



## **Scheme of Examination & Detailed Syllabus**

# **Diploma in Computer Application (DCA)**



**AISECT UNIVERSITY**

Matwari Chowk, In front of Gandhi Maidan,  
Hazaribagh (Jharkhand)-825301

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**Department of Computer Science & Information Technology**

**D.C.A  
(Diploma in Computer Application)**

**PROGRAM OBJECTIVES**

This programme is designed with the objective of knowledge and skills in the application of computer. It gives fundamental knowledge of computers, computational techniques, file and data structure and the core of programming. Learners will also be trained in the latest trends of Application Development, Programming Languages and Database Management. DCA equip learners with skills required for high-end applications in Information Technology.

**PROGRAM OUTCOMES**

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

DCA equips the students with skills required for designing, developing applications in Information Technology. Students will able to learn the latest trends in various subjects of computers & information technology.

COURSE STRUCTURE OF DCA I SEMESTER												
Subject Details			Main Examinations				Sessionals ***		Credit Distribution			Allotted Credits
Subject Code	Subject Name	Total Marks	Major		Minor		Max Marks	Min Marks	L	T	P	Subject wise Distribution
			Max Marks	Min Marks	Max Marks	Min Marks						
<b>Theory Group</b>												
TDCA-101	Fundamentals of Computers & Information Technology	100	50	17	20	7	30	12	3	2	-	5
TDCA-102	Operating Systems (DOS, Windows, Linux)	100	50	17	20	7	30	12	3	2	-	5
TDCA-103	Computers in Office–I (MS Word & MS Excel)	100	50	17	20	7	30	12	3	2	-	5
TDCA-104	Computers in Office–II (MS PowerPoint, MS Access & MS Outlook)	100	50	17	20	7	30	12	3	2	-	5
TDCA-105	Communication Skills & Personality Development	100	50	17	20	7	30	12	3	2	-	5
<b>Practical Group</b>			<b>Term End Practical Exam</b>				<b>Lab Performance</b>					
TDCA-102	Operating Systems (DOS, Windows, Linux)	50	25		8		25	8	-	-	1	1
TDCA-103	Computers in Office–I (MS Word & MS Excel)	50	25		8		25	8	-	-	1	1
TDCA-104	Computers in Office–II (MS PowerPoint, MS Access & MS Outlook)	50	25		8		25	8	-	-	1	1
<b>Grand Total</b>		<b>650</b>										<b>28</b>

Minimum Passing Marks are equivalent to Grade D

L- Lectures T- Tutorials P- Practicals

\*\*\*Sessional Weightage - Attendance 50%, Four Class Test/Assignments 50%

COURSE STRUCTURE OF DCA II SEMESTER												
Subject Details			Main Examinations				Sessionals ***		Credit Distribution			Allocated Credits
Subject Code	Subject Name	Total Marks	Major		Minor		Max Marks	Min Marks	L	T	P	Subject wise Distribution
			Max Marks	Min Marks	Max Marks	Min Marks						
<b>Theory Group</b>												
TDCA-201	Introduction to Internet and web Technology	100	50	20	20	7	30	12	3	2	-	5
TDCA-202	Introduction to financial Accounting with Tally	100	50	20	20	7	30	12	3	2	-	5
TDCA-203	Programming with Visual Basic.Net	100	50	20	20	7	30	12	3	2	-	5
TDCA-204	Database Handling with Foxpro	100	50	20	20	7	30	12	3	2	-	5
<b>Practical Group</b>			<b>Term End Practical Exam</b>				<b>Lab Performance</b>					
TDCA-201	Introduction to Internet and web Technology	50	25		8		25	8	-	-	1	1
TDCA-202	Introduction to financial Accounting with Tally	50	25		8		25	8	-	-	1	1
TDCA-203	Programming with Visual Basic.Net	50	25		8		25	8	-	-	1	1
TDCA-204	Database Handling with Foxpro	50	25		8		25	8	-	-	1	1
TDCA-205	Project Report	100	50		17		50	17	-	-	2	2
<b>Grand Total</b>		<b>700</b>										<b>26</b>

Minimum Passing Marks are equivalent to Grade D

L- Lectures T- Tutorials P- Practicals

\*\*\*Sessional Weightage - Attendance 50%, Four Class Test/Assignments 50%

**AISECT UNIVERSITY, Hazaribag, Jharkhand**  
**Scheme of Examination**

**Department: Computer Science and Information Technology**

Subject Code	Subject Name	Credits	Maximum marks Allotted						Duration of Exam.	
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TDCA-101	Fundamentals of Computers & Information Technology	5(3-2-0)	50	20	30	-	-	100	3 hr	-

Objective – Student will be able

1. To understand the basic knowledge of computer
- 2 To understand the assembly-level programming
3. To understand the input output devices, storage media, memory .
4. To understand the concept of MIS, Networking devices.

