



MKCL's Career Oriented Courses

Contents

Contents.....	0
KLIC Course Tracks	1
1. Accounting Track.....	0
a. KLIC Tally (with GST): KLIC Certificate in Financial Accounting with Tally ERP	0
b. KLIC Advanced Excel: KLIC Certificate in Advanced Excel	6
c. KLIC Advanced Tally	9
2. Designing Track	12
a. KLIC DTP CoreIDRAW	12
b. KLIC DTP Adobe	16
c. KLIC Photo Editing	22
d. KLIC Web Designing.....	23
e. KLIC Content Illustration	27
f. KLIC Graphic Designing.....	29
g. KLIC Video Editing	34
3. Digital Arts.....	38
a. KLIC AutoCAD	38
b. KLIC 3D Modelling	41
c. KLIC 3D Texturing	44
4. Hardware and Networking.....	46
a. KLIC Hardware Support.....	46
b. KLIC Network Support.....	48
c. KLIC Security Support	49
d. KLIC Desktop Support.....	51
5. Programming	53
a. KLIC SCRATCH.....	53
b. KLIC C Programming.....	57
c. KLIC C++ Programming.....	65

Knowledge Lit Careers or KLiC Courses are flagship MKCL courses mapped to industry roles with 5 tracks of vocations to choose from.

KLiC Course Tracks

The entire document will follow the following pattern:

1. Summary of all courses with individual eligibility, matching international certifications and the job roles that the courses prepare the learner for.
2. For each course
 - a. A summary of all the skills and outputs pertaining to the key software that is taught is listed.
 - b. Some sample outputs are shown with images.
 - c. Followed by a detailed syllabus of the course is listed.

Definitions/Assumptions

IT Literate: Having a basic level of proficiency in Basic IT Awareness, Smart Typing Skills, Office software such as Microsoft Office, Google Docs/Sheets/Slides/Gmail/Chrome, Windows 7 and proficiency in using the internet for studies, citizen services and daily life activities.

S.No.	Track	Courses	Course Eligibility	Matching International Certifications	Job Role
1.	Accounting	a. KLiC Tally (with GST)	IT Literate with basic knowledge of Accounts	TallyAcademy Certified GST Master, TallyAcademy Certified Accountant, ACCA F3 International from Gatlin International	Accounts Assistant-cum-ERP Assistant in Finance/Accounts section in any organization,
		b. KLiC Advanced Excel	IT Literacy Course/Microsoft Excel Basic	Microsoft Office Specialist (MOS)	MIS Executive, Project Coordinator, Excel Expert
		c. KLiC Advanced Tally (with GST)	IT Literate with basic knowledge of Accounts KLiC Tally or equivalent Certified	TallyAcademy Certified Professional	Accounts Officer
2.	Designing	a. KLiC DTP CorelDRAW	IT Literate	Corel Certified Proficient User (CCP)	Print Media Designer, DTP Artist
		b. KLiC DTP Adobe	IT Literate	Adobe Certified Expert – Photoshop, Illustrator, InDesign,	Print Media Designer, DTP Artist

				Undergraduate Certificate Program from Sessions College for Professional Design - Sessions College, Tempe, Arizona, USA; Graphic and Web Design Certificate, University of California-San Diego (UCSD) Extension, , Professional Certificate in Digital Arts & Design Academy - University of California, Riverside (UCR)	
		c. KLiC Photo Editing	IT Literate	Adobe Certified Expert - Photoshop	Graphic Designer, Graphic Editor, Illustrator, Background Artist
		d. KLiC Web Designing	IT Literate	Adobe Certified Expert – Dreamweaver, Photoshop, HTML 5 Certification	Web Designer, User Interface / Experience designer
		e. KLiC Content Illustration	IT Literate	Adobe Certified Expert – Illustrator	Designer, Illustrator, Background Artist, Key-frame Artist for Animations
		f. KLiC Graphic Designing	IT Literate	Adobe Certified Expert – Photoshop, Illustrator, InDesign, Undergraduate Certificate Program from Sessions College for Professional Design - Sessions College, Tempe, Arizona, USA; Graphic and Web Design Certificate, University of California-San Diego (UCSD) Extension, , Professional Certificate in Digital Arts & Design Academy - University of California, Riverside (UCR)	Graphic Designer

		g. KLiC Video Editing	IT Literate	Adobe Certified Expert – Premier Pro	Television & Film Editor, Video Editor, Assistant Video Editor, Film Composer, VFX Composer
3.	Digital Arts	a. KLiC AutoCAD	IT Literate	AutoCAD Certified User	CAD Designer, CAD Draftsman / CAD Operator
		b. KLiC 3D Modelling	IT Literate	Blender Foundation Certified Trainer – Modelling	3D Artist, 3D Generalist, 3D Character Artist, 3D Game Designer
		c. KLiC 3D Texturing	IT Literate	Blender Foundation Certified Trainer – Shading	3D Artist, 3D Generalist, 3D Character Artist, 3D Game Designer
4.	Hardware & Networking	a. KLiC Hardware Support	IT Literate	CompTIA A+	IT Hardware Support Consultant
		b. KLiC Network Support	IT Literate	CompTIA N+	IT Network Support Technician
		c. KLiC Security Support	IT Literate	CompTIA Security+, Certified Ethical Hacker (CEH)	Network Security Engineer
		d. KLiC Desktop Support	IT Literate	Microsoft Certified Technology Specialist (MCTS)	Desktop Support Technician
5.	Programming	a. KLiC SCRATCH Programming	IT Literate	Harvard CS50: Introduction to Programming and Scratch (Week 0) - Harvard University, Scratch Learning resources - Scratch.mit.edu	SCRATCH is a visual programming language that helps in learning languages like Python and Java, Youth coding instructor, SCRATCH Programmer
		b. KLiC C Programming	IT Literate	CLA – C Programming Language Certified Associate	C language instructor
		c. KLiC C++ Programming	IT Literate	CPA – C++ Certified Associate Programmer Certification	Engineering Trainee, Junior Software Engineer/Developer

1. Accounting Track

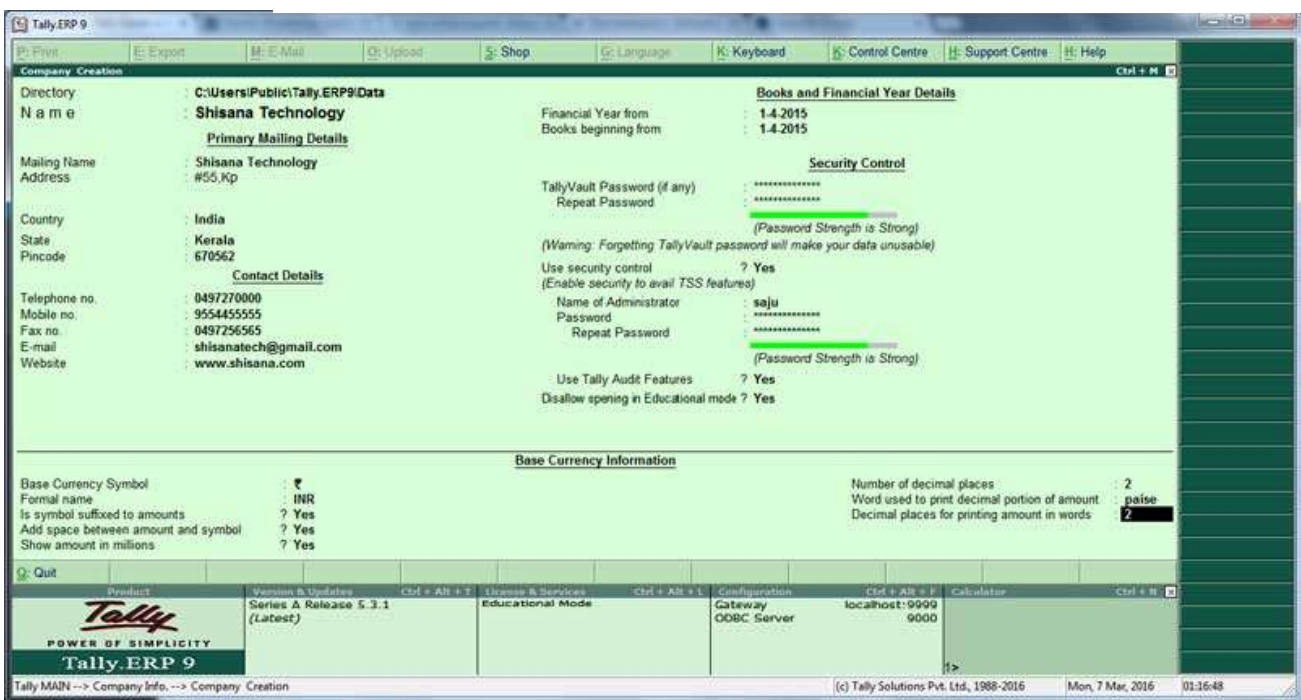
a. KLiC Tally (with GST): KLiC Certificate in Financial Accounting with Tally ERP

**KLiC Tally
(with GST)**



Skills: Introduction to Financial Accounting, Tally History and Journey, Introduction to GST, Tally with GST, Financial Accounting Basics, Maintaining Company Data, Incorporation of various laws under GST, Creating Masters, Voucher Entry, and Constitutional Amendments in GST, Inventory, and Economic Survey in regards to GST, Payroll, TDS, Other Scenarios, Reports, Tally Software Services (TSS), and Data Management

Outputs: Company Creation, Accounts Configuration, Accounts Classification, Accounts Master Creations, Trial Balance, Voucher Entry, Discount Entry, Voucher Types and Classes, Accounts Vouchers, Bill Voucher, Final Accounts, Cost Centre, Creating Purchase Masters, Purchase Voucher Creation, Creating Sales Masters, Sales Voucher Creation, TDS Masters Pure Inventory Voucher, Units of Measure, Stock Categories, VAT Masters



Company Creation

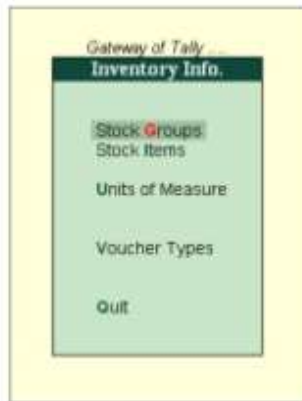


Figure 4.1 Inventory Info. Menu

The above Inventory Masters types are explained in detailed in the following sections.

- Units of Measure

Let us take the example of **Indus Enterprises** that sells **Televisions** and **Music Systems**.

Given below is the structure of items being sold.

Group A – Televisions	
A1 – Sony	A1a – Sony 29 inches TV
	A1b – Sony 25 inches TV
A2 – Philips	A2a – Philips 29 inches TV
	A2b – Philips 25 inches TV
A3 – Videocon	A3a – Videocon 29 inches TV
	A3b – Videocon 25 inches TV

Group B – Music Systems	
B1 – Sony	B1a – Sony Tape-Recorder
	B1b – Sony CD Player
B2 – Videocon	B2a – Videocon Tape-Recorder
	B2b – Videocon CD Player

The televisions are sold in numbers. Hence, the **Unit of Measure** will be **Nos.**

Advance Inventory Masters

Detailed Syllabus:**Introduction to Financial Accounting**

- Accounting
- Methods of Accounting
- Financial Accounting Concept
- Recording of Transactions
- Accounts Books
- Final Accounts
- Manual Accounting vs Computerised Accounting
- Computerized Accounting Software
- Accounting without codes
- Budgets, MIS and Ratio analysis (in short)

Tally History and Journey**Introduction to GST**

- “5 W” of GST
- Basics of GST
- Objectives of GST
- GST at Global level
- List of Goods not covered under GST
- Registration Process Under GST to be added
- Registered and Unregistered Dealers and Effects of Purchases from Unregistered Dealers.

