systems: Introduction – Types – Structure – Functions - Operating System Services – System Calls – System Programs – Operating System Design and Implementation - Windows Operating Systems: Desktop GUI: Introduction – Definition – Icons, Cursor/pointers - Dialog Boxes - Task Bar – Windows Desktop Functions – Logoff/Shutdown - Linux Operating System: Introduction – Commands – Utilities - Administration

## UNIT VI

Introduction, Significance of Database, Database System Applications; Data Independence; Data Modelling for a Database; Entities and their Attributes, Entities, Attributes, Relationships and Relationships Types, Advantages and Disadvantages of Database Management System, DBMS Vs RDBMS - Form of Basic SQL Query - Examples of Basic SQL Queries, Introduction to Nested Queries, Correlated Nested Queries, Set - Comparison Operators, Aggregate Operators, NULL values - Comparison using Null values - Logical connectives - AND, OR and NOT - Impact on SQL Constructs, Outer Joins, Disallowing NULL values.

### **References:**

3. Dennis P.Curtin, Kim dolwy, KunL Awn, Xrhleen morin, Information Technology, the breaking wave, TMH 2000.
4. Sanjay saxena, A First Course in Computers (Based on Windows Xp and Office Xp) Vikas Publishing House; Second edition (2010).

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## 12 FUNDAMENTALS OF INFORMATION TECHNOLOGY

### Course Objectives

- To understand the revolution in computers and communications
- To know about various application software
- To understand the information systems and software development
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### Course Outcome

At the end of the course, students will be able to;

- To know the latest trends in information technology
- To understand the fundamentals of computers

### Unit I:

Information Technology: Introduction – Information systems – Definition of computer and system – Software and Data - IT in business and Industry – IT in the Home and at Play – It in Education and Training – IT in Entertainment and the Arts – IT in Science, Engineering, and Mathematics– Global Positioning System.

### Unit II:

Computer Networks: Introduction – Definition Computer Networks - Types of Networks – Local Area Network – Metropolitan Area Network- Wide Area Network – Personal Area Network - internet – Intranet –firewalls - Network Topology – Bus – Ring – Hybrid – Star.

### Unit III:

Basic Internet Concepts: – Analog and Digital Signals - modems and communication Software, ISDN lines, and Cable Modems - Definition of Internet - The World Wide Web - Connecting to the Internet – Browsing the web – Web browser – Uniform Resource Locator (URL) – E-mail communication - Internet address - Domain Name System – Locating information on the net – Internet Search Engines – Chatting and conferencing on the Internet Online Chatting –Messaging – Usenet Newsgroup.

### Unit IV:

Communications: The practical uses of communications and connectivity - Telephone related communications services - Video/voice communication: Video conferencing and picture phones - online information services - The Internet - Shared resources: Workgroup computing, Electronic Data Interchange, and Intranets - Telecomputing and virtual offices -Electronic gadgets Other than the computers: Mobile Office devices – Tablet, Smart Phone – concept of mobilephone and Tablet and their uses – Working with Tablets and Smart Phones such asUC browser, WhatsApp, Maps, Skype.

### Unit V:

Information Technology Act: Act 2000 – Background - Salient Features - Digital Signature - Electronic Governance - Regulation of Certifying Authorities - Cyber Laws - Penalties for Offences - Cyber Laws in India: Need for cyber-laws, nature and scope of cyber laws, approaches to cyber laws, cyber – crimes, piracy, Convergence bill, Information Technology Legislation

### Unit VI:

E-governance: E-government, Need of E-Governance, E-assistance, E-Democracy, E-Administration, On-line Citizen Services - E-governance implementations: Software and Hardware required for E-

governance Implementation, E-governance in a Small Office, Web Portal for E-governance, E-governance for Public utilities, E-governance in a Medium Enterprise, E-governance & Finance.

**References:**

4. Dennis P.Curtin, Kim dolwy, KunL AWN, Xrhleen morin, Information Technology, the breaking wave, TMH 2000.
5. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies 2011
6. James O'Brien – Introduction to Information systems. 16<sup>th</sup> edition, 2005.

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## 13 OFFICE AUTOMATION

### Objective of the Course:

- To help the students to understand how to format, edit, and print text documents and prepare for desktop publishing.
- Students will be able to create various documents newsletters, brochures, making document using photographs, charts, presentation, documents, drawings and other graphic images.
- To work with the worksheet and presentation software.

### Learning Outcomes:

After completion of the course, students would be able to;

- Know the basics of computers and prepare documents, spreadsheets, make small presentations with audio, video and graphs and would be acquainted with internet.
- create, edit, save and print documents with list tables, header, footer, graphic, spellchecker, mail merge and grammar checker
- Attain the knowledge about spreadsheet with formula, macros spell checker etc.
- go for higher studies such as diploma, bachelors or master's degree in related discipline.

### Unit I:

**MS-Word** -Working with Files – Working with Text – Formatting, Moving, copying and pasting text Styles – Lists – Bulleted and numbered lists, Nested lists, Formatting lists. Table Manipulations. Graphics – Adding clip Art, add an image from a file, editing graphics, Spelling and Grammar, AutoCorrect - Page formatting - Header and footers, page numbers, Protect the Document, Mail Merge, Macros - Creating & Saving web pages, Hyperlinks.