**Syllabus**

**Theory:**

**UNIT-I**

**Know the Computer** -, Introduction, What does computer stand for?, Strengths of computers, Limitations of computers, Fundamental uses of computers, Development of computers, Types of Computers, Generations of Computers

**Personal Computer** - Introduction, Personal computer, Uses of personal computers, Components of personal computers, Evolution of PCs, Developments of processors, Architecture of Pentium IV, Configuration of PC

**Input Devices** - Introduction, Input Device, Typing Input Devices, Pointing Input Devices, Scanning Input Devices, Audio Visual Input Devices

**Output Devices** - Introduction, Output Devices, Soft Copy Vs Hard Copy Output, Monitor, Printers, Plotter , Electrostatic Technique, Special Purpose Output Equipments

**UNIT-II**

**Central Processing Unit** - Introduction, What is Central Processing Unit, Arithmetic And Logic Unit, Control Unit, Registers, Instruction set, Processor Speed

**Storage Devices** - Introduction, Storage and its needs, Brain Vs Memory, Storage Evaluation Units, Data Access Methods, Primary Storage, Secondary Storage, Hard Disk Operations, Floppy Disk Drives, Winchester Disk, Optical Disk, VCD, CD-R, CD-RW, DVD, Zip Drive, Flash Drives, Blue Ray Disk, Memory Card, Driving Naming Conventions In a PC

**Basics of Software-** Introduction, What Does Software Stand For ?, Needs of software, Types of software, Open Source Software, Integrated Development Environment

**UNIT-III**

**Operating System** - Introduction, Operating System, Why an Operating System, Functions of Operating System, The Booting Process, Types of Reboot, Booting From Different Operating System, Types of Operating System, Some Prominent Operating Systems

**Disk Operating System** - Introduction, What is DOS?, Functions of DOS, Versions of DOS, DOS Commands , Important Internal Commands of DOS, Important External Commands of dos, Executable Vs Non-Executable Files In Dos

**Programming Languages** Introduction, Data, information And Knowledge, Characteristics of

Information, Comparison between human language and , Computer Language, What is a program?, What is a Programming language?, Programming development cycle, Algorithm, Program Flowcharts, Pseudo code, Programming approaches, Programming Paradigms, Types of Programming Language, Third Generation Language, Fourth Generation Language

#### **UNIT-IV**

**Computer Virus** - Introduction, Virus, History, Mechanism of virus, How A Virus Spreads , How is virus named, A few Prominent Viruses, Types of Computer Virus, Related Concepts :, Anti Virus Programs, Norton Anti - Virus (NAV), Execution of Norton Anti-Virus

**Communication and IT** - Introduction, Computer Network, Communication Process, Communication Types, Transmission Media, Wireless Media, Communication Channels/Media, Modem, Characteristics of a Modem, Types of Modem

**Networks** - Introduction, Internet Vs Intranet, Types of Network, Topology, Types of Connectivity, Network Devices

#### **UNIT-V**

**Internet** - Introduction, What is Internet actually ?, Growth of Internet, Owner of the Internet, Internet Service Provider, Anatomy of Internet, ARPANET and Internet history of the World Wide Web, Services Available on Internet (Internet Tools), Basic internet terminologies, net etiquette, Application of internet

**Management Information System** - Introduction, Information System, Management Information System (MIS), Fields of Information System, Elements Of MIS, Objectives Of MIS, Characteristics of MIS, Impact Of MIS, Designing An MIS, Placement Of MIS, Views Of MIS, Pitfalls In Designing an MIS, Advantages of MIS, Disadvantages of MIS

**Applications of Computers and Information Technology** - Introduction, Business And Computer, E-Mail, E-Commerce, Project management, Computers in Personnel Administration, Accounting, Computers in Cost and Budget Control, Marketing, Manufacturing, Materials management, Banking, Insurance And Stock broking, Purchasing, Computers in warehousing

**Out Comes** – After study this student will be able to know about terms and concepts of Fundamentals of Computers & Information Technology (hardware, software, networking, security, Internet/Web, and applications).

#### ***Texts & Reference Books :***

- **Introduction to Computers and Information Technology** by Anurag Seetha, Ram Prasad & Sons, .Bhopal.
- **Computers Today** by S.K.Basandra, Galgotia Publications.
- **Fundamentals Of Information Technology** by Alexis Leon & Mathews Leon, Vikas Publishing House, New Delhi.
- **DOS Quick Reference** by Rajeev Mathur, Galgotia Publications.