Tally with GST

- Upgrading to Tally.ERP 9 Release 6.0
- Start Using Tally.ERP 9 for GST Compliance
 - Activate GST
 - Set up tax rates
 - Update or create ledgers as required
- Recording Sales and Printing Tax Invoices
- Recording Purchases
- Recording a Tax Payment
- Transferring Tax Credits of VAT, excise and service tax to GST

Financial Accounting Basics

- Company Creation
- Accounts Configuration
- Accounts Classification
- Accounts Master Creations

- Trial Balance
- Voucher Entry
- Discount Entry
- Petty Cash
- Voucher Types and Classes
- Accounts Vouchers

Maintaining Company Data

- Gateway of Tally
- Creating and Maintaining a Company
- Loading a Company
- Maintaining Group Company
- F11: Company Features
- F12: Configuration

Incorporation of various laws under GST

- List of all taxes that are subsumed into GST to be given separately here.
- Reverse charge mechanism introduction of GST to be given
- Central taxes which will be included in CGST
- State taxes which will be included in SGST
- IGST
- GST Rates

Creating Masters

- Accounts Information
- Statutory Info.
- Inventory Information

Voucher Entry

- Accounting Vouchers
- Inventory Vouchers
- Optional & Non-Accounting Vouchers
- Order Processing
- Advanced Voucher Entry

Constitutional Amendments in GST

- Power with central government
- Power with state government
- GST Council
- Set off Mechanism between CGST,,IGST and SGST

Inventory

Stock Groups

- Creating a Stock Group

- Creating Multiple Stock Groups
- Displaying a Stock Group

Stock Categories

- Creating a Stock Category
- Creating Multiple Stock Categories
- Displaying a Stock Category
- Altering a Stock Category

Stock Items

- Creating a Stock Item
- Creating a Stock Item in Advance Mode
- Displaying a Stock Item
- Altering a Stock Item

Units of Measurement

- Creating Compound Units of Measure
- Altering a Units of Measure
- Displaying a Units of Measure

Bills of Materials

- Creating Single Bill of Materials for a Stock Item
- Creating Manufacturing Journal for a Stock Item with Single Bill of Materials
- Creating Multiple Bill of Materials for a Stock Item
- Creating Manufacturing Journal for a Stock Item with Multiple Bill of Materials
- Creating Single/Multiple Bill of Material with Type of Item
- Creating Manufacturing Journal for a Stock Item with single/Multiple BOM created with Type of Item

Batches & Expiry Dates

- Activating Batch-Wise Details
- Manufacturing date & Expiry date for Batches

Inventory Voucher Class

- Creating Stock Journal Voucher Class
- Predefined Voucher Types in Tally.ERP 9

Economic Survey in regards to GST

- Benefits of implementing GST
- Limitations of implementing GST

Payroll

- Payroll Features of Tally.ERP 9

- Enabling Payroll in Tally.ERP 9
- Five Easy Steps to Generate a Pay Slip
- Creating Payroll Masters (Payroll Info)
- Payroll Voucher Entry / Transactions
- Payroll Reports

TDS

- Getting Started with TDS
- Configuring TDS
- Masters
- Transactions
- TDS Reports
- Union Budget Changes for TDS - 2017-18

Other Scenarios

- Recording Purchase from Registered & Unregistered GST Dealers
- Inward Supply of Services Under Reverse Charge
- Recording an Advance Receipt from Customer
- Recording an Advance Payment to Supplier under GST
- Sales - Nil Rated, Exempt, SEZ, and Deemed Export
- Recording Sales of Composite Supply Under GST
- Recording Sales of Mixed Supply Under GST
- Recording Sales Returns
- Recording Purchase Returns (Debit/Credit Notes)
- Recording Import of Services (Debit/Credit Notes)
- Recording Export Sales
- Recording Journal Vouchers for Adjustments Against Tax Credit
- Recording a Journal Voucher for TDS Adjustment
- Recording a Journal Voucher for TCS Adjustment
- Recording a Journal Voucher for Refund of Tax Credit
- Recording a Journal Voucher for ISD Credit
- Recording a Journal Voucher for Transitional Credit
- Recording Journal Vouchers for Other Liabilities
- Recording Journal Vouchers for Reversal of Tax Credit

Reports

- Basic Features of Displaying Reports
- Modifying Reports
- Display Financial Statements
- Display Registers & Ledgers
- Display Inventory Reports & Statements
- Management Information System (MIS) Reports
- Printing Reports

Tally Software Services (TSS)

- Creating Remote Users

- Authorising Security Levels
- Assigning Security Controls
- Connect Company to Tally.NET Server
- Remote Login

Data Management

- Backup & Restore
- Split a Company
- Import Data
- Export of Data
- E-Capabilities
- Tally ODBC
- SQL Query

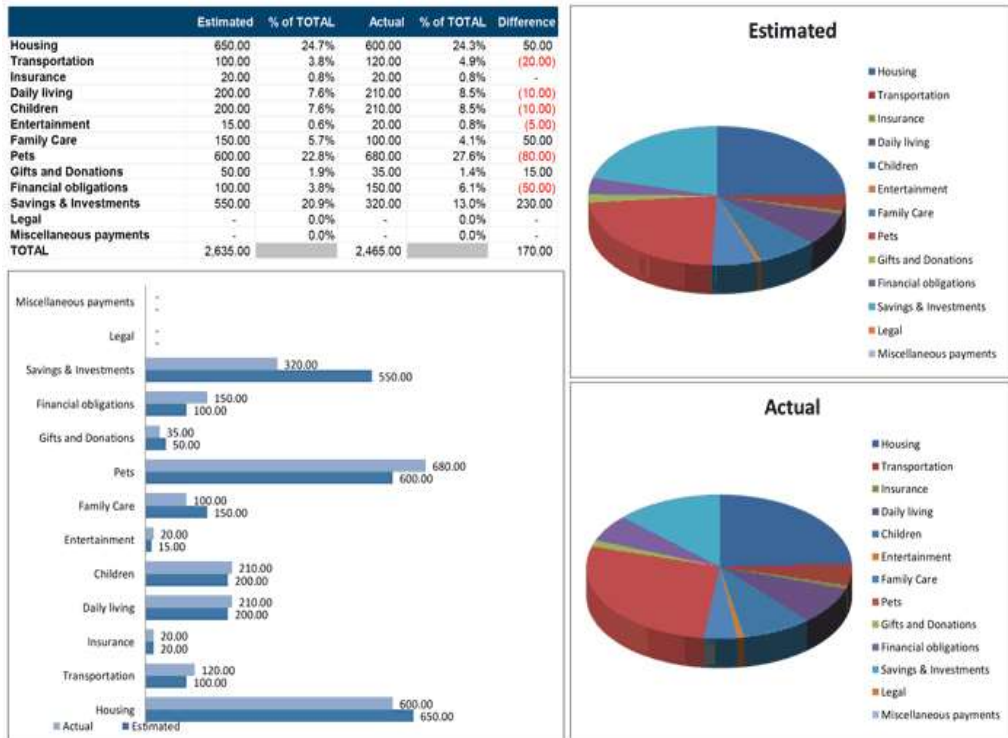
b. KLiC Advanced Excel: KLiC Certificate in Advanced Excel

Advanced Excel using Microsoft Excel 2013



Skills: Apply Custom Data Formats, Use Advanced Fill Options, Apply Advanced Conditional Formatting and Filtering, Use Form Controls, Apply Custom Styles and Templates, Prepare Workbooks for Internationalization, Mathematical Functions, Look up data by using functions, Apply advanced date and time functions, Functions for Manipulating Text, Merge Scenarios, Create Scenarios, Use Area, Scatter & Stock Charts, Create Custom Chart Templates, Manage Workbook Versions, Copy Macros between Workbooks, Protect Workbooks for Sharing

Outputs: Event Expenses, Exam Record, Planner, to do List, Database, Monthly Budget, Agenda, Receipt, Inventory



Event Expense sheet

Sr. N	Blood Gro	Donor's Name	Age	Locality	Address
1	AB+	Krein Zeller	39	Sandisfield	Sandisfield, Ma 01255
2	O-	John Squer	23	California Downs	455 Regal street ,California Downs, CA 02020
3	B+	Tony Clark	25	London	Eastern Road, A11PT, London , United Kingdom
4	A-	Mark Johnson	45	Sweden	301, williams Road , 64225, Mains Sweden
5	O+	Milk Bell	31	California	PO BOX 8196 , Santa Rosa , CA 95407
6	AB-	Andrew Brown	28	Charleston	Woodvale Drive , charleston, WV 25314
7	O+	Bob Clark	33	California	Costa Mesa, CA 95625
8	A-	Dan Fox	39	California	154 stonecliffe Aisle , Irvine ,CA 92612
9	B-	Kevin Richard	29	Sweden	51213, Smith rost 91191, sweden
10	AB+	Sandy Radom	50	Tucson	9941 N. Placita papalote, Tucson, AZ 85737
11	AB+	Cindie Dillon	45	Tucson	N. Oracle Road , Tucson , AZ 85737
12	B+	Diane Watte	21	New York	19 west 34th Street , New york 10036
13	B-	Rita Salvatore	23	New York	312 W 48th Street , New york , NY 10036
14	AB+	Sally Dspain	23	Utah	East 3900 South, # 101 Salt Lake city , UT 84107
15	O-	Rose Southers	25	Utah	(740 west),Salt Lake City, UT 84123
16	A+	David Redick	25	Pennsylvania	196 Lincoln Avenue, Bellevue, PA 15202
17	O+	Jaya Sarada	48	Pennsylvania	628 Twin ponds Road Breinigville , PA 18031
18	B+	Sue Lingle	23	Maine	109 Lincoln Avenue, Bellevue, PA 15202
19	A+	Mack waston	31	Washington	628 Twin ponds Road Breinigville , PA 18031
20	A+	Joyce Evans	31	New York	109 state street, Bangor , ME 04401
21	O-	Judy Alexy	32	Oregon	Po BOX 24027 , Federal way , WA 98093
22	AB-	Joy Metcalf	48	AL- HI	1464 Manetto Hill Road , Suite 103, NY 11803
23	B+	Lani Nichols	23	Utah	5215 NE Elam Plkwy Hillsboro, OR 97124
24	O-	Laura widman	31	Utah	23260 Painter Avenue Port Charlotte , FL 33954
25	AB-	Evaline chan	28	Pennsylvania	70725 S. carter circle , west Jordan ,UT 84084
26	B+	Joy Grill	21	Maine	11 Mill street camden , ME 04843
27		Clinton Bine	39	Washington	PO BOX 840 , Granite Falls, WA 98252

Database

Detailed Syllabus:

KLIC Advanced Excel

Apply Custom Formats and Layouts

- Apply Custom Data Formats
- Use Advanced Fill Options
- Apply Advanced Conditional Formatting and Filtering
- Apply Custom Styles and Templates
- Use Form Controls
- Prepare Workbooks for Internationalization
- Use Outlines
- Use Custom Views

Create advanced formulas

- Functions
- Apply functions in formulas
- Mathematical Functions
- Financial functions
- Useful Data Functions
- Some Other Useful Functions
- Look up data by using functions
- Apply advanced date and time functions
- Functions for Manipulating Text
- Arrays

Use Scenarios

- Use What-If Analysis Tools
- Create Scenarios
- Merge Scenarios
- Create Scenario Summaries
- Use Data Tables

Create Advanced Charts

- Basic Excel Charts
- Use Area, Scatter & Stock Charts
- Use Surface, Radar & Combination Charts
- Create Custom Chart Templates
- Work with Sparkline's

Pivot tables & charts

- PivotTables
- Use Pivot Charts

Manage and Share Workbooks

- Manage Workbook Versions
- Copy Styles between Workbooks
- Copy Macros between Workbooks
- Use Track Changes and Comments

- Merge Workbooks
- Protect Workbooks for Sharing
- Connect to External Data

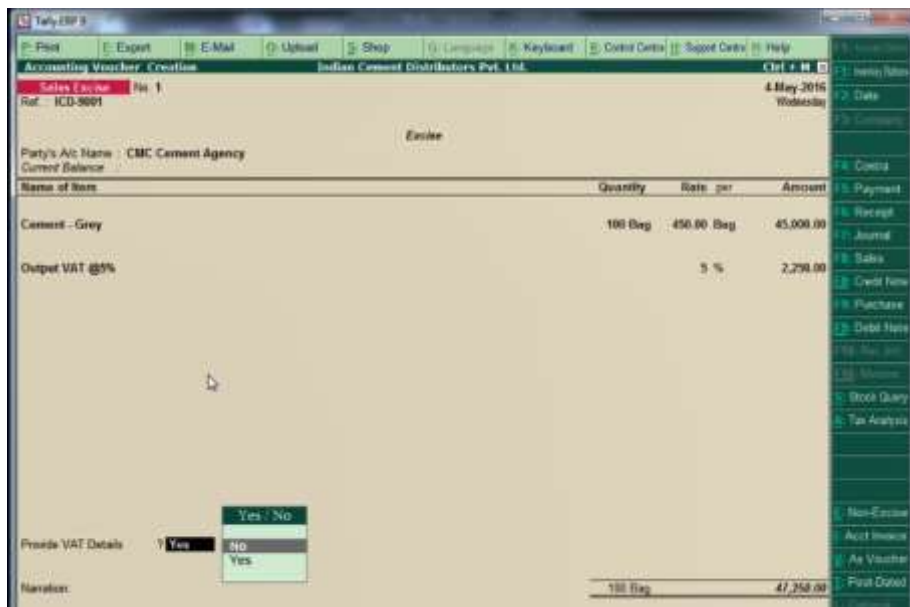
c. KLiC Advanced Tally

Advance Accounting Tally



Skills: Creating Group, Entry of Registration Fees, Activation of Service Tax, Provision and Depreciation Entries, Pass the Transaction, Create Units of Measure, Activation of Interest Calculation, Activation of CST, Multiple level pricing, Interest Calculation, Simple Interest, Set up and Configuration

