AISECT UNIVERSITY™
JHARKHAND
Where aspirations become achievements.

Scheme of Examination
&
Detailed Syllabus

Post-Graduation Diploma in Computer Application (PGDCA)

AISECT UNIVERSITY
Matwari Chowk, In front of Gandhi Maidan,
Hazaribagh (Jharkhand)-825301
Contact us: 8252299990, Visit us: aisectuniversityjharkhand.ac.in, mail us:
info@aisectuniversityjharkhand.ac.in

AISECT UNIVERSITY

Department of Computer Science & Information Technology

P.G.D.C.A
(Post Graduate Diploma in Computer Application)

PROGRAM OBJECTIVES

Post Graduate Diploma in Computer Application provides a future path to higher education in advanced levels of Information Technologies. It offers graduates accelerated diploma programme in IT, multimedia & graphics and a life-changing move. The curriculum of this programme ensure that learners gain through understanding about critical concepts like object oriented techniques, programming languages, mobile applications development. This programme helps learners acquire required skills in Information Technology. The curriculum of this programme ensures that learners gain thorough understanding about critical concepts like database, core java, programming, etc.

PROGRAM OUTCOMES

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

PGDCA 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 PGDCA 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						
Theory Group												
TPDC-101	Fundamentals of Computers & Information Technology	100	50	17	20	7	30	12	3	2	-	5
TPDC-102	Windows & MS Office	100	50	17	20	7	30	12	3	2	-	5
TPDC-103	Programming Methodology & Programming in FoxPro	100	50	17	20	7	30	12	3	2	-	5
TPDC-104	Computer Network & Internet	100	50	17	20	7	30	12	3	2	-	5
TPDC-105	Communication Skills & Personality Development	100	50	17	20	7	30	12	3	2	-	5
Practical Group			**Term End Practical Exam**				**Lab Performance**					
TPDC-102	Windows & MS Office	50	25		8		25	8	-	-	1	1
TPDC-103	Programming Methodology & Programming in FoxPro	50	25		8		25	8	-	-	1	1
Grand Total		**600**										**27**

Minimum Passing Marks are equivalent to Grade D **L- Lectures T- Tutorials P- Practicals**

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

COURSE STRUCTURE OF PGDCA II 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						
Theory Group												
TPDC-201	Objects Oriented Programming With C++	100	50	17	20	7	30	12	3	2	-	5
TPDC-202	Dbms & Sql (With Ms Access / Ms Sql Server/ Oracle)	100	50	17	20	7	30	12	3	2	-	5
TPDC-203	Computerised Accounting With Tally**	100	50	17	20	7	30	12	3	2	-	5
TPDC-204	Introduction To Internet & Web Technology**	100	50	17	20	7	30	12	3	2	-	5
TPDC 205	Programming with VB.Net	100	50	17	20	7	30	12	3	2	-	5
Practical Group			**Term End Practical Exam**				**Lab Performance**					
TPDC-201	Objects Oriented Programming With C++	50	25		8		25	8	-	-	1	1
TPDC-202	Dbms & Sql (With Ms Access / Ms Sql Server/ Oracle)	50	25		8		25	8	-	-	1	1
TPDC-203	Computerised Accounting With Tally**	50	25		8		25	8	-	-	1	1
TPDC-204	Introduction To Internet & Web Technology**	50	25		8		25	8	-	-	1	1
TPDC-205	Programming with VB.Net	50	25		8		25	8	-	-	1	1
TPDC 206	Project Report	100	50		17		50	17	-	-	2	2
Grand Total		**750**										**32**

Minimum Passing Marks are equivalent to Grade D **L- Lectures T- Tutorials P- Practicals**
*****Sessional Weightage- Attendence 50%, Four Class Test/Assignments 50%**

**** Student has to select either TPDC 202 OR TPDC 203**

AISECT UNIVERSITY, Hazaribagh, Jharkhand
Scheme of Examination

Department: Computer Science and Information Technology

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			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TPDC-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 1:

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**.**Boolean Algebra and Logic Gates - Introduction, Boolean Algebra, Binary Valued Quantities, And Operator, OR Operator, NOT Operator, Basic Postulates of Boolean Algebra, Theorems of Boolean Algebra, De Morgan's Theorems, Reducing Boolean Expression by their Simplifications, Proving the Equations of Boolean Expressions By Truth Table, Principle of Duality, Standard Forms, Basic Logic Gates, Use of Logic Gates in Circuits, Karnaugh Maps

Unit 2:

Number System - Introduction, Digital and Ana log Operations, Binary Data, Binary Number System, Decimal Number System, Octal Number System, Hexadecimal Number System, Fractional Conversion, Coding System**.** Data Representation and Binary Arithmetic - Introduction, Bits, Nibbles, Bytes and Words, Data Representation, Coding system, Binary Arithmetic, Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division, Character Representation, Checking the Result of Binary Arithmetic**.** 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 Equipment **.**Central Processing Unit - Introduction, What is Central Processing Unit, Arithmetic And Logic Unit, Control Unit, Registers, Instruction set, Processor Speed

Unit 3:

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 EnvironmentOperating 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

Unit 4:

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. 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
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 Introduction, Internet Vs Intranet, Types of Network, Topology, Types of Connectivity, Network Devices

Unit 5:

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 internetManagement 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).

Reference Books:

1. Anurag Seetha,"Introduction to Computers and Information Technology", Ram Prasad Sons, Bhopal.
2.. Galgotia Publications, "Computers Today ", Galgotia Publications.
3. Rajeev Mathur, " DOS Quick reference ", Galgotia Publications
4. MORRIS MANO, "Computer System Architecture " PHI Publication
5. Alexis Leon & Mathews Leon, " Fundamentals of Information technology ", Vikas

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AISECT UNIVERSITY, Hazaribagh, Jharkhand
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Department: Computer Science and Information Technology

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			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TPDC-102	Windows & MS Office	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 1:

Know the Windows XP -Introduction, What is Windows XP ?, Evolution of Windows Operating System, Features of Windows XP, What's New in Windows XP, Windows and Its Elements.
Accessories And Other Tools**,** Introduction, The Calculator , Using THE Calculator, The Character Map, Using Outlook Express, The Address Book, The Paint, The Notepad, The WordPad, The NetMeeting, The Internet Explorer, The Windows Media Player, The MS-DOS , The Control Panel , The Windows Picture and Fax Viewer, The HyperTerminal, The Windows Messenger, Using Windows Movie Maker.Managing Files and Folders**,** Introduction, Viewing files and folders, Arranging files and folders, Creating a new folder, Creating a file using short-cut.Customizing Your Computer**,** Introduction, customizing Your Desktop, Changing the Start menu style, Setting a screen saver, Reversing your mouse buttons, Changing the appearance of your mouse pointer, Adding a new font to your computer, Logging off from the computer, Adding or Removing Programs, Hiding and displaying quick launch bar.Microsoft Office XP Suite With Other Office Suites**,** Introduction, Different office suites, Microsoft Office XP Suite, What's Special About Office XP, Voice Dictation and Voice Commands, Smart Tags , The Office Task Panes , The Ask a Question Box, Document Recovery, Product Activation.Common Elements Of The Suite

Unit 2:

Introduction, Different Integrated Items in Office Suite-Menu Bars and Toolbars, Shared Tools, ObjectS, Linking, Embedding, Office Assistant and Online Help.Office Task Panes**,** Introduction, The Task Pane, Displaying And Hiding a Task Pane, Types of Task pane, Additional Task Panes, Insert ClipArt Task Pane, Styles and Formatting Task Pane, Mail Merge Task Pane, Exercise.Word Processing and MS-Word **,** Introduction, Features of Word Processor, MS-WORD—a powerful word processor, Starting MS-Word, Chief Elements Of MS-Word Window, Displaying and Hiding the Toolbar, File operations in MS-WORD, Using Help Online, Customizing Office Assistant.Text Formatting**,** Introduction, Typing the text, Selecting Text with a mouse, Deleting Text, Restoring the deleted text, Typing over the existing text, Undoing/Cancelling the last action, Redoing/Repeating the last action, Formatting font, Advanced text formatting, Customizing Spelling Check, Using the thesaurus.Document Formatting**,** Introduction , Using page border,

Bullets and numbering, Setting and removing tab stops, Making word count, Using Auto text, Using autocorrect, Headers and Footers, Setting up columns in the document, Removing columns from the document, Inserting page numbering, Formatting the page numbering, manual and automatic page breaks, Setting margins, Inserting date and time, Using Go to, Cursor movement with key-board.