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**(Board of studies)**

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**(Registrar)**

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**AISECT UNIVERSITY, Hazaribag, Jharkhand**  
**Scheme of Examination**

**Department: Computer Science and Information Technology**

Subject Code	Subject Name	Credits	Maximum marks Allotted						Duration of Exam.	
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TDCA-102	Operating Systems (DOS, Windows, Linux)	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

Objective – Student will be able

1. To develop the understanding of functioning of Operating System.
- 2 To understand the Process Concepts, process state & process control
- 3 To understand the Critical Section Problem
- 4 To understand the Contiguous Allocating, Paging
- 5 To understand the Disk Scheduling, Disk Management

**Syllabus**

**Theory:**

**UNIT-I**

**Operating system**, definition and need. Main Services of operating system , various types of operating system, (definition and characteristics), multitasking, multiprocessing , multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**DISK OPERATING SYSTEMS (DOS) -** Introduction, History & versions of DOS DOS basics-Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

External Commands - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

**UNIT-II**

**WINDOWS -** Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (**XP or Windows 7**) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders .My computer, formatting floppy disks, Using CDROM Disk and Dives.

**Windows Accessories programs-** Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

### UNIT-III

**Advanced features of Windows** -Managing Hardware & Software – Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.  
**System Tools** - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

### UNIT-IV

**Communication** – Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial ,Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

### UNIT-V

**LINUX** - Linux introduction, Basic Features, Advantages, Features of Linux, Basic Architecture of Unix/Linux system, Kernel, Shell, Linux File system, Linux standard directories. Partitioning the Hard drive for Linux, Installing the Linux system, System, startup and shut-down process, How Linux works, Linux GUI, Linux Desktop, Creating files in Linux.

Essential linux commands Understanding shells, Commands for files and directories cd, ls, cp, md, rm, mkdir, rmdir, pwd, file, more, less, creating and viewing files using cat, file comparisons – cmp & comm, View files, disk related commands, checking disk free spaces.

**Out Comes** – After Study This Student Will Be Able To Know About functioning of Operating System. To make students able to learn different types of operating systems along with concept of file systems and CPU scheduling algorithms used in operating system.

To provide students knowledge of memory management and deadlock handling algorithms.

At the end of the course, students will be able to implement various algorithms required for management, scheduling, allocation and communication used in operating system

### Practical:

1. Introduction of Microsoft windows.
2. Creation of file and folder in MS Windows.
3. Write a shell script to find factorial of a given integer.
4. Write a shell script to list all of the directory files in a directory.
5. Create a script file called file properties that reads a file name entered and output its properties
6. Write a syntax and example for any five internal DOS commands.

### Reference Books:

- Operating System Concepts by Silberschatz & Galvin, Addison Wesley Publication 6th Edition.
- Operating System Concepts & Design by Milan Milen Kovic, TMH Publication
- Operating system William Stalling , Pearson Edu



- Linux and Shell Programming -Sumitabha Das, Tata McGraw Hill Publications.
  - **DOS Quick Reference** by Rajeev Mathur, Galgotia Publications.
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**AISECT UNIVERSITY, Hazaribag, Jharkhand**  
**Scheme of Examination**

**Department: Computer Science and Information Technology**

Subject Code	Subject Name	Credits	Maximum marks Allotted						Duration of Exam.	
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TDCA-103	Computers in Office-I (MS Word & MS Excel)	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

Objective – Student will be able

1. To understand the basic knowledge of MS Windows.
2. To understand the Office Packages.
3. To understand the MS Excel.
4. To understand the MS PowerPoint & Outlook Express.

**Syllabus**

**Theory:**

**UNIT-I**

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page.

**UNIT-II**

**Formatting-** Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document.

**UNIT-III**

**Adding References** – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and Smart Arts, symbol in Document. Using Macros in Word- Record, edit and run macros.

**UNIT-IV**

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and

Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text.

#### **UNIT-V**

**Formulas-** Use of Formulas, Calculations using various type of functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet- Record, edit and run macros.

Out Comes – After studying this student will be able to know about terms and concepts of Microsoft suite completely.(like MS-word,power-point-exel sheets,outlook express)

#### **Practical:**

1. Introduction of MS Word.
2. Inserting Number, Bullets, Footer and Header.
3. Creating text, document and table in MS Word.
4. Write steps for mail merge.
5. Introduction of Microsoft excel.
6. Write steps to inserting formula in MS Excel.
7. Creating text, row and Column in MS Excel.

#### ***Text & Reference Books:***

- Windows XP Complete Reference. BPB Publications
- MS Office XP complete BPB publication
- MS Windows XP Home edition complete, BPB Publications

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**Department: Computer Science and Information Technology**

Subject Code	Subject Name	Credits	Maximum marks Allotted						Duration of Exam.	
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TDCA-104	Computers in Office-II (MS PowerPoint, MS Access & MS Outlook)	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

Objective – Student will be able

1. To understand the basic knowledge of MS Windows.
2. To understand the Office Packages.
3. To understand the MS Excel.
4. To understand the MS PowerPoint & Outlook Express.

**Syllabus**

**Theory:**

**UNIT-I**

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide.

**UNIT-II**

**Working with PowerPoint Objects-** PowerPoint Objects Insert WordArt and other objects like shapes, clipart, charts and Smart Arts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

**UNIT-III**

**MS-Access** – Getting Started, Adding and Changing Data, Simple Queries, Creating Append Queries, Creating QBE Queries, Multi-table QBE Queries, SQL Queries.