Outputs: Balance Sheet, Credit sales Entry, Create Sales Excise Voucher, Ledger Creation, Create Stock Go-down, Checking Order, Create Stock Item, Voucher Creation, Cost Centre Creation



Sales Excise Voucher

Liabilities		Assets	
Modern Traders as at 1-Jan-2016		Modern Traders as at 1-Jan-2016	
Capital Account	10,00,000.00	Fixed Assets	4,75,000.00
Rajiv Jain Capital A/c	10,00,000.00	Computers	50,000.00
Loans (Liability)	2,50,000.00	Furniture and Fixtures	2,00,000.00
Unsecured Loans	2,50,000.00	Motor Vehicle	1,00,000.00
Current Liabilities	5,34,000.00	Office Equipments	1,00,000.00
Provisions	84,000.00	Printer (Laser)	15,000.00
Sundry Creditors	4,50,000.00	Printer (Dot Matrix)	10,000.00
Profit & Loss A/c		Current Assets	8,38,000.00
Opening Balance		Closing Stock	
Current Period		Deposits (Asset)	1,01,000.00
		Sundry Debtors	2,37,000.00
		Cash-in-hand	2,00,000.00
		Bank Accounts	3,00,000.00
		Diff. in Opening Balances	4,71,000.00
Total	17,84,000.00	Total	17,84,000.00

Balance Sheet

Detailed Syllabus:**KLIC Advanced Tally****Accounting for Service Organization**

- Getting started with Tally
- Business Accounting for Service Organization
- Activation of Service Tax for Organization
- Service Tax

Advance accounting for trading enterprise

- Advance Inventory Management
- Advance accounting operations
- Transfer of assets and liabilities
- Zero Value Entries and Actual & Billed Quantities
- Cost Centre and Cost Category
- VAT Transactions
- POS

Accounting with Indirect Tax

- Transactions for TDS and TCS
- More Advance Tools in Tally
- Interest calculations

- Bill of Material
- Multiple Level Pricing and Multi Currency Transactions

Industrial Accounting – I

- Getting Functional in Industrial Accounting
- Advance Operations in Industrial Accounting
- Industrial Business Accounting
- Cenvat

Industrial Accounting – II

- Payroll Accounting
- Excise Duty
- Payroll voucher entries
- Payroll Statutory details

Analysis and Managerial functions

- Budget and Reconciliation
- Scenario Management
- Bank Reconciliation Statement
- Comprehensive Case Study

2. Designing Track

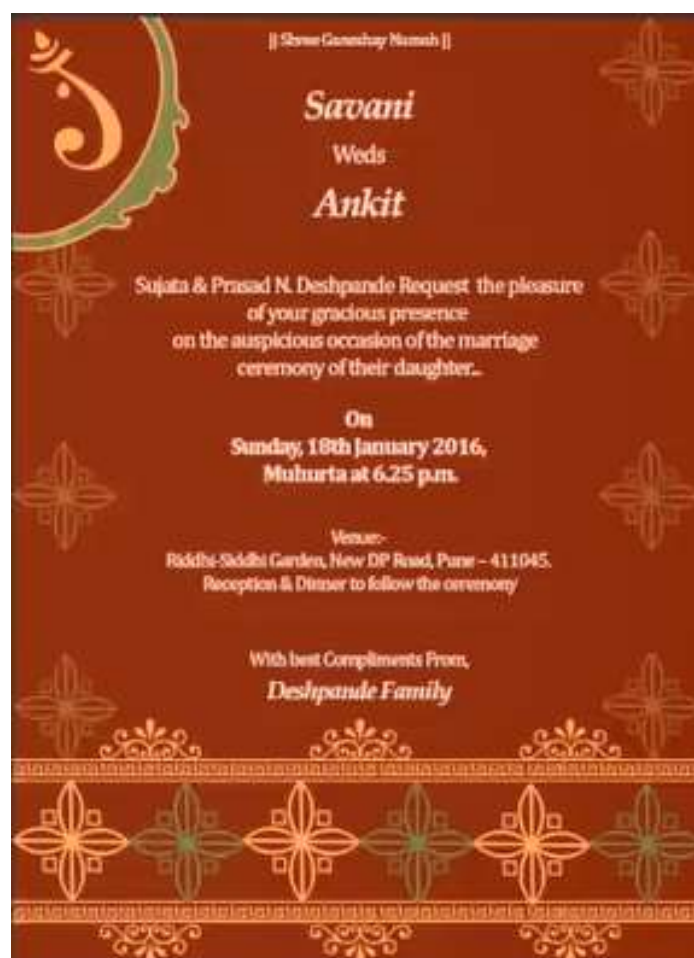
a. KLiC DTP CoreIDRAW

**Adobe
Photoshop**



Skills: The Working Place, Customizing, Image and Color Modifications, Case Study - Black & White to Color, Using the Brush and Paint, Working with Selections, Scaling, Knowing the Layers, Filter Gallery, Color Adjustments

Outputs: Photo Manipulation, Photo Collage, Poster Design, Wedding Card



Wedding Card



Poster

CorelDraw



Skills: Understanding the Color Palette, Working with the Objects, Understanding other controls (Layers and Tables)

Outputs: Visiting Card, Sticker, Letterhead with Logo, Wedding Card, Flex Banner, Flyer with Coupon, Brochure



Visiting Card



Flex Banner

Detailed Syllabus:

KLIC DTP (CorelDraw)

Adobe Photoshop

- Basics of Photoshop

- Introduction
- The Working Place
- Customizing
- Image and Color Modifications
- Tools
- Using the Brush and Paint
- Working with Selections
- Scaling
- Knowing the Layers
- Filter Gallery
- Color Adjustments
- Settings

CorelDraw

- Getting Started with CorelDraw
- Introduction to CorelDRAW
- The CorelDRAW User Interface
- Understanding the Basics in CorelDRAW
- Working with the Page Set-Up
- Working with Files
- Understanding the basic controls
- Understanding the Viewing Options
- Psychology of colors
- Harmonious Colors
- Selecting colors
- Settings for Typing in Shree-Lipi
- Working with Tables
- Understanding the Color Palette
- Working with the Objects
- Understanding other controls (Layers and Tables)
- Other Features

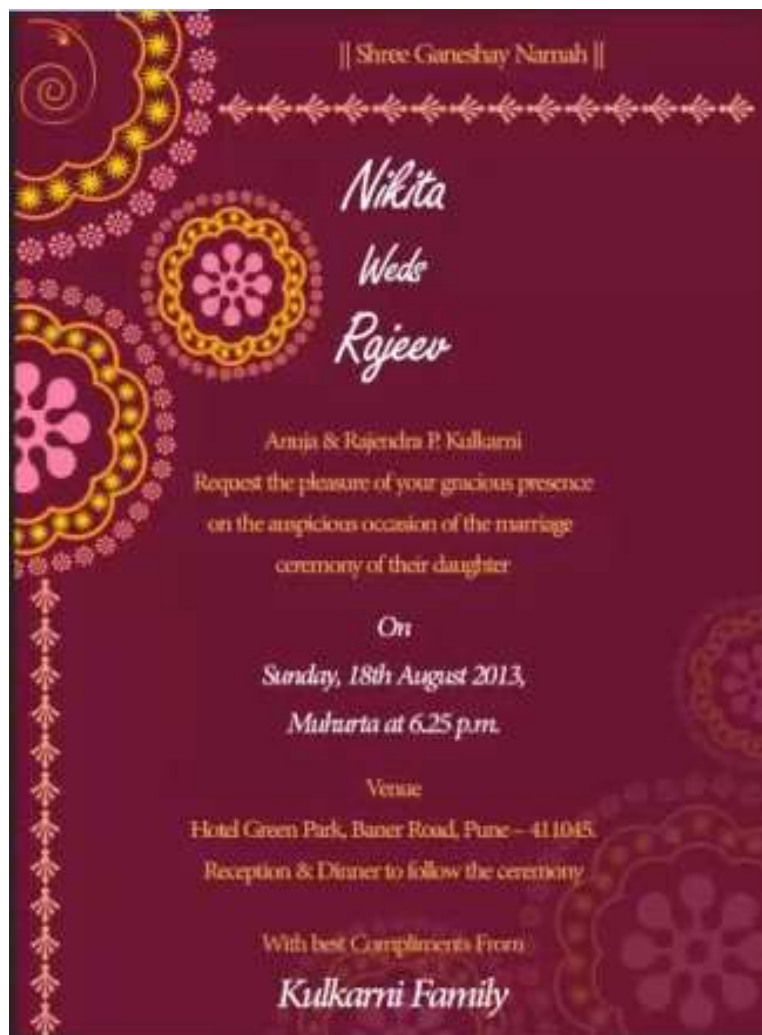
b. KLIC DTP Adobe

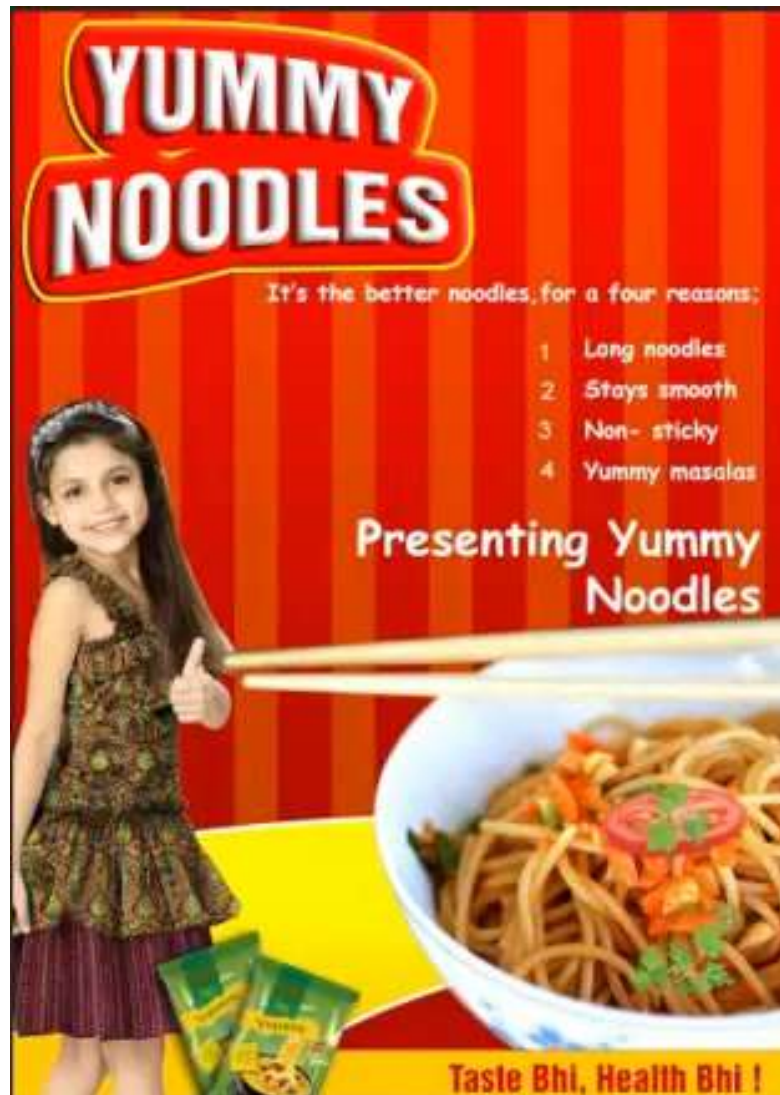
Adobe
Photoshop

Skills: The Working Place, Customizing, Image and Color Modifications, Tools, Using the Brush and Paint, Working with Selections, Scaling, Knowing the Layers, Getting Creative with Types, Masks, Filter Gallery , Playing with Palettes

Outputs: Book Cover, Book Inner Layout, Magazine Cover, Magazine Inner Layout, Brochure, Flyer, Poster, Visiting Card, Wedding Card, Coupon

Wedding Card





Poster Design

Adobe Illustrator



Skills: Working Place, Customizing, Tools, Layer and layer options, Pen, Pencils and Paths, Using the Brush and Paint, Specialized Tools, Getting Creative with Types, Using the Symbols, Designing Graphics, Effects and Filters, Playing with Palettes