Unit 3:

Tables And Graphics -Introduction, creating tables, calculating numeric data in a table , Deleting columns and rows, Formatting a table, Aligning text in the table, Formatting text in the table, Applying borders and shadings, Add a border to a table, Automatically format a table , Using Drawing, Creating a Shape, Using Word Art, Using Autoshapes, Insert a clip from the Clip Organizer, Inserting a text box, What is Drawing Canvas?, Using auto shapes.Mail Merge, Views, Template and Wizard**,** Introduction, Mail merge , Views, Overview of templates, Creating a document template, Create a Web page based on a template, Modify a document template, RULER, zoom, protecting your document, inserting a file into another , overview of wizard , Inserting Hyperlinks to a Web Page or a Word Document , EXERCISE.Spreadsheet and MS-Excel**,** Introduction , Starting MS-Excel , Spreadsheet and its Elements , Application Window , Document Window, Cell , Standard Toolbar, Formatting Toolbar, Workbook , Worksheet, Handling Files.Worksheet Formatting**,** Introduction, Entering Text Data, Entering Formula , Editing the Cell Content, Formatting the Cell , Formatting Font, Setting Border Around Cell, Highlighting gridlines, Using Format Painter, Finding and Replacing the Text, Using Spelling and Grammar.Function and Operator**,** Introduction, Entering Functions , Editing Functions, Using Mathematical Functions, Using Statistical Functions, Using Date & Time Functions, Changing the default date format , Text Function, Logical Functions, Financial Function, Operators, AutoSum, Function Wizard.

Unit 4:

Chart and Web Object -Introduction, Types of Charts, Creating a Quick Chart Sheet , Parts of a Chart, Types of Charts, Creating A Chart using wizard, Using Pivot Table , Object Linking and Embedding (OLE), Linking Cells, Linking Formula, Hyper Links, Previewing charts, printing charts, Exercise.Presentation Package And MS-PowerPoint , Introduction, Chief Elements of Presentation, Starting Powerpoint, Creating A Presentation, Creating A Presentation with Auto Content Wizard, Create a presentation using a design template, Creating a blank presentation, Powerpoint window and its Elements, Using Help Online, Customizing Office Assistant .Text Formatting in Slides**,** Introduction , Adding text to slides, Editing text on a slide, Using Format Painter, Setting Paragraph Indents, Line Spacing in a Paragraph, Setting and Removing Tab Stops , Checking Spelling of the text , Finding and replacing the text, Moving slides.Table, Chart and other Drawing Objects**,** Introduction, Creating a table, Creating an embedded Word table, Adding Columns and Rows, Deleting Columns and Rows, Changing Table Borders, Using Autoshapes, Chart, Inserting a clip to your slide, Using Word Art, Inserting A Word Art, Working With Drawing Toolbar, Creating A Shape.

Unit 5:

Slides, Views, Notes, Handouts , Introduction, PowerPoint Views, Notes Pages, Using Handouts, Inserting Header and Footer in the, Slide , Transition , Custom Show, Assigning Custom Animation , Adding a motion path, Animating a chart, Publish a presentation or HTML file , to the Web, Preview a presentation as a Web page, Showing Slides , Printing Slides .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 signatute in outlook express, Formatting message text, What is mime?, applying stationery, 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 windows.
2. Creation of file and folder in MS Windows.
3. Introduction of MS Word.
4. Inserting Number, Bullets, Footer and Header.
5. Creating text, document and table in MS Word.
6. Write steps for mail merge.
7. Introduction of Microsoft excel.
8. Write steps to inserting formula in MS Excel.
9. Creating text, row and Column in MS Excel.
10 Introduction of Microsoft Power Point.
11. Write steps how to using graphics in power point.
12. Introduction and theory of Microsoft Outlook.