**UNIT-IV**

**Outlook Express** - introduction, WHAT IS outlook express?, Features of Outlook Express, starting outlook express, Concepts of CC and BCC, Email Address, Reading a received message , composing message, Replying And Forwarding Messages, Attaching files, Creating Signature In Outlook Express, Formatting message text, What is MIME?, Applying stationery.

**UNIT-V**

Inserting a hyperlink or HTML page into a message, Flagging an e-mail or news message, Importing messages from other e-mail programs, What are newsgroups?, Adding a newsgroup account, Switching between e-mail and news reading, Identities (Multiple Users on A Single Computer), Adding a new identity, Managing Contacts With Outlook, creating addresses, Importing an address book from another program, Using keyboard shortcuts in Outlook Express

Out Comes – After studying this student will be able to know about terms and concepts of Microsoft suite completely.(like MS-word,power-point-exel sheets,outlook express)

**Practical:**

1. Introduction of Microsoft Power Point.
2. Write steps how to using graphics in power point.
3. Introduction and theory of Microsoft Outlook.
4. Write steps to create table in MS-Access.
5. Write any five DML commands in MS-Access.

***Text & Reference Books:***

- Windows XP Complete Reference. BPB Publications
- MS Office XP complete BPB publication
- MS Windows XP Home edition complete, BPB Publications

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Subject Code	Subject Name	Credits	Maximum marks Allotted					Duration of Exam.		
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TDCA-105	Communication Skills & Personality Development	5(3-2-0)	50	20	30	-	-	100	3 hr	-

**Syllabus**

**Theory:**

**UNIT-I**

English Language - Listening, Speech, Pronunciation, Reading, Spelling, Writing *Right*  
Nouns : Countable and Uncountable, Pronouns : Personal, Relative and Others, Articles  
The Parts of Speech, The Prepositions, Clauses : Coordinate, Subordinate, Relative Adverbs,  
Adjectives and Adjective Phrases, Verb.

**UNIT-II**

The Model Auxiliaries, Adverb, Adverb Phrases Comparisons and Intensification, Linking  
Devices, Subject Verb Agreement, Tenses, Common Errors, Word Building, Vocabulary  
Developing Ability of Question and Answer, Body Language and Its Use in Speaking, Group  
Discussions, Interview Skills.

**UNIT-III**

Composition - Making a Technical Report, E-Mails and Text Messages Composing, Letter  
Writing, Paragraph Writing, E-mail Writing, Writing Resume, Writing a Cover Letter

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic  
Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building,  
Self Confidence, Leadership Skills, Time Management.

**UNIT-IV**

Introduction to Personality a) Basic of Personality b) Human growth and Behavior c) Theories in  
Personality d) Motivation

Communication skills and Personality Development a) Intra personal communication and Body  
Language b) Inter personal Communication and Relationships c) Leadership Skills d) Team  
Building and public speaking

**UNIT-V**

Techniques in Personality development I a) Self confidence b) Mnemonics c) Goal setting d) Time  
Management and effective planning

Techniques in Personality Development II a) Stress Management b) Meditation and concentration  
techniques c) Self hypnotism d) Self acceptance and self growth

**Reference Books:**

- “English Language and Indian Culture” - M.P.Universities' 1st year Foundation Course published by M.P.Hindi Granth Academy, Bhopal [Complete]

- “Written Communication in English” by Sarah Freeman published by Orient Longman [Units I and II only]
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Subject Code	Subject Name	Credits	Maximum marks Allotted						Duration of Exam.	
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign .	End Sem	Term work			
TDCA-201	Introduction to Internet & Web Technology	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

**Syllabus**

**Theory:**

**UNIT-I**

**Introduction To Internet-** introduction, what is internet actually ?, growth of internet , owner of the internet, internet service provider, anatomy of internet, arpanet and internet history of the world wide web, services available on internet wais , basic internet terminologies, net etiquette, applications, commerce on the internet, governance on/through the internet, impact of internet on society.

**TCP/IP - Internet Technology And Protocols-**introduction, switching technology , internet protocols, overview of TCP/IP reference model, introduction to TCP/IP, routers, internet addressing scheme.

**UNIT-II**

**Internet Connectivity** - connectivity types, level one connectivity, level two connectivity, level three connectivity, hardware requirements, modems, narrow-band/phone-line dialup modems, software requirements, modem configuration:, telephone line options, making a dial-up connection, protocol options, service options, news services, desktop alerts

**Internet Network-** computer networks, applications of networks, common terminologies :, interoperability, network security, the need for security, common threats, security barriers in network pathways, network components : communication media, network devices, types of network : client / server & peers, addressing in internet, domain name system (DNS), domain name and their organization, network topology, internet vs. Intranet.

**Services Of Internet (Definition And Functions)** - introduction, file transfer protocol, ftp related terminologies, ftp servers and authentication, public and private software services, ftp clients, types of ftp client software, displaying files , remote login, chat programs, connecting to a server, search engines.