Outputs: Gift Voucher, Recipe Book, News Paper Article, News Paper Advertisement, Preschool and primary Work book



Business Card



Coupon

**Adobe
InDesign**



Skills: Creating and Viewing a Document, Managing Pages and Books, Managing Text, Formatting , Working with Objects, Working with Points and Paths, Case Study- Book Cover, Applying and Managing Colors, Working with Tables, Working with Styles, Printing and Outputting a Document, Setting Preferences

Outputs: Story books, Wall Calendar, Newsletter, Maps, Menu Card, Magazine Cover Page





Magazine Cover Page

Detailed Syllabus:

Adobe Photoshop

- Basics of Photoshop
- The Working Place
- Customizing
- Image and Color Modifications
- Tools
- Using the Brush and Paint
- Working with Selections
- Scaling
- Knowing the Layers
- Getting Creative with Types
- Masks
- Filter Gallery
- Playing with Palettes
- Practice

Adobe Illustrator

- Basics of Illustrator
- Introduction
- The Working Place
- Customizing
- Tools
- Practice Exercise
- Layer and layer options
- Pen, Pencils and Paths
- Using the Brush and Paint
- Specialized Tools
- Getting Creative with Types
- Using the Symbols
- Designing Graphics
- Effects and Filters
- Playing with Palettes
- Exporting

Adobe InDesign

- Getting Started
- Creating and Viewing a Document
- Managing Pages and Books
- Managing Text
- Formatting Text
- Placing and Working with Graphics
- Working with Objects
- Managing and Transforming Objects

- Working with Points and Paths
- Applying and Managing Colors
- Working with Tables
- Working with Styles
- Finalizing Document
- Exporting Document
- Printing and Outputting a Document
- Setting Preferences

c. KLiC Photo Editing

**Adobe
Photoshop**



Skills: Working Place, Customizing, Image and Color Modifications, Case Study - Black & White to Color, Using the Brush and Paint, Working with Selections, Scaling, Knowing the Layers, Filter Gallery, Color Adjustments

Outputs: Red Eye correction, Photo Collage, Mapping to Object-MUG, T-Shirt Design, Photo Correction, Photo Manipulation, Cleaning Photo



Photo Collage

Detailed Syllabus:

KLiC Photo Editing

Adobe Photoshop

- Basics of Photoshop
- Introduction
- The Working Place
- Customizing
- Image and Color Modifications
- Tools
- Using the Brush and Paint
- Working with Selections
- Scaling
- Knowing the Layers
- Getting Creative with Types
- Masks
- Filter Gallery
- Playing with Palettes
- Color Adjustments
- Automating
- Web and devices
- Animating and Slicing
- Output
- Settings
- Adobe Bridge

d. KLiC Web Designing

Adobe Photoshop



Skills: Working Place, Customizing, Image and Color Modifications, Case Study - Black & White to Color, Using the Brush and Paint, Working with Selections, Scaling, Knowing the Layers, Filter Gallery, Color Adjustments

Outputs: Web Layout Design, Web Banner, Advertisement, UI Design



Web Layout Design

Adobe
Dreamweaver



Skills: Skills: Fundamentals of Website Layout, Basics of Internet, Colors in a website, Planning for a website, The working place, **HTML5**, Meeting the Client, Starting with the website, Inserting Text and Graphics, Working with Tables, Linking Web Pages, Using **CSS3**, Using Frames, Using sound, flash and video, Using Behaviors, Creating forms, Search Engine Optimization, Testing the Website, Uploading the Website, Designing Templates

Outputs: Photo Gallery, Anchored Website, Newsletter, CSS, Video Gallery, Mobile Web Page, Enquiry Form, Website Designing, Web newsletter, Calendar

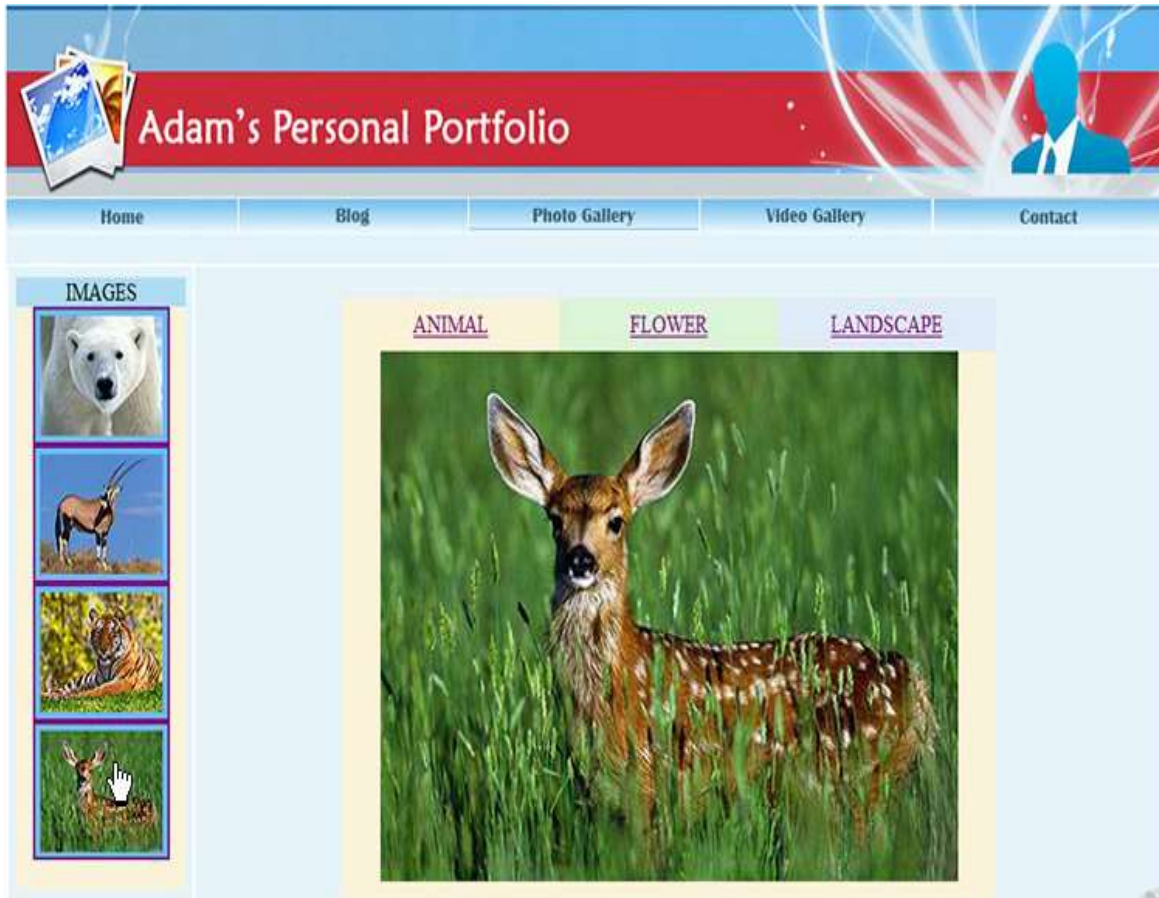
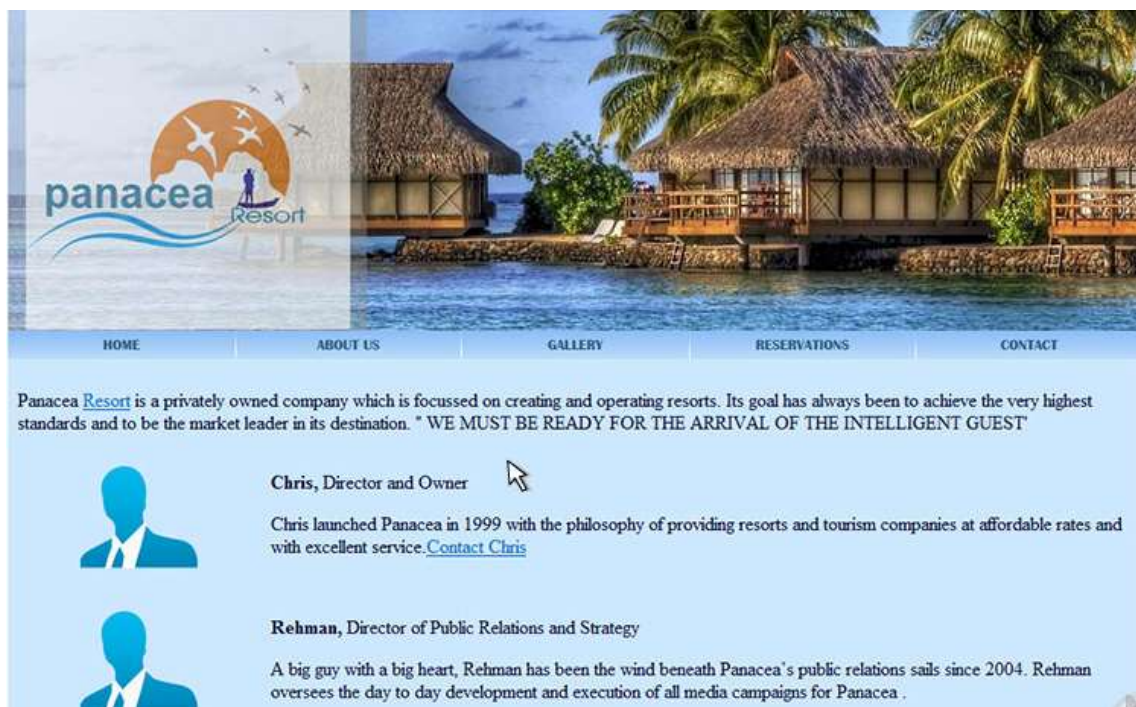


Photo Gallery



Website Designing

Detailed Syllabus:

KLiC Web Designing

Adobe Photoshop

- Basics of Photoshop
- Introduction
- The Working Place
- Customizing
- Image and Color Modifications
- Tools
- Using the Brush and Paint
- Working with Selection
- Scaling
- Knowing the Layers
- Getting Creative with Types
- Masks
- Filter Gallery
- Playing With Palettes
- Color Adjustments
- Automating
- Web and Devices
- Animating and Slicing
- Settings
- Adobe Bridge

Adobe Dreamweaver

- Basics of Internet
- Fundamentals of Website Layout
- Colors in a website
- Planning for a website
- The working place
- Basics of HTML
- Meeting the Client
- Starting with the website
- Inserting Text and Graphics
- Working with Tables
- Linking Web Pages
- Using CSS
- Using Frames
- Using sound, flash and video
- Using Behaviors
- Creating forms
- Search Engine Optimization
- Testing the Website
- Uploading the Website

- Designing Templates

e. KLiC Content Illustration

Adobe Illustrator



Skills: The Working Place, Customizing, Tools, Layer And Layer Options, Pen, Pencils and Paths, Using the Brush and Paint, Specialized Tools, Getting Creative with Types, Using the Symbols, Designing Graphics, Effects and Filters, Playing With Palettes Select, View and Object, Automating, Exporting, Web and Devices

Outputs: Business Card, Labels, Letterhead, Coupon, Identity Card, Jewel Case Design, Book Mark, Sticker, Envelope, Magazine Advertisement



Magazine Advertisement



Letterhead

Detailed Syllabus:**KLiC Content Illustration****Basics of Illustrator CS4**

- Basics of Illustrator CS4
- Introduction
- The Working Place
- Customizing
- Tools
- Layer And Layer Options
- Pen, Pencils and Paths
- Using the Brush and Paint
- Specialized Tools
- Getting Creative with Types

- Using the Symbols
- Designing Graphics
- Effects and Filters
- Playing With Palettes
- Select, View and Object
- Automating
- Output
- Exporting
- Web and Devices
- Settings

f. KLiC Graphic Designing

Adobe Illustrator



Skills : Working Place, Customizing, Tools, Layer And Layer Options, Pen, Pencils and Paths, Using the Brush and Paint, Specialized Tools, Getting Creative with Types, Using the Symbols, Designing Graphics, Effects and Filters, Playing With Palettes Select, View and Object, Automating, Exporting, Web and Devices

Outputs: Business Card, Labels, Letterhead, Coupon, Identity Card, Jewel Case Design, Book Mark, Sticker, Envelope, Magazine Advertisement



Labels



Tony D. Wheeler
Emp. Code : 004
Dept. : Human Resource



Blue Touch Pvt. Ltd
295 Grand Street,
New York, NY 200157
www.bluetouch.com

Identity Card

Adobe Photoshop



Skills: Working Place, Customizing, Image and Color Modifications, Case Study - Black & White to Color, Using the Brush and Paint, Working with Selections, Scaling, Knowing the Layers, Filter Gallery, Color Adjustments