Reference Books:

1. Windows XP Complete Reference. BPB Publications
2. MS Office XP complete BPB publication
3. MS Windows XP Home edition complete, BPB Publications

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			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TPDC-103	Programming Methodology & Programming in FoxPro	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

Syllabus

Theory:

Unit-1

Principles of Programming- Introduction to Programming, Program Concept, Characteristics of Programming, Stages in Program Development, Tips for Program Designing, Programming Aids, Algorithms, Notations, Design, Flowcharts, Symbols, RulesProgramming Techniques and Logic, Introduction, Introduction to programming techniques, Top-down approach or technique, Bottom-up approach or technique, Unstructured technique of programming, Structured technique of programming, Modular technique of programming, Comparative study of programming techniques, Cohesion , Coupling, Debugging , Syntax Errors, Logical Errors, Data Entry Errors, Linker Errors, Runtime Errors, Program Testing.

Unit-2

DBMS and RDBMS, Introduction, What is FoxPro, FoxPro System, Creating a Database File in FoxPro, Closing Database File, Opening Database File, Different Data Types of FoxPro, Database Menu, Program MenuDisplaying & Controlling Data, Introduction, Displaying the Records of Database Files, Different Designs of List, Principal Designs of Browse, Different Designs of Change Command, Modifying the Structure in Database Files, Displaying list of the FilesSorting and Indexing Database Files, Introduction, Indexing the Files by FoxPro Menu, Use of FIND and SEEK commands, Sorting the Files through FoxPro Menu, Plus Points of Sort command, Minus Points of Sort commandMemory Variables, Introduction, Creating and sing the Memory Variables, Creating Array Memory Variables, Copying Multiple Records to Like Test, Display Memory Array, Using ?? Command.

Unit-3

Time & Date Functions and Commands, Set Clock on, Set Century On/Off, Set Mark to, Day & Month, Date ArithmeticFunctions Keys and Macros, Creating and Using the Key board Macros, Creating the Macros, Savings and Restoring the Macros, Using the Macros, Editing the Macros, Recording the Macros, Mathematical Commands and FunctionsProgramming with FoxPro, What is Program Command File, Creating a Program File, Running the Program File or Command File, Creating the Program File with Modify Command, Working with Loops, Do While - End Do, The Classification of Mail.PRG Program, Editing a Program File, Running a Program File Through

FoxPro Menu, Adding the Comments to Commands, Other Trim Functions, IIF(, The Compactness IF Function, Nested If-End If Structure, Using Scan - End Scan, Handling Multiple Options with Do Case - End Case, Macro Substitution.

Unit-4

Error Conditions and Program Debugging Aids, Searching or Displaying Errors before Running a Program File, Unrecognized Command Verb, Saving Screen Activity in An Optical File, Running the Program in Slow Speed, Automatic Documentation with FoxDocMultiple Database Files, Introduction, Opening Multiple Data Files, Linking the Database with Set Relation, Updating Information with Update, Appending Records from others Files (Append From), Copying the Structure of Database File, Opening the RQBE Window, Arranging and saving the Records in a File.

Unit-5

Custom Screens, Introduction, Screen Co-ordinates in an User window, Restricting Data Input with Range, Assigning Default Value to Get Variables, Common Function Codes for @ ..... SAY, Validating GET VARIABLESCreating Custom Screen & Designing Screen with Builder, Introduction, Creating the Screen Code, Designing a Custom Screen with CREATE SCREEN, Drawing a BOX, Creating a Push Buttons, Creating Radio Push ButtonsCreating Query, Report and Label, Database Query, Changing and Formatting the Report.