**UNIT-III**

**Electronic Mail** - introduction, what is an e-mail?, email networks and servers, merits of e-mail, limitations, e-mail protocols, structure of an e-mail, e-mail address, Microsoft internet explorer and outlook express, applying stationary, web based emails, working with yahoo, starting the mail program , creating signature in outlook express, creating signature in yahoo, email encryption, why email encryption?, digital certificate.

**Current Trends On Internet** -current trends of internet:., languages used on the internet, internet phones, internet video / internet tv, streaming video & audio, collaborative computing, e-commerce, technical and organizational aspects



**Web Publishing-** overview, SGML (standard generalized markup language), what is the need of a website? , types of web sites, components of web publishing , domain name planning and registration, choosing a web host and signing up for an account, web hosting, web design and development, testing your website, promotion of the site, registering your site with a search engine, publishing tools, html editor, image editor, program to transfer your files to a web server, uploading web pages using Cute ftp.

#### **UNIT-IV**

**World Wide Web-** introduction , evolution of the www, basic features, mechanism of the world wide web, search and meta-search engines, searching the web, using boolean operators in your searches, using advanced , using a metasearch engine, site specific search tools, web protocols, hyper text transfer protocol (http), web server

**Browsers** , introduction, www web browsers, Mozilla Firefox browser, the opera browser, google chrome, what are bookmarks?, adding folders, favorites, deleting favorite folders and pages, history, progress indicator, customizing internet explorer, turning off graphics to display all web pages faster, customizing the toolbar, copying, saving and printing in internet explorer, printing an image from a web page, printing a web page, cookies, what is cache setting ? , internet explorer, the standard toolbar, internet explorer keyboard shortcuts.

**Hyper Text Markup Language Programming Basics** - introduction, html editors, elements of html, definition lists , compact attribute, nested list, type attribute, html links, using alt attribute, background graphics, html document tables, creating tables within tables, html frames, html rules, introduction of multimedia, meaning of multimedia, what is multimedia ? , identifying multimedia elements, audio on the web, video on the web.

#### **UNIT-V**

**Introduction To Interactivity Tools-** overview, what is ASP?, functions of asp, the basic syntax rule , writing output to a browser, adding some html to the text, declaring a variable in asp, declaring an array in asp, what is VBScript?, java, features of java, starting with java, Javascript and java, syntax and conventions, Frontpage, introduction to flash, installation of flash MX, creating simple animation for the web, working with layers in flash, masking in flashmx, bouncing effect in flash, to create motion tween , flash ripple effect.

**Internet Security Management Concepts, Information Privacy And Copyright Issues** - overview , basic security concepts, security events, measures for check threats, firewalls , monitoring tools, security analysis tools, cryptography , information privacy, copyrights and the internet, copyright legislation in India, key points of copyright, encryption & decryption - cryptography, terminology

**Firewalls** - firewalls, firewall design principles, firewall attributes, firewall strengths and weaknesses, types of firewalls, comparison of firewall types, DMZ DNS server, VLAN

#### **Practical:**

1. WAP which shows headings five time in ascending order. Align the heading also.
2. Write a program which show four paragraph under four headings.
3. Write a program for formatting the text & marked highlighted text.
4. Write a program for some text using CSS technique.
5. Write a program to insert an image in a page.
6. Write a program to make a table for any company employee's data record.
7. Write a program to make forms for different uses.
8. Write a java script to print the heading and paragraph & also create a button
9. Write a program to upload video on web page.
10. Write a program to change the back ground of any page.
11. Write a program to create a link between page.

***Text & Reference Books:***

- Computer Network by A.S. Tanenbaum.
  - Data Communication and Networks by William Stallings.
  - Data Communication Today by Stan Gelber..
  - Data Communication by Prakash G. gupta.
  - Data Communication by Singh & Sapre.
  - Network Basics, Internet & Web Design by Kamal Prakashan
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**AISECT UNIVERSITY, Hazaribag, Jharkhand**  
**Scheme of Examination**

**Department: Computer Science and Information Technology**

Subject Code	Subject Name	Credits	Maximum marks Allotted						Duration of Exam.	
			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TDCA-202	Introduction to Financial Accounting with Tally	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

**Syllabus**

**THEORY:**

**UNIT-I**

Accounting, Meaning Of Accounting, Objectives Of Accounting, Important Terms, Accounting Equation, Rules Of Debit And Credit- Journal & Ledger, Journal, Ledger, Cash Book, Subsidiary Books, Financial Statement, Trading & P&L A/C, Balance-sheet, Inventory, Adjustment Entries, Bill Of Exchange

Installing Tally 9, Introduction, Tally 9.0 (Release 1.0), Major Enhancements In Tally 9, Minor Enhancements In Tally 9, Multilingual Business Accounting And Inventory Management Features, Performance And Implementation Features, Accounting And Inventory Control Features, Installing Tally 9.0, Application Directory,