Outputs: Web Layout Design, Web Banner, Advertisement, UI Design



UI Design

Adobe InDesign



Skills: Creating and Viewing a Document, Managing Pages and Books, Managing Text, Formatting , Working with Objects, Working with Points and Paths, Case Study- Book Cover, Applying and Managing Colors, Working with Tables, Working with Styles, Printing and Outputting a Document, Setting Preferences

Outputs: Story books, Wall Calendar, Newsletter, Maps, Menu Card, Magazine Cover Page, Recipe Book, Book Cover

Simple Indian Cooking

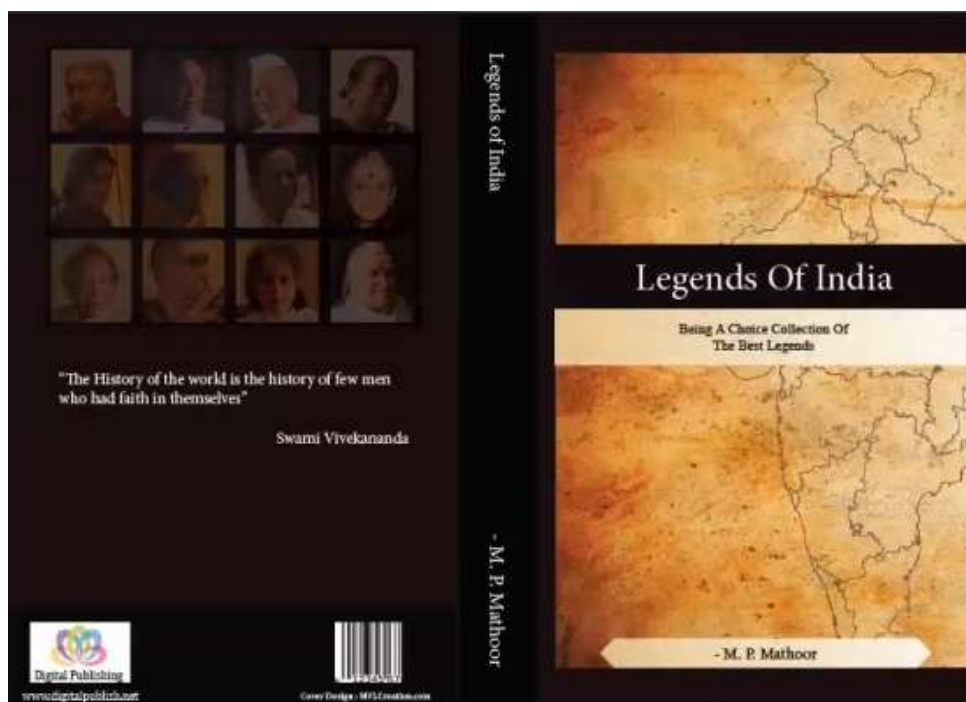
Indian Recipes

Welcome to the simple Indian cooking delicious and simple homemade recipes. It can be simple enough for anyone to make it.

That's the whole idea of this book



Recipe Book



Book Cover

Detailed Syllabus:

KLIC Graphic Designing

Adobe Illustrator

- Basics of Illustrator CS4
- Introduction
- The Working Place
- Customizing
- Tools
- Layer And Layer Options
- Pen, Pencils and Paths
- Using the Brush and Paint
- Specialized Tools
- Getting Creative with Types
- Using the Symbols
- Designing Graphics
- Effects and Filters
- Playing With Palettes
- Select, View and Object
- Output
- Exporting
- Web and Devices
- Settings

Adobe Photoshop

- Basics of Photoshop CS4
- Introduction
- The Working Place
- Customizing
- Image and Color Modifications
- Tools
- Using the Brush and Paint
- Working with Selections
- Scaling
- Knowing the Layers
- Getting Creative With Types
- Masks
- Filter Gallery
- Playing With Palettes
- Color Adjustments
- Automating
- Web and Devices
- Output
- Settings

Adobe InDesign

- Getting Started
- Creating and Viewing a Document
- Managing Pages and Books
- Managing Text
- Formatting Text
- Placing and working with Graphics
- Working with Objects
- Managing and Transforming Objects
- Working with Points and Paths
- Applying and Managing Color
- Working with Tables
- Working with Styles
- Finalizing Documents
- Exporting a Document
- Printing and Outputting a Document
- Setting Preferences

g. KLiC Video Editing

Adobe
Premiere
CS4



Skills: Importing and Capturing Footage, Timeline, Sequence and Clip Management, Basic Video Editing, Editing Audio, Mixing and Creating Effects with the Audio Mixer, Creating Transitions, Creating Titles and Graphics, Working with advanced editing techniques, Using Video Effects, Using Color mattes and Backdrops, Enhancing Video, Wrapping Up and Exporting

Outputs: Video Merging, Advertisement creation, video effects, Creating a Short Film



Creating Short Film

Detailed Syllabus:

KLIC Video Editing

Introduction to Video Editing with Premiere CS4

- Overview of Video Editing
- Uses of Premiere Pro CS4
- Features of Premiere CS4
- Installing Premiere Pro CS4

Introduction to Moviemaking

- Basics of digital video and movie editing
- Comparing camcorder formats
- Understanding video codecs
- Shooting better video

Getting Started with Premiere Pro CS4

- Working with workspace

- Customizing the Workspace in Premiere Pro CS4
- Working with project settings

Importing and Capturing Footage

- Importing files as footage
- Importing stills
- Importing layered Photoshop and Illustrator files
- Dealing with missing media
- Setting up to capture from tape
- Logging Tapes
- Batch-capturing footage

Timeline, Sequence and Clip Management

- Timeline
- Using Multiple Sequences
- Clip Project Management

Basic Video Editing

- Basic Editing Concept and Tools
- Working with Monitor Panels
- Creating Insert and Overlay Edits
- Editing in the Timeline
- Setting In and Out Points in the Timeline Panel

Editing Audio

- What is Audio?
- Timeline Audio Tracks
- Editing Audi
- Recording Audio
- Gaining, Fading and Balancing
- Using Audio Effects and Transitions

Mixing and Creating Effects with the Audio Mixer

- Audio Mixer Overview
- Setting Track Volume & Mixing Tracks
- Panning & Balancing
- Applying effects with Audio Mixer

Creating Transitions

- About Video Transitions (Overview)
- Applying transitions
- Adjusting Transitions
- Customizing Transitions
- Various Transitions Effects

Creating Titles and Graphics

- Using the Titler
- Creating titles from templates
- Modifying a title
- Creating titles from scratch
- Superimposing a title
- Creating a title roll or crawl

Working with advanced editing techniques

- Editing Utilities
- Editing with tool panel tools
- Fine tuning edits using the trim monitor panel
- Editing a Clip Using Clip Commands

Using Video Effects

- Exploring the Video Effects
- Applying a Video Effect
- Using Video Effects with Keyframes
- Superimposing Video Clip Using Keying Video Effect
- Applying effects using Image Matte Keying Effects
- Touring Premiere Pro Video Effects

Using Color mattes and Backdrops

- Mattes, Transparency and Opacity
- Create transparency, solid colors with keys mattes
- Matte other than the alpha channel
- Using more mattes

Creating Motion Effects

- Motion effect controls in Effect Controls Panel
- Working with the Motion Controls
- Using timeline Panel to Preview & add Keyframes
- Editing Motion Paths
- Adding Effects to Motion Paths
- Using a clip with an Alpha Channel
- Creating Traveling Mattes

Enhancing Video

- Understanding video color
- Color Correcting Basics
- Start a Color Correcting Session
- Using the Video Scopes
- Color Enhancement Effects
- Special color and luminance adjustments
- Retouch Using Photoshop and After Effects

Wrapping Up and Exporting

- Preparing to export video
- Exporting to tape
- Exporting to Encore DVD
- Exporting to various formats using Adobe Encoder
- Sharing Your Movies Online

3. Digital Arts

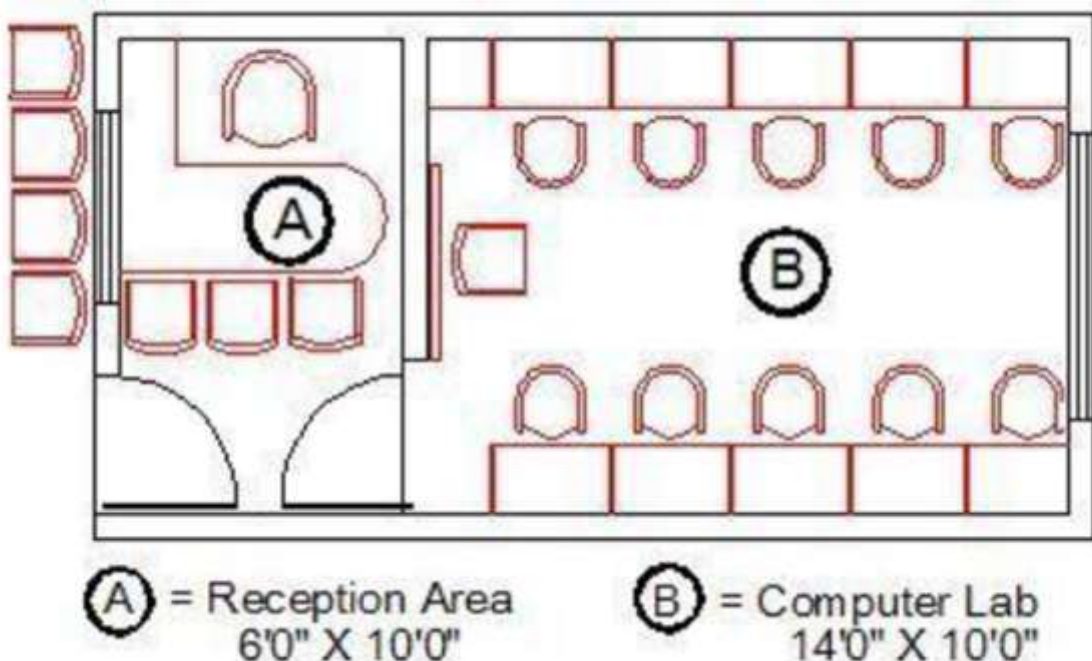
a. KLiC AutoCAD

AutoCAD



Skills: File Formats used in AutoCAD, Working with Line object, Erasing Objects, Using the Grid, Snap, Setup Drawing Units & Limits, Using Absolute Cartesian Method, Using Relative Cartesian Method, Using Polar Coordinate Method, Using Dynamic Input to Draw Objects, Drawing an ARC, Drawing SPLINE n POLYLINE, Drawing an RECTANGLE & POLYLINES, Using POINT, Using HATCH and GRADIENTS, Running OSnap & OSnap Tracking, Using GRIPS & Object Properties, Create a Window and Copy it to Various Locations, Creating Text Style, Editing Dimensions, Create Draft Passage, Staircase & Lift

Outputs: Aluminum Glass, Computer Institute Plan, Swimming Pool, Pipe section, Chairs, Table, Floor Plan



Computer Institute Plan

TYPE-I
2BHK FLATS
GROUND FLOOR PLAN (G+3)



Floor Plan

Detailed Syllabus

KLIC AutoCAD

Introduction to AutoCAD

- Introduction to CADMAN
- Introduction to AutoCAD
- User Interface of AutoCAD
- File Formats used in AutoCAD

Working with AutoCAD

- Introduction
- Working with Line object

- Erasing Objects
- Using the Grid
- Snap
- Setup Drawing Units & Limits

Input Data: Cartesian & Polar Method

- Introduction
- Coordinates & Coordinate System
- Using Absolute Cartesian Method
- Using Relative Cartesian Method
- Using Polar Coordinate Method
- Using Polar Tracking Method
- Using Dynamic Input to Draw Objects

Creating Objects

- Drawing an ARC
- Drawing SPLINE n POLYLINE
- Drawing CIRCLE n DONUT
- Drawing an ELLIPSE
- Drawing a RECTANGLE & POLYLINES
- Using POINT
- Using HATCH and GRADIENTS

Modifying Objects

- Modify Objects – MOVE
- Modify Objects – COPY
- Modify Objects – ROTATE
- Modify Objects – OFFSET
- Modify Objects – MIRROR
- Modify Objects – SCALE n STRETCH
- Modify Objects – TRIM n EXTEND
- Modify Objects – CHAMFER
- Modify Objects – FILLET
- Modify Objects – BREAK n JOIN
- Modify Objects – ARRAY

Object Snap, Selection & Properties

- Object Snap - OSNAP
- Running OSnap & OSnap Tracking
- Different Methods of Object Selection
- Using GRIPS & Object Properties