### Unit II

**MS-Excel**- Modifying a Worksheet – Moving through cells, adding worksheets, rows and columns Resizing rows and columns, selecting cells, Moving and copying cells, freezing panes - Macros – recording and running. Formatting cells – Formatting toolbar, Dates and times, Auto formatting. Formula and Functions. Linking worksheets - Sorting and Filling, Alternating text and numbers with Auto fill, Auto filling functions. Graphics – Adding clip art, add an image from a file, Charts – Using chart Wizard, Copy a chart to Microsoft Word.

### Unit III:

**MS-Power Point** -Create a Presentation from a template- Working with Slides – Insert a new slide, applying a design template, changing slide layouts -Slides: Reordering slides, hide slides, Create a Custom slide show. Adding Content – Resizing a text box, Text box properties, delete a text box - Video and Audio effects, Color Schemes & Backgrounds Adding clip art, adding an image from a file, Save as a web page.

### Unit IV:

**MS-Access** - Using Access database wizard, pages and projects. Creating Tables – Create a Table in design view. Datasheet Records – Adding, Editing, deleting records, Adding and deleting columns Resizing rows and columns, finding data in a table & replacing, Print a datasheet. Queries - **MS-Access** Forms – Create a form using the wizard, Create a form in Design View. Form Controls. Sub forms-Create

a form and sub form at once, Sub form wizard, Drag and drop method. Reports – Using the wizard, Create in Design View, Printing reports. Importing, Exporting, Linking

Unit V:

**Open Office Writer:** Introduction to Writer application – Working with documents – Formatting documents – Creating and formatting tables – Mail merge - **Open Office Calc:** Introduction to Spreadsheet – Creating worksheet & workbook – Managing workbook - Insert functions and formulas – Creating and printing Charts – Pivot table.

Unit VI:

**Open Office Impress:** Introduction, Creating, Saving Presentation – Master Templates – Slide transition – Linking with MS Power point slides.

**Open Office-Base** – Introduction- Database Concepts – Creating a New Database, Creating Tables, Working with Forms, creating queries - OpenOffice-Base - Creating Reports, Types of Reports, Printing and Printing preview – Working with other databases i.e. MS Access etc.

**REFERENCE BOOKS:**

7. Sanjay Saxena, A First Course in Computers (Based on Windows 8 And MS Office 2013) Vikas Publishing 2015.
8. Jennifer fulton, Sherri Kinkoph, and Joe Kraynak, The Big Basics Book of Microsoft Office 1997, PHI, 1998.
9. Laura Acklen et al, Microsoft Office 97 Professional Essentials,EEE Que E&T, PHI (1998).
10. Andy Channelle, Beginning OpenOffice 3, APress 2009
11. R. Gabriel Gurley, A Conceptual Guide to OpenOffice.Org 2 for Windows and Linux

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## **14OFFICE AUTOMATION - LAB**

### **Objective of the Course:**

- To help the students to understand how to format, edit, and print text documents and prepare for desktop publishing.
- Students will be able to create various documents newsletters, brochures, making document using photographs, charts, presentation, documents, drawings and other graphic images.
- To work with the worksheet and presentation software.

### **Learning Outcomes:**

Upon successful completion of this assignment, students will be able to:

- Integrate both graphs and tables created in Microsoft Excel into a laboratory report in Microsoft Word.
- Generate equations, sample calculations, and basic diagrams in Microsoft Word.
- Input experimental data into Microsoft Excel.
- Perform calculations in Microsoft Excel using both manually inputting formulas and built-in Functions.
- Generate simple and effective tables and graphs to describe experimental data in Microsoft Excel.
- Properly format and organize a formal laboratory report in Microsoft Word.

### **Exercises based on MS-Word and Open Office Writer**

- ❖ Working with Text, spell check and grammar
- ❖ Table manipulation
- ❖ Flow chart drawing
- ❖ Mail merge
- ❖ Create organization chart
- ❖ Real-time document preparation (Covering letter, greeting cards, invitation, brochure,etc)

### **Exercises based on MS-Excel and Open Office Calc**

- ❖ Performing arithmetic calculations using worksheet
- ❖ Using functions
- ❖ Using Graphs and charts
- ❖ Sorting and filtering

### **Exercises based on MS-Power Point and Open Office Impress**

- ❖ Designing slides for real time applications
- ❖ Using image, audio and video effects
- ❖ Using Animation and transition
- ❖ Using Wizard
- ❖ Using template

### **Exercises based on MS Access and Open Office Base**

Table manipulation



- ❖ Creating, altering and drop tables
- ❖ Inserting values
- ❖ Selecting and calculating values from the table
- ❖ Real-time application development (employee database, student database etc.,)

**REFERENCE BOOKS:**

1. Sanjay Saxena, A First Course in Computers (Based on Windows 8 And MS Office 2013) Vikas Publishing 2015.
2. Jennifer fulton, Sherri Kinkoph, and Joe Kraynak, The Big Basics Book of Microsoft Office 1997, PHI, 1998.
3. Laura Acklen et al, Microsoft Office 97 Professional Essentials,EEE Que E&T, PHI (1998).
4. Andy Channelle, Beginning OpenOffice 3, APress 2009
5. R. Gabriel Gurley, A Conceptual Guide to OpenOffice.Org 2 for Windows and Linux

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