Data Directory, Configuration Directory, Language Directory, Activating Tally, Activating Tally Gold For Multi User, Registering Tally, Validating Tally, Tally Data Migration Tool, Uninstalling Tally 9

**UNIT-II**

ABC of Company, Creation Of New Company Selection Of New Company Deletion Of Company Alteration Of Company Shut A Company Company Features, Features Of Company Accounting Features Inventory Features, , Statutory Features Tally Screen Components, Title Bar, Button Bar, Calculator, Working Are, Quitting, Gateway Of Tally, Current Status Area Configuration, General, Numeric Symbols, Accts/Inventory Info, Printing, Connectivity, Licensing, Shop, Quit Budget, Introduction, Budget, Creating Budget, Alter A Budget, Delete Budget, Display Budget/ Budget Variance, Scenarios Job Costing, Introduction, Enabling Or Configure Job Costing In Tally, Master Creation For Job Costing, Voucher Type And Voucher Class, Job Cost Reports

**UNIT-III**

Reports, Introduction Accounting Reports, Trial Balance, Balance Sheet, Profit & Loss, Cash Flow Statement, Fund Flow Statement, Ratio Analysis, Day Book, Cash/Bank Book Sales Register

Purchase Register Outstanding Interest Cost Centers Job Work Analysis Statistics Inventory Reports

Accounts Groups & Ledgers, Introduction Accounts Group Multiple Group Creation Display Group Alter Group Multiple Ledgers Display Ledger Alter Ledger Voucher Types  
Payroll Accounting, Introduction, To Activate Payroll In Tally 9, Payroll Menu, Display Pay Heads, Multiple Group Creation, Employee Creation, Salary Detail, Attendance, Attendance Type, Voucher Creation.

#### **UNIT-IV**

Export & Import, Introduction, Export, Import, ODBC Compliances. Cost Centre, Introduction Cost Centre, Creating Cost Centre, Display Cost Centre, Alter Cost Centre Cost Category, Create Cost Categories, , Display Cost Categories, Alter Cost Categories Voucher Entry Cost Centre Class, Creating Cost Centre, Invoice Entry Using Cost Centre Reports Related To Cost Centre  
Foreign Currencies, Introduction Foreign Currency, Create Foreign Currency, Alter Foreign Currency, Display Foreign Currency, Exchange Rate Entry Voucher Entry Using Foreign Currency Voucher Entry through Forex Journal Voucher Class Reports Related To Foreign Currency  
Interest, Introduction, Interest, Simple Mode, Interest On Outstanding Balances, Reports On Interest Calculated On Outstanding Balances, Advanced Parameter Mode, Interest Calculation Transaction By Transaction/Voucher Interest At Fixed Rate, Voucher Interest At Variable Rate, Statement Of Interest Due On Invoice, Interest Reports, Interest Voucher Class.

#### **UNIT-V**

Printing, Introduction Cheque Printing, Multi Account Printing, Printing Options General, Purchase Printing, Sales Transaction, Receipt Voucher, Journal/Contra, Debit/Credit Note, Reminder Letter, Confirmation Statement Reports Printing Button Related  
Bank Reconciliation, Introduction, Bank Reconciliation In Tally 9, Configuration Of Bank Reconciliation  
Security Control, Introduction Security Levels Access Type  
Backup & Restore, introduction, Group Company, Create a Group Company, Alter a Group Company, Tally Audit, Splitting Company Data  
Inventory, Introduction Stock Group Stock Item Stock Categories Godowns Units Of Measures Rate Of Duty Inventory Vouchers Reorder Level Inventory Reports Inventory Info Inventory Books Statement Of Inventory Batch Wise Details Price List

#### **Practical:**

##### **1.Creating [Sundry Creditor] Masters for Service Tax**

Let us create the following ledger masters related to Service Tax:

- Sundry Creditors
- Sundry Debtors
- Duties and Taxes
- Sales Accounts
- Purchase Accounts

##### **2. Creating [Sundry Debtor] Masters for Service Tax**

Let us create the following ledger masters related to Service Tax:

- Sundry Creditors
- Sundry Debtors
- Duties and Taxes
- Sales Accounts
- Purchase Accounts

### **3. Creating [Service Tax] Masters for Service Tax**

Let us create the following ledger masters related to Service Tax:

- Sundry Creditors
- Sundry Debtors
- Duties and Taxes
- Sales Accounts
- Purchase Accounts

### **4. Creating [Sales Ledger] Masters for Service Tax**

Let us create the following ledger masters related to Service Tax:

- Sundry Creditors
- Sundry Debtors
- Duties and Taxes
- Sales Accounts
- Purchase Accounts

### **5. Creating [Purchase Ledger] Masters for Service Tax**

Let us create the following ledger masters related to Service Tax:

- Sundry Creditors
- Sundry Debtors
- Duties and Taxes
- Sales Accounts
- Purchase Accounts