Navigation Controls: Zoom & Pan

- Objectives
- Concept of Zoom & Pan
- Zoom All
- Zoom Extents
- Zoom Real time
- Zoom Center
- Zoom Scale
- Zoom Previous
- Zoom Window
- Zoom Object
- Zoom Dynamic
- Using Pan

Annotation: Text & Dimensioning

- Adding Text to Drawing
- Creating Text Style
- Creating Multiline Text
- Adding Dimensions
- Dimension Styles
- Editing Dimensions

Working with Layers & Blocks

- Creating & Using Layers
- Creating & Using Blocks

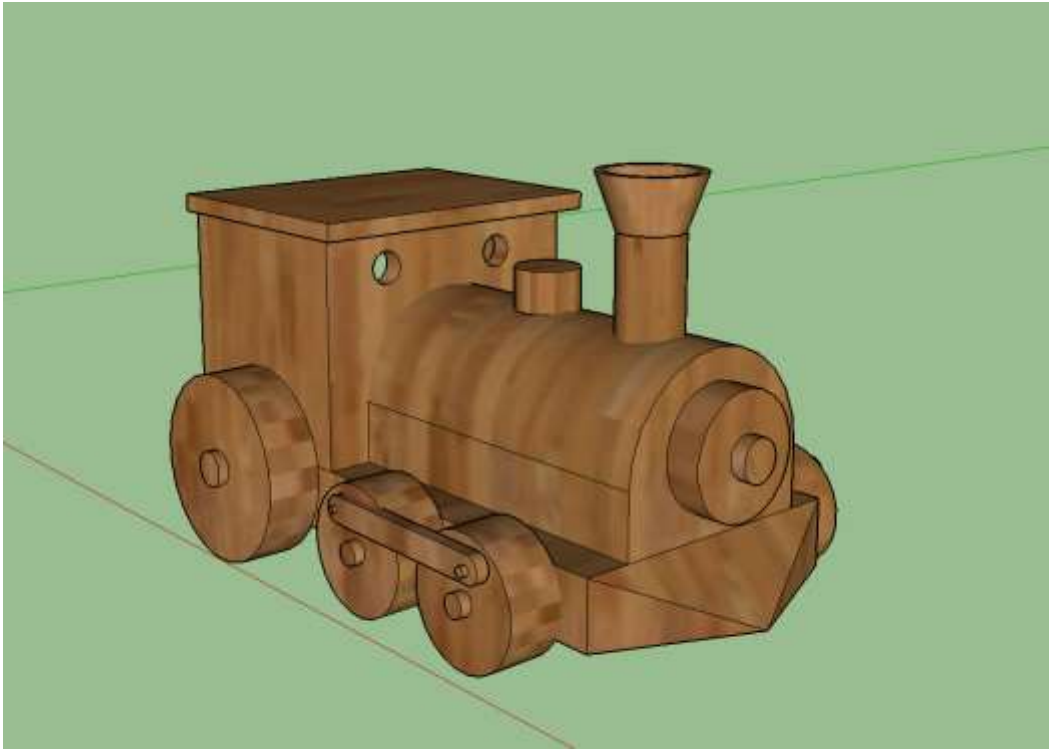
b. KLiC 3D Modelling

Blender



Skills: 3D movies, Comprehend CGI, 3d animation process, CG modeller, install Blender, Various parts of blender

Outputs: Create a toy, create a Coral, create a Chair, create a Chocolate cube, create a Pipe, create a Pillar, create a Ceiling fan, and create a Bullock cart wheel



Create a Toy



Create a Chair

Detailed Syllabus:**KLiC 3D Animation**

- Watching 3D movies
- Entering into CGI industry
- Beginning with CGI
- Taking a career path in 3D industry
- Getting started with 3D software
- Working with Blender
- Situation: First model
- Situation: Coral
- Situation: Loop cut Rat
- Situation: N-Gon
- Situation: Cactus
- Situation: Pipe
- Situation: Chocolate cube
- Situation: Spring
- Situation: Stone
- Situation: Pillar
- Situation: Screw
- Situation: Top
- Situation: Temple
- Situation: Ceiling fan
- Situation: Rupee
- Situation: Apple
- Situation: Bullock cart wheel
- Situation: Stairs
- Situation: Football
- Situation: Monster character
- Situation: Carom
- Situation: Soccer net
- Situation: Flute
- Adding facial shape keys
- Situation: Pool table
- Situation: Couch
- Situation: Guitar
- Situation: Balcony
- Situation: Nomenclature
- Situation: sculpting human head
- Situation: Human denture
- Situation: Retopology
- Normal map Pineapple man
- Situation: Watch
- Situation: Giant wheel
- Situation: Goggle
- Delay to send photorealistic image

- Situation: Bottle
- Presenting the Model
- Freelancing
- Selling 3D Content
- The Story of CGI

c. KLiC 3D Texturing

Blender



Skills: 3D movies, Comprehend CGI, CG Texturing artist, Open ended activity, Texture to 3D Primitive, Different types of Maps, Start using xNormal, Monster, Anisotropic Utensils, Projection Painting

Outputs: Earth/Globe, Sword, Stone, Wooden Chair, Glass and Milk texture, Bronze, Subsurface Scattering, Match Box



Wooden Chair



Match Box

Detailed Syllabus:

KLIC 3D Texturing

- Watching 3D movies
- Entering into CGI industry
- Beginning with CGI
- Taking a career path in 3D industry
- Getting started with 3D software
- Working with Blender
- Situation First model
- Begin with 3D Texturing: a new Texturing artist takes references
- How to create Earth / Globe
- How to create Colgate Box
- How to create Match box
- How to Create different types of Maps
- How to create Sword
- How to create Stone
- How to create Monster
- How to Apply Shaders to Primitive
- How to Texture on Sphere Objects in cycle render
- How to create Wooden chair
- How to create Bulb

- How to create Glass and Milk Texture
- How to create Gold
- How to create Bronze
- How to create Anisotropic Utensils
- How to create Tea Cup (Ceramic Shading)
- How to create Subsurface Scattering
- How to use Projection Painting
- Freelancing
- Selling 3D Content
- The Story of CGI

4. Hardware and Networking

a. KLiC Hardware Support

Hardware Support



Skills: Identifying PC Components, Identifying System Unit Components, Identifying Storage Devices, Assembling a PC, Installing and Configuring a Printer, Troubleshooting and Maintaining Printers, Troubleshooting PC Hardware, Managing safety Hazards, Communication and Professionalism

Tools: PC Hardware, Hardware Monitoring Tools, Multi meters



Hardware Monitoring Tools

Detailed Syllabus:

KLiC Hardware Support

Introduction to IT Hardware

- Identifying System Unit Components
- Motherboard Overview
- Motherboards -Input-output Ports
- Motherboards Expansion Slots
- Motherboard buses
- Motherboards-CPU Sockets
- Understanding CPU Characteristics -Part 1
- Understanding CPU Characteristics -Part 2
- CPU Cooling Techniques
- Motherboards-Jumpers and Power Connectors
- Motherboards -Fans
- Multimedia Devices
- Display Cables and Connectors
- Identifying Storage Devices
- SATA Drives
- PATA Drives
- SCSI Drives
- RAID Drives -Part 1
- Understanding Laser Printers -Part 1
- Understanding Laser Printers -Part2
- Laser Printer Maintenance-Calibration & Cleaning
- Laser Printer -Toner Replacement & Maintenance Kits
- Understanding Inkjet Printers
- Inkjet Printer Cleaning and Maintenance
- Understanding Thermal Printers
- Understanding Impact Printers
- Setting up and Installing a Printer
- Installing Various Types of Hardware Components
- Assembling a PC

Overview of Laptop Hardware

- Laptop Hardware- Speakers, Motherboards & CPU
- Laptop Hardware-Memory & Optical Drives
- Laptop RAM and SSDs
- Laptop Components- Express Cards
- Laptop Components- Expansion Cards
- Tablets vs Laptops

Troubleshooting IT Hardware

- Working with BIOS
- Configuring BIOS settings

- Troubleshooting Hard Drives
- Troubleshooting Printers

b. KLIC Network Support

Hardware Support



Skills: Basics of Networking, Network Cabling, Basics of IP addressing, Configuring DHCP for Small Network, Troubleshooting of Networks, Configuring Wi-Fi Network

Tools: IT helpdesk, Network monitoring tools, LAN testers, Command line tools, Open source subnet calculators, Network packet analyzers



LAN testers

Detailed Syllabus:

KLIC Network Support

Networking Basics

- Basics of Networking
- OSI Model
- TCP/IP Model

- Reference Link 1
- OSI/TCP Model
- Network Protocols

Network Connectivity

- Network Topology and Network Devices
- Reference Link
- Network Cabling
- Internet Connectivity Types

IP Addressing

- Basics of IP addressing
- Classes of IP addresses
- Difference Between Static and Dynamic IPs
- Subnetting
- Configuring DHCP for Small Network
- Network Ports
- Overview of DNS
- WINS vs DNS
- MAC Address Formats
- Troubleshooting of Networks
- Network Troubleshooting Tools

Wi-Fi Networks

- Configuring Wi-Fi Network
- Wireless Standards

c. KLiC Security Support

IT Security Support



Skills: Using Antivirus Software, Antispam Technologies, Configuring Windows Firewall, Firewalls Proxy server and routers, MAC Address Filtering, Network Address Translation, Secure Remote Access, Authentication and Encryption, Man in the Middle Attack, Denial of Service Attack, Using network packet capturing tool

Tools: Open source antivirus, Antispyware, Windows firewall, Wifi security settings, Antispam settings



Windows firewall

Detailed Syllabus

KLiC Security Support

Removing Viruses and Malwares

- Using Antivirus Software
- Adware's and Spywares
- Antispam Technologies
- Installing Free Antivirus and Scanning the PC
- Installing Free Antispyware and scanning Pc for Adware and Spywares

Securing LAN

- Firewalls
- Proxy server
- Routers
- Configuring Windows Firewall
- Overview of IPS and IDS
- Securing Servers - Server Hardening
- Windows Server Hardening

Securing Wi-Fi Network

- WEP, WPA and WPA2
- MAC Address Filtering

Network Access Security

- Authentication and Encryption
- Network Address Translation
- Secure Remote Access
- Secure Remote Access - Configuring VPN in Windows 7

Cyber Attacks

- Common Cyber Attack
- Man in the Middle Attack
- Denial of Service Attack
- Using network packet capturing tool

d. KLiC Desktop Support

Desktop Support



Skills: Installing Windows 7 OS, Installing Ubuntu on a PC, Installing Windows server 2008 R2, Creating Virtual OS Environment, Creating Windows 7 Virtual Operating System, Managing Devices and Drivers in an OS, Configuring backups in Windows 7, Capturing Disk Image -Backup, Capturing Disk Image -Restore, Configuring Regional Language Settings

Tools: Operating system installation utilities, Virtual Operating systems, Hard disk analyzing tools, Remote desktop software, Disk partitioning tools, Windows users and file management, Regional language typing tools



Virtual Operating systems

Detailed Syllabus:

KLiC Desktop Support

Operating Systems

- Types of Operating Systems
- Installing Windows 7 OS
- Installing Ubuntu on a PC
- Installing Windows server 2008 R2
- Operating Systems

Creating Virtual Operating System Environment

- Creating Virtual OS Environment
- Creating Windows 7 Virtual Operating System
- Creating Ubuntu Virtual Operating System
- Configuring Virtual Operating System Environment
- Configuring Windows 7 Virtual Machine
- Using electa Screen Recorder and Format Factory
- Configuring Ubuntu Virtual Machine
- Creating ISO File from a Data CD or DVD
- Virtualization

Managing Users and Groups

- Users in Linux
- Users in Windows
- Creating Users and Groups in Linux
- Creating Users and groups in Windows
- Managing Users and Groups in OS

File System in OS

- File System in Linux
- File System in Windows
- Assigning File Permissions in Linux
- Combining Shared Folder and NTFS Permissions in Windows
- Files and Folders Permissions in Windows
- File System in OS

Disks and Devices Management

- Partitioning a Hard Disk
- Managing Devices and Drivers in an OS

Configuring backups and System images

- Configuring backups in Windows 7
- Capturing Disk Image -Backup
- Capturing Disk Image -Restore
- Configuring Backups in Windows 7

- Configuring Backups

Post Installation configurations and maintenance of an OS

- Configuring Regional Language Settings
- Configuring Remote Desktop Settings
- Enabling Regional language settings
- Installing Google Input Tool for Hindi Typing
- Enabling Remote Desktop Settings
- Configuring Disk Analyzing tool
- Configuring Performance Tuning Tool for a PC