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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			End Sem	Mid Sem	Assign.	End Sem	Term work			
TPDC-104	Computer Network & Internet	5(3-2-0)	50	20	30	_	_	100	3 hr	_

Objective – Student will be able
1. To understand the fundamental concepts of computer networking.
2. To understand the with the basic taxonomy and terminology of the computer networking area.
3. To understand the advanced networking concepts, preparing the student for entry Advanced courses in computer networking.
4. To understand the various transition method.

Syllabus

Theory:

UNIT-1

INTRODUCTION TO COMPUTER NETWORK, Network**,** Computer Networks**,** Need of Network **,** Uses of Computer Network**,** Applications of networks**,** Network Criteria**,** Network Hardware and Software**,** network types : client, server & peers**,** Classification of Computer Network**,** Server**,** ATM (Asynchronous Transfer Mode)**,** Modemthe theoretical network model-OSI, OSI Model**,** open system interconnection model (OSI)**,** Layered Architecture of the OSI Reference Model**,** Functions of the ISO/OSI Layers**,** Summary of OSI Layer functions.

UNIT-2

TRANSMISSION TECHNOLOGY, transmission technology**,** Data can be analog or digital**,** Analog and Digital Transmission**,** asynchronous & synchronous transmission**,** Types of Communication Modes**,** BaseBand and Broadband Transmission**,** Comparison of Baseband and Broadband Signalingnetwork topology**,** Network Topology**,** Types of Network**,** Local Area Network (LAN)**,** Metropolitan Area Networks (MAN)**,** Wide Area Networks (WAN)**,** Satellite Networks**,** Wireless LAN

UNIT-3

TRANSMISSION MEDIA-Transmission Media**,** Classification of Transmission Media**,** Comparison of Guided and Unguided Media**,** Twisted Pair (TP) Cable**,** Coaxial Cable**,** Fiber Optic Cable (FOC)**,** Unguided Media**,** Radio Frequency Characteristics**,** Microwave Transmission**,** Applications of Infrared Transmission**,** Switching Methods**,** Packet switching**,** Circuit Switching**,** Message Switchingdata link layer**,** Data Link Layer Design issues**,** Sliding Window Protocols

UNIT-4

NETWORK ADAPTERS-Multiple Access Protocol**,** ALOHA**,** Carrier Sense Multiple Access (CSMA)**,** CSMA/CD [Carrier Sense Multiple Access/Collision Detection]**,** Collision Free Protocols**,** Limited Contention Protocolnetwork layer**,** Functions of Network Layer**,** Routing Algorithms, Congestion Control Algorithmapplication layer**,** Domain Name System**,** Simple Mail Transfer Protocol (SMTP)**,** Hyper Text Transfer Protocol (HTTP)**,** File Transfer Protocol

UNIT-5

CRYPTOGRAPHY, Encryption & Decryption - Cryptography**,** Terminology**,** Classification of Cryptography :**,** Substitution Ciphers :**,** Security of algorithms :**,** Steganography :**,** Steganography vs Cryptography :**,** public key encryption **,** Comparison of Symmetric and Asymmetric Key Cryptography **,** Public Key Cryptanalysis**,** Digital Signature **,** Requirements of Digital Signature**,** Direct Digital Signature**,** Arbitrated Digital Signature**,** Authentication Protocols**,** Symmetric Encryption Approach**,** Public-Key Encryption Approach**,** Digital Signature Standard**,** RSA and Digital Signature**,** DSS Approach**,** The Digital Signature Algorithm.

Outcomes- After study this student will be able to know about
1. Independently understand basic computer network technology.
2. Understand and explain Data Communications System and its components.
3. Identify the different types of network topologies and protocols.
4. Enumerate the layers of the OSI model and TCP/IP. Explain the function(s) of each layer.

Reference Books:

1. James Chellis Charles Perkins, Matthew Strebe "Networking Essentials:Study Guide MCSE", Second Edition, BPB Publications.
2. S.K.Basandra & S. Jaiswal, "Local Area Networks", Galgotia Publications
3. MCSE Windows 2000 Network Infrastructure Disign
4. Andrew & Tanenbaum, "Computer Network "
5. William Stallings, "Data and Computer Communication"
6. Prakash C Gupta, "Data Communication

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TPDC-105	Communication Skills & Personality Development	5(3-2-0)	50	20	30	_	_	100	3 hr	_

Objective – Student will be able
1. To Understand how to communicate effectively and appropriately in real-life situation.
2. To use English effectively for study purpose across the curriculum.
3. To develop and integrate the use of the four language skills i.e. Reading, Listening, Speaking, Writing.

Syllabus

Theory:

Unit-1
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-2
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-3
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 introduction to personalitya) Basic of Personality b) Human growth and Behavior c) Theories in Personality d) Motivation

Unit-4
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-5

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.

Outcomes- After study this student will be able to know about how to become active readers, what are the writing skills and process. What are the oral communication skills.

Reference Books:

1. "English Language and Indian Culture" - M.P.Universities' 1st year Foundation Course published by M.P.Hindi Granth Academy, Bhopal [Complete]
2. "Written Communication in English" by Sarah Freeman published by Orient Longman [Units I and II only]

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TPDC-201	Objects Oriented Programming With C++	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 opps with C++ language.
2 To understand the Structure & classes concepts, data member.
3 To understand the Array, Pointers operations.
4 To understand the Function overloading & Operator Overloading.
5 To understand the Inheritance & C++I/O system.

Syllabus

Theory:

Overview of C++ **-** Overview of C++, Software crisis, Object oriented programming paradigm, Basic concepts of OOP, Advantages/Benefits of OOP, Usage/applications of OOP

Unit-1

C++ Environment- Program development environment, The language and the C++ language standards, Tntroduction to various C++ compilers, The C++ standard library, Prototype of main() function, i/o operator, manipulator, comments, data typescreating and compiling c++ programs - TURBO C++ IDE, Creating, compiling and running a C++ program using ide and through command line, Elements of C++ Language, Structure of a C++ program, C++ tokens, Type conversion in expressionsdecision making and branching -Introduction, Sequential statements, Mathematical Functions, Branching statements, looping Statements, Nested loops, Programming examplesarrays and functions- Arrays, The meaning of an array, Single-dimensional arrays, Two-dimensional arrays (Multi-dimensional arrays), User Defined Functions, Elements of user-defined functions, Return values and their types, Function calls, Categories of functions, Passing parameters to functions, Recursion, Command Line Arguments, Storage Class Specifiers.

Unit-2

Classes and Objects - Classes, Structures and classes, Unions and classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members, Static data members, Static member functions, Passing object to functions, Returning objects, Object assignment
array, pointers, references and the dynamic allocation operators - Array of objects, Pointer to object, Type checking in C++, The this pointer, Pointer to Derived Types, Pointer to class members, References, C++'s Dynamic Allocation Operatorsconstructors and destructors -Introduction, Constructors, Default Constructor, Parameterized constructors, Copy Constructors, Multiple Constructors in a class, Constructors with default arguments, Default Arguments, Special Characteristics of Constructor functions, Destructors

Unit-3

Function and Operator Overloading -Function overloading, Overloading Constructor Function, Finding the address of an overloaded function, Operator Overloading, Creating a Member Operator Function, Creating Prefix and Postfix forms of the increment (++) and decrement (– –) operators (Overloading Unary Operator), Overloading the Shorthand Operators (i.e. +=, == etc), Operator Overloading Restriction (Rules), Operator Overloading using friend function, Overloading new and delete operator, Overloading some special operators, Overloading [ ] (Subscripting) operator, Overloading() (Function Call) operator, Overloading Binary Arithmetic operators, Concatenating String, Overloading Comma (,) operator, Overloading the I/O operators.

Unit-4

Inheritance -Introduction to inheritance, Features or Advantages of Inheritance. Inheritance :, Base Classes and Derived Classes, Base Class Access Control, Protected Members, Protected Base class Inheritance, Inheriting Multiple Base Classes, Constructors, Destructors and Inheritance, Passing Parameters to Base Class Constructors, Granting Access, Virtual Base Classespolymorphism - Polymorphism, Types of Polymorphism, Virtual Functions and Polymorphism, Pure Virtual Functions, Early Vs Late Binding