### **Reference Book:**

1. Implementing Tally 6.3 by Nadhani; BPB Publications
2. BPB Tally 6.3 by BPB Editorial Board (Hindi) BPB Publications

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TDCA-203	Programming with Visual Basic.Net	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

**Objective – Student will be able-**

- The aim of the course is for the student to aim knowledge in the basic concepts of object-oriented programming and build skills to develop modern software programs using the language Visual Basic. The course is also suitable for students with prior programming experience who wish to strengthen their knowledge in the area of object-oriented design and programming with Windows.
- Analyze program requirements
- Design/develop programs with GUI interfaces
- Code programs and develop interface using Visual Basic .Net
- Perform tests, resolve defects and revise existing code

**Syllabus**

**Theory:**

**UNIT-I**

**Introduction to .NET** - Introduction, What is a Program?, What is Programming?, What do you mean by .NET Framework?, Features of .NET Framework, VB 6 VS VB.NET, VB.NET VS JAVA, VB.NET VS C#, What is .NET Architecture?, What is CLR?, What do you mean by Class Library?, Versions of .NET Framework, What are Assemblies?, Namespaces, CTS (Common Type System), Interfaces, What is special in VB.NET?

**Visual Studio 2005** - Introduction, What is Visual Studio?, Flavors of Visual Studio, Visual Studio 2005, File Extensions Used in VB.Net, Using Visual Studio 2005, Feature of Visual Studio 2005, Output Window, Components Tray, References and the Reference Window, Quick View of Visual Studio 2005, Opening an existing project, Adding a Form to a Project.

**UNIT-II**

**The Visual Basic Language** - Visual Basic Statements, Data Types in VB.NET, Declaring Variables, Declaration of Variables (Advanced), Data Type Conversion, String Functions, Formatting Data, Arithmetic Operators, Parentheses and Precedence, Operator Operation, Constants, Control Statements, Arrays in VB.NET, Specifying Optional Procedure Arguments, Passing a Variable Number of Arguments, Recursion, Using a Delegate

**Working With The Controls** - The Toolbox, Adding and deleting Tools in the Toolbox, creating a tab on the toolbox, Form Designer Basics, The Button, The ComboBox, The ListBox, The Checkbox, The PictureBox, The RadioButtons, The Scroll Bar, Timer, ListView, TreeView, Toolbar, Dialog Boxes, Menus in VB.NET, LinkLabel Control.

**UNIT-III**

**Designing Menus** - Menus, Context menu, Event of the MenuItem, Creating menu items in Visual

Studio .Net

**Object Oriented Programming with VB.NET** - OOPs?, What is an Object?, What are Classes?, Visual Basic .NET and Object-Oriented, Principles of Object-Oriented Programming, Classes V/s Objects, Inheritance, Polymorphism and Overloading, Scope and Accessibility in Class Modules, Namespaces, Managed Execution, Assemblies, Assemblies in VB .NET

**The .NET Framework Class Library** - The .NET Framework Class Library, The System Namespace, Data Type Conversion Using Convert Class, The Array Class, The Math Class, The String Class, Other Namespaces, System.Collections, System.Data, System IO.

#### **UNIT-IV**

**OLE/COM/Win32 API** - Object Linking and Embedding, History of OLE/COM, Component Object Model (COM), COM interoperability in .NET, Win32 API in .NET, COM Interoperability in .NET, Installation and Registration of Assembly, Microsoft Office solutions with Visual Studio .NET, Automation of Office from Visual Studio .NET, Creating and opening Microsoft Word document from VB.NET.

**User Controls in VB.NET** - Introduction, The Control Class, The Control Class' Properties, The Control Class' Methods, Creating the Control Project 1, The RoundButton Control, Creating the Control Project 2, Building the new Button.

#### **UNIT-V**

**A Brief Introduction to Database Access with VB .NET** - Introduction, What is ADO?, What is ADO.NET?, The Connection Object, Connecting to a Database, The Command Object, The DataAdapter Object, The DataReader Object, The DataSet Object, Updating Your Database by Using DataSets, The AcceptChanges () Method, The RejectChanges () Method, The HasChanges () Method, The GetChanges () Method, Working with DataSets in Visual Studio, Moving Around in DataSet and Retrieving Data, Using Strongly Typed DataSets, DataSets With Multiple Tables, Finding and Sorting Data in DataSets, Filtering on Row State and Version, Data View Manager

**Graphics In VB.NET** - Introduction, Service of GDI+, Using GDI+ Manged Classes, BRUSH Class, Bitmap Class, Graphics Class, Simple Drawing, Drawing Text, An Example: Show All Fonts, Printing, Printing Multiple Pages, More on the PrintPageEventArgs Class, Using a Print Dialog Control, Rolling Your Own Printing Code, Print Preview.