Managing and Maintaining Windows 7 Desktop OS

- Migrating to Windows7
- Performance settings in Windows7
- Problem steps recorder
- Remote Assistance
- Securing Browser in Windows7
- Updating Windows7
- Upgrading to Windows7

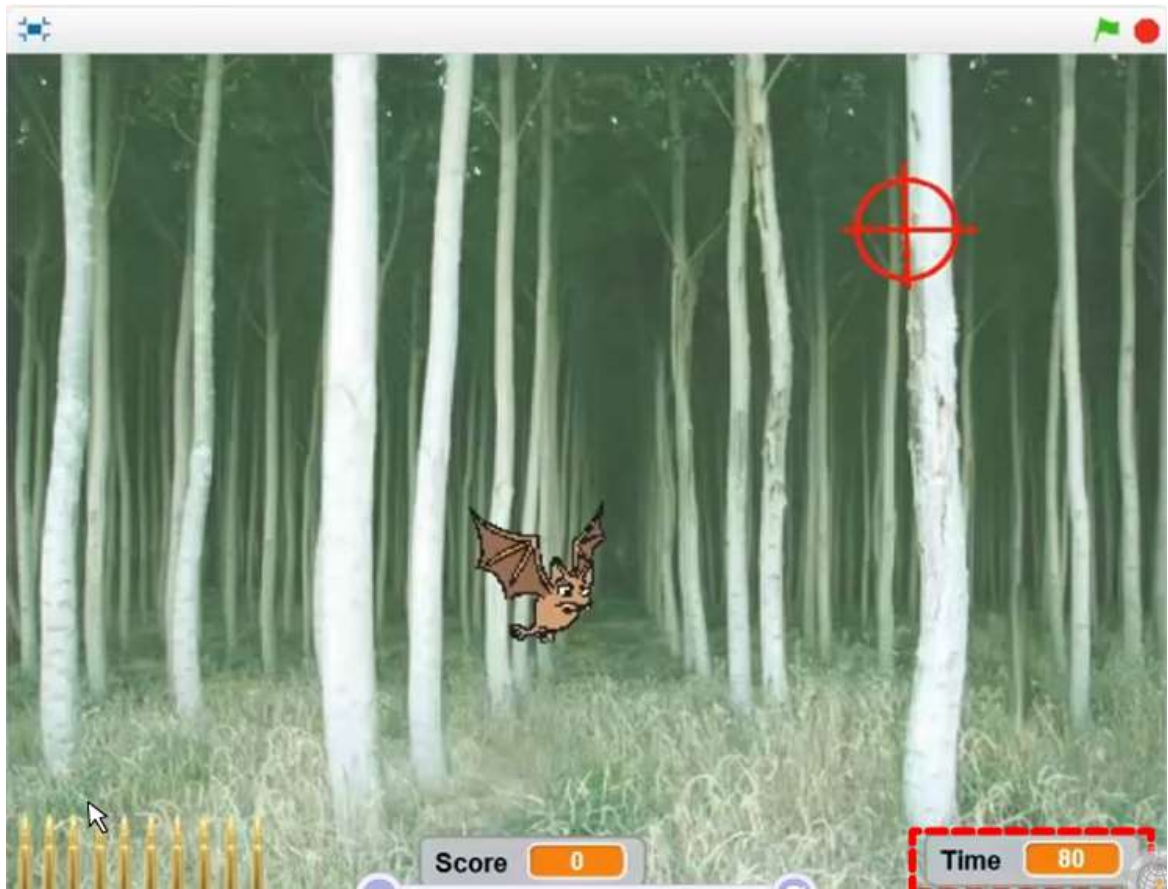
5. Programming

a. KLiC SCRATCH

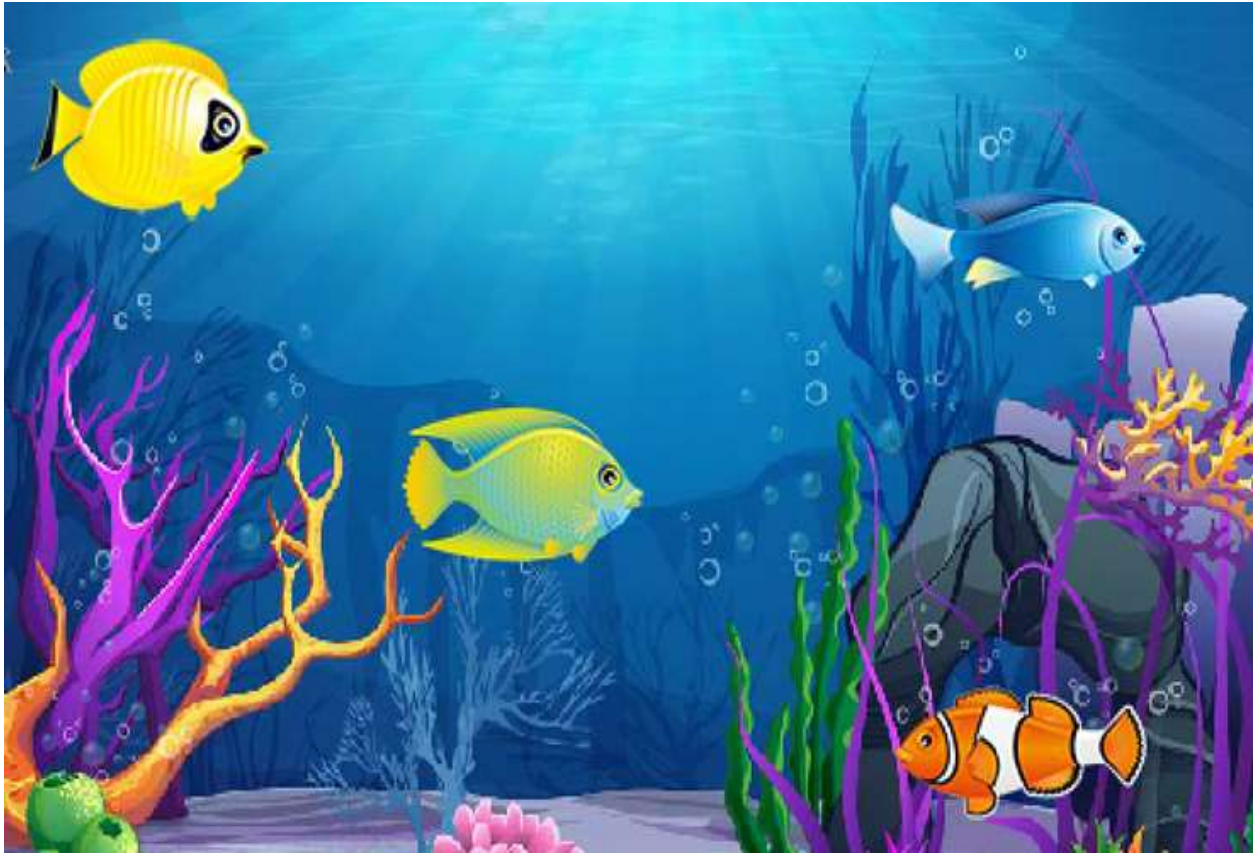


Skills: Computational skills and programming concepts (like sequences, iteration, conditionals, variables, and data structures), problem-solving, project-design skills like reasoning logically, debugging problems, developing ideas from primary concepts to final completed project, and concentration & focus.

Outputs: Creating Animations, Interactive Stories, Games, Shooting Game, Aquarium, Dancing Queen, Greeting Card, Whirling Crab



Shooting Game



Aquarium

Detailed Syllabus:

KLIC SCRATCH Programming

Introduction

- What are Visual Editors?
- Introduction to Scratch
- The Scratch User Interface

Let's Start Scratching

- Dancing is also a Program!
- Step-by-Step
- Some Steps Further
- Case Study - Aquarium
- Planning a Project
- Creating an Interactive Project
- Case Study - Greeting card

Animations

- Performing Scripts
- Build a Band
- Pink Circle, Blue Square
- Animation Projects
- Case Study - Colorful Parrot

Stories

- Characters
- Conversations and Scenes
- Case Study - Dancing Queen
- Creature Creation
- Case Study – Dialogue

Games

- Starter Games
- Scores and timing
- Case Study - Creating Your Own Sprite
- Case Study - Whirling Crab

Diving Deeper

- Cloning
- Video Sensing
- Case Study – Emotions
- Case Study - Electrical Circuit

Scratch Online

- Setting up a Scratch Account
- Creating an Online Project
- Exploring Online Projects
- Scratch Studios

b. KLiC C Programming

Turbo**C****Skills:**

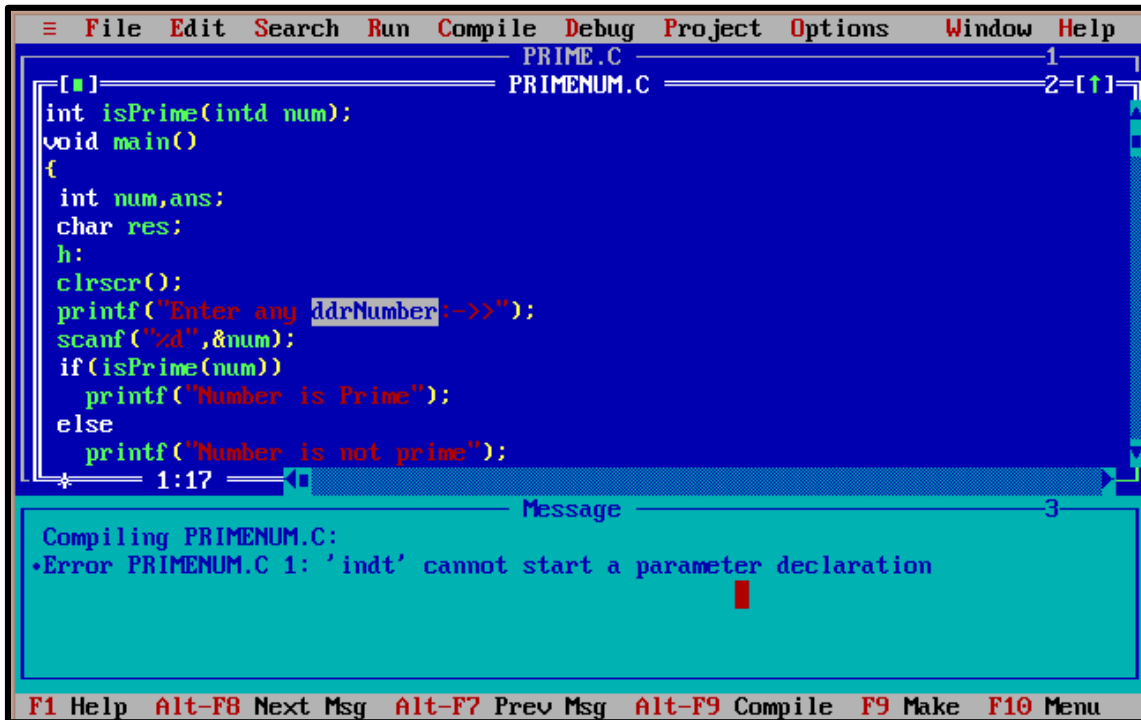
- The C Character Set
- Constants
- Variables and Keywords
- Types of C Constants
- Types of C Variable
- C Keywords
- Receiving Input
- Integer and Float Conversions
- Hierarchy of Operations
- Associativity of Operators
- The if Statement
- Multiple Statements within if
- The if-else Statement
- Nested if-else's
- A Word of Caution
- Loops
- Nesting of Loops
- The Odd Loop
- Switch Versus if-else Ladder
- Calling Convention
- Pointer Notation
- Function Declaration and Prototypes
- Integers
- Long and short
- Integers
- Signed and unsigned
- Floats and Doubles
- Register Storage Class
- Macro Expansion
- A Simple Program Using Array
- Animation at Work Accessing Other Str
- Communication with Keyboard
- Dynamic Linking
- Windows Hooks
- Caps Locked
- Permanently
- Blocking Signals
- Event Driven Programming
- Bounds Checking
- Pointers and Arrays
- Initializing a 2-Dimensional Array
- Pointer to an Array
- Passing 2-D array to a Function
- Pointers and 2-Dimensional Arrays
- Pointers and Strings
- Data Organization
- Reading from a File
- Counting Characters
- Tabs
- Spaces
- Writing to a File
- Record I/O Revisited
- Database Management
- Detecting Errors in Reading/Writing
- I/O Redirection
- Enumerated Data Type
- Typecasting
- Integers
- Memory Management
- Device Access
- Interaction with Window
- Drawing Shapes
- Types of Pens
- Types of Brushes
- Code and Resources
- Freehand Drawing
- The Paintbrush Style
- Capturing the Mouse
- Device Context
- A Closer Look
- Zombies and Orphans
- Zombies and Orphans
- Communication using Signals
- Handling Multiple Signals
- Registering a Common Handler

Turbo**C**

Outputs: Swapping numbers, Roots of a Quadratic equation, Factors of a Number, Reversing an integer, Palindrome number, Factorial, Calculator with basic operations, Prime Numbers, Concatenating Two Strings, Pyramid using numbers, Employee leave management system, Event management system, Book store management system, Business management system, Society management system, Attendance management system, Banking System, Student Management, 'Tic-Tac-Toe' game, Hotel Management System

```
Turbo C++ IDE
File Edit Search Run Compile Debug Project Options
REVERSE_.C
#include<stdio.h>
void main()
{
void reverse_rec(char*);
int S[50];
printf("\nENTER STRING TO REVERSE : ");
scanf("%s",&S);
printf("\nREVERSED STRING IS :- ");
reverse_rec(S);
getch();
}
void reverse_rec(char *STR)
{
if(*STR)
{
reverse_rec(STR+1);
printf("%c",*STR);
}
}
```

Reversing an integer



```
File Edit Search Run Compile Debug Project Options Window Help
PRIME.C 1
PRIMENUM.C 2=[↑]
int isPrime(intd num);
void main()
{
  int num,ans;
  char res;
  h:
  clrscr();
  printf("Enter any ddrNumber:-->>");
  scanf("%d",&num);
  if(isPrime(num))
    printf("Number is Prime");
  else
    printf("Number is not prime");
}
1:17
Message 3
Compiling PRIMENUM.C:
•Error PRIMENUM.C 1: 'indt' cannot start a parameter declaration
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

Prime Numbers

Detailed Syllabus:

KLIC C Programming

Getting Started

- Brief Introduction
- Programming Language
- About C Programming
- C Character Set
- Constants, Variables & Keywords
- Constants in C
- Variables in C
- Writing a C Program
- Instructions and Assignments
- Basic Operators in C Programming

The Decision Control Structure

- Decisions Control Structure & the If Statement
- The if-else Statement
- Use of Logical Operators
- Different types of Operators
- Points to remember

Loop Control Structure

- Loops and the While loop
- While Loop
- For Loop
- Operators in Loop
- The Odd Loop
- Break Statement
- Continue Statement
- do-while loop
- Tips to remember

Case Control Structure

- Decisions using switch
- The Tips and Traps
- Switch versus if-else Ladder
- The goto keyword

Functions and Pointers

- About Functions
- Passing Values between Functions
- Scope Rule of Functions
- Calling Convention
- One Dicey Issue
- Advanced Features of Functions
- Function Declaration and Prototypes
- Call by Value or Call by Reference
- An Introduction to Pointers
- Pointer Notation
- Function Calls
- Basics of Call by value and call by reference
- Conclusions
- Recursion
- Recursion and Stack
- Adding Functions to the Library

Data Types Revisited

- Data type
- Integer number variables
- Integers, signed and unsigned
- Chars, signed and unsigned
- Floats and Doubles
- Issues related to Data types
- Storage Classes in C
- Automatic Storage Class

- Register Storage Class
- Static Storage Class
- External Storage Class
- To study the Ground rules for the Storage Class

The C Preprocessor

- Features of C Preprocessor
- Preprocessor and Macro Directives
- Macros with Arguments and Macros versus Functions
- Various Directives

Arrays

- About Arrays
- What are Arrays
- Usage of Arrays
- Pointers and Arrays
- Passing an Entire Array to a Function
- Two Dimensional Arrays
- Initializing a 2-Dimensional Array
- Memory Map of a 2-Dimensional Array
- Pointers and 2-Dimensional Arrays
- Pointer to an Array 295
- Passing 2-D array to a Function
- Array of Pointers
- Three Dimensional Array

Puppeting on Strings

- What are Strings?
- Pointers and Strings
- Standard Library String Functions
- Two-Dimensional Array of Characters
- Array of Pointers to Strings
- Limitations of Array of Pointers to Strings

Structures

- Why Use Structures?
- Declaring a Structure
- Accessing Structure Elements
- Array of Structures
- Additional Features of Structures
- Uses of Structures

Console Input/output

- Types of I/O
- Formatted Console I/O Functions
- printf() and scanf() Functions
- Unformatted Console I/O Functions

File Input/Output

- Data Organization
- File Operations
- Opening a File
- Reading from a File
- Trouble in Opening a File
- Closing the File
- Counting Characters, Tabs, Spaces
- A File-copy Program
- Writing to a File
- File Opening Modes
- String (line) I/O in Files
- The Awkward Newline
- Record I/O in Files
- Text Files and Binary Files
- Record I/O Revisited
- Database Management
- Low Level Disk I/O
- A Low Level File-copy Program
- I/O Under Windows

More Issues in Input/output

- Using argc and argv
- Detecting Errors in Reading/Writing
- Explanation
- Standard I/O Devices
- I/O Redirection
- Redirecting the Output
- Redirecting the Input & Both Ways at Once

Operations on Bits

- Binary System & Bitwise Operators
- Bitwise AND Operator
- Bitwise OR Operator
- Bitwise XOR Operator
- One's Complement Operator
- Shift Operator
- The showbits() Function

Miscellaneous Features

- Enumerated Data Type and its uses
- Understanding with a Program
- Renaming Data Types with typedef
- Typecasting
- Bit Fields
- Pointers to Functions
- Functions Returning Pointers
- Functions with Variable Number of Arguments
- Unions & Union of Structure

Under Windows 535

- Uses of Windows
- Integers
- The Use of typedef
- Pointers in the 32-bit World
- Memory Management & Device Access
- DOS Programming Model
- Windows Programming Model
- Event Driven Model & Windows programming
- The First Windows Program
- Hungarian Notation

Windows Programming

- The Role of a Message Box
- Here Comes the windows
- More Windows
- A Real-World Window
- Creation and Displaying of Window
- Interaction with Window
- Reacting to Messages
- Program Instances

Graphics under Windows

- Graphics fundamentals
- Device Independent Drawing
- Hello Windows program
- Drawing Shapes
- Types of Pens
- Types of Brushes
- Code and Resources
- Freehand Drawing, the Paintbrush Style
- Capturing the Mouse
- Device Context, a Closer Look

- Displaying a Bitmap
- Animation at Work
- WM_CREATE and On Create()
- WM_TIMER and On Timer()
- Points to remember

Interaction with Hardware

- Hardware Interaction
- Hardware Interaction, DOS Perspective
- Hardware Interaction, Windows Perspective
- Communication with Storage Devices
- The Read Sector() Function
- Accessing Other Storage Devices
- Communication with Keyboard
- Dynamic Linking
- Windows Hooks
- Caps Locked, Permanently
- Mangling Keys
- Key Logger

Under Linux

- What is Linux
- C Programming Under Linux
- The 'Hello Linux' Program
- Processes
- Parent and Child Processes
- More Processes
- Zombies and Orphans

More Linux Programming

- Communication using Signals
- Handling Multiple Signals
- Registering a Common Handler
- Blocking Signals
- Event Driven Programming

Memory Mapping

- Introduction to Memory Map
- Memory Organization
- Segmentation
- Loading OS & Booting Process
- The resident and transient memory area
- Program memory area at run time
- Memory representation of data & function objects

C Traps & Pitfall

- Introduction
- Lexical pitfalls
- Exceptions, String & characters
- Understanding Declaration
- Exceptions in Operators' precedence
- Use of Semicolons
- The Switch statement
- Calling functions
- The Dangling else problem
- Linkages
- External Types
- Expression evaluation sequence
- Issues related to actual parameters
- Eshew Synecdoche
- Library Function
- Preprocessor
- Portability pitfalls
- Signed & Unsigned characters
- Random numbers
- Portability problems

c. KLiC C++ Programming

Turbo

C



Skills: Introduction to Object Oriented Programming, Characteristics of OOPS, Grad Function Prototypes, Flexible Declarations, Structure, union and enum Syntax, Typecasting, Void Pointers, The: Operator, The const Qualifier, Function Prototypes, Function Overloading, Operator Overloading, Classes in C++, Constructors and Destructors, The C++ Free Store, Static Class Data, Static Member Functions, Overloaded Assignment Operator, Copy Constructor, Data Conversion, Stacks and Queues, The Linked List, Trees, Inheritance, Virtual Functions, Object Slicing, The iostream Library, The ios Class, Manipulators, Input / Output in C++, Classes Within Classes, friend Functions, Overloading << and >>, Pointers, Templates, Exception Handling

Outputs: Employee leave management system, Event management system, Book store management system, Business management system, Society management system, Attendance management system, Banking System, Student Management, 'Tic-Tac-Toe' game, Hotel Management System

C++

```
1  #include <iostream>
2  using namespace std;
3  class one
4  {
5      public:
6          void display( )
7          {
8              cout<<endl<<"ln base class"<<endl;
9          }
10 };
11 class oneofone : public one
12 {
13     public :
14         void disply( )
15         {
16             cout<<endl<<"ln oneofone class"<<endl;
17         }
18 };
19
20
21 class twoofone : public one
22 {
23     public :
24         void display( )
25         {
26             cout<<endl<<"ln twoofone class"<<endl;
27         }
28 };
29
```

Programming

Detailed Syllabus:

KLiC C++ Programming

Intro to OOP

- The Beginning
- Structured Programming
- Object Oriented Programming
- Characteristics of Object Oriented Programming

Before We Begin

Grad Function Prototypes

- Comments
- Flexible Declarations
- Structure, union and enum Syntax
- Anonymous unions and enums
- Typecasting
- Void Pointers
- The: Operator
- References
- The const Qualifier
- Constructors for Intrinsic Data Types
- The bool Data Type

Functions

- Function Prototypes
- Function Overloading
- Default Arguments in Functions
- Operator Overloading
- Inline Functions
- Static, virtual and friend Functions

Classes in C++

- Classes and Constructors
- Destructors
- A Complex Class
- Overloaded Operators Revisited
- The this Pointer
- Overloading Unary Operators
- Function Definition Outside The Class
- Function Definition outside The Class
- New and delete Operators
- Using new and delete
- malloc ()/free() versus new/ delete

- The Matrix Class
- Classes, Objects and Memory
- Structures and Classes

The C++ Free Store

- Free Store Exhaustion
- Custom new and delete Operators
- Overloading new/delete in Classes
- Understanding The sequence
- Construction at Predetermined Location
- One Last Issue

Miscellaneous Class Issue

- Static Class Data
- Static Member Functions
- const and Classes
- Overloaded Assignment Operator, Copy Constructor
- Data Conversion
- Data Conversion between Object of Different Classes

Data Structures through C++

- Stacks and Queues
- The Linked List
- Stacks and Queses Revisited
- Trees
- Binary Trees
- Traversal of a Binary Tree
- Deletion from a Binary Tree

Inheritance

- More Inheritance
- Some More Inheritance
- Multiple Levels of Inheritance
- Multiple Inheritance
- Constructors in Multiple Inheritance
- A Word of Caution
- Private Inheritance
- Protected Inheritance
- Functions That Are Not Inherited
- Incremental Development

Virtual Functions

- Pure Virtual Functions
- Virtual Functions under the Hood

- Why virtual Functions?
- Virtual Functions in Derived Classes
- Object Slicing
- Virtual Functions and Constructors
- Destructors and virtual Destructors
- Virtual Base Classes
- Putting it All Together

Input / Output in C++

- The iostream Library
- The ios Class
- Manipulators
- Creating Our Own Manipulators
- User-defined Manipulators with Arguments
- Come GUI and...
- The istream Class
- The ostream Class
- The iostream Class
- The _withassign Classes
- Predefined Stream Objects
- Outputting Strings
- A Brief Review
- File I/O with Streams
- A Better way
- A Filecopy Program
- File Opening Modes
- Binary I/O
- Elementary Database Management
- Class That Read/Write Themselves
- Errors during I/O
- Filecopy Program Revisited
- Overloading <<and>>
- Strstreams
- Automatic Storage Allocation
- Sending Output to Printer

Advanced Features

- Classes Within Classes
- friend Functions
- Overloading << and >>
- One More Use Of friend Function
- friend Classes
- A Word of Caution
- Smart Pointers
- More Smart Pointers

- Pointers to Members
- The explicit Keyword
- The mutable Keyword
- Namespaces
- Using A Namespace
- RTTI
- When to Use RTTI
- Typecasting in C++

Templates

- Function Templates
- A Template Based QuickSort
- Class Templates
- A Linked List Class Template
- Tips about List Class Template

Exception Handling

- Checking Function Return Value
- setjmp() and longjmp()
- Exception Handling in C++
- Exception with Arguments

-End of document-