#### **Out Comes –**

After the completion of the course, students are expected to:

- have gained a good understanding of the basic concepts of object orientation
- have a good understanding of the Visual Basic language structure and language syntax
- have developed the ability to design and develop interactive applications using the object-oriented principals, encapsulation, inheritance and to some extents polymorphism
- be able to effectively develop applications with full functionality and a graphical user interface using the language Visual Basic
- have the capability of analysing and finding suitable and effective solutions to Windows based applications using classes and objects

#### **Practicals:**

1. Working with call backs and delegates in VB.
2. Program to display the first 10 natural numbers and their sum using console application..
3. Program to display the addition using the windows application.
4. Create your own Web browser application, which you can customize with shortcuts to your

favorite Web sites..

5. Write a program to simple calculator using windows application.
6. Code access security with VB.
7. Creating a COM+ component with VB.NET..
8. Creating a Windows Service with VB.NET.
9. Using Reflection in VB.NET.
10. Sending Mail and SMTP Mail and VB.NET.
11. Write a program working with Page using VB.Net.

***TEXT & REFERENCE BOOKS:***

- VB.NET Programming Black Book by steven holzner –dreamtech publications
  - Mastering VB.NET by Evangelos petroustos- BPB publications
  - Introduction to .NET framework-Worx publication
  - [msdn.microsoft.com/net/](http://msdn.microsoft.com/net/)
  - [www.gotdotnet.com](http://www.gotdotnet.com)
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TDCA-204	Database handling with FoxPro	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

**Syllabus**

**Theory:**

**UNIT-I**

**FOXPRO - THE RDBMS FOR PC**

FoxPro - Versions, features, requirement of Hardware and Software, FoxPro - Menu System, Working with FoxPro, Creating Database File Some common operations on data- CREATE, LIST, APPEND, CLOSE, QUIT, FoxPro - Data Types

**VIEWING AND EDITING DATA**

Data Displaying and Monitoring Commands - DISPLAY, LIST, LOCATE, EDIT, CHANGE, BROWSE, REPLACE, DELETE, RECALL, PACK (All Commands with various Options)  
MODIFY STRUCTURE, MEMO FIELD AND FILE UTILITIES - File utilities in FoxPro - DISPLAY DIRECTORY, COPY, DELETE, RENAME.

**UNIT-II**

**SORTING AND INDEXING OF DATABASE FILES**

Sorting & Indexing Concept, Sort Commands - Single & Multiple Key, Advantage & Disadvantages of Sort

Indexing Vs Sorting, Single & Multiple Key, Indexing, FIND, SEEK, Rushmore Technology

**PRINTING REPORTS AND LABELS**

FoxPro Report - its creation, features & Utilities, Preview, Printing, Custom Report, grouping & Subgrouping.

FoxPro Label - Designing & Printing

**UNIT-III**

**MEMORY VARIABLES, DATE & TIME FUNCTIONS AND KEYBOARD MACROS**

Memory Variables - Creation and Uses, Simple Vs Array, Saving and Restoring Memory Variables, ?/?/?/?/? Commands, Time & Date Functions and Commands, Date Arithmetic, Converting Defining Function Keys, Keyboard Macros - Creating and Using

**MATHEMATICAL COMMANDS AND FUNCTIONS**

Arithmetic Operations, Mathematical Functions, Mathematical, Commands, Statistical Functions.

## UNIT-IV

### PROGRAMMING WITH FOXPRO

Concepts of FoxPro commands file, Modify Commands, Conditioning , Branching and Looping within Program files with Do-While Enddo, If - Endif, Scan-Endscan, For - Endfor, Dcase-Endcase, Text - Endtext, Executing Commands from other command files, Macro Substitution

### ERROR CONDITIONS AND PROGRAM DEBUGGING AIDS

Common Error Messages, Debugging techniques and commands

## UNIT-V

### MULTIPLE DATA FILES

Concept of Multiple Database Files - Using multiple database files, Relationing the database - SET RELATION, UPDATE, APPEND FROM, COPY TO, JOIN, Relation Query by Example and SQL, CUSTOM SCREENS & USER DEFINE FUNCTIONS & OTHER TOOLS, Create Custom Screen with @, @\_GET, @\_EDIT, \_SAY\_GET\_READ, Creating Box & Lines, User Define Functions, Custom Screen, Designing and their Use, FoxDoc for documentation.

#### Practical:

1. Student Information System.  
This program should give the details of students of a college.
2. Library Information System.  
This program should give the details of books in a college library.
3. Railway Reservation System.  
This program should help the passengers to book their tickets from different railway station.
4. Mark List Generation.  
This program should generate the university mark list.

#### Reference Book:

1. Foxpro Made Simple by R.K.Taxali, BPB Publications
2. Mastering Foxpro 2.5 BPB Publications
3. Foxpro 2.6 for Dummies - Pustak Mahal

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TDCA205	PROJECT REPORT	2(0-0-2)	-	-	-	50	50	100	-	-

**Pattern:**

All the candidates of DCA are required to submit a project-report based on the work done by him/her during the project period. A detailed Viva shall be conducted by an external examiner based on the project report. Students are advised to see the detailed project related guidelines on the website of AISECT.

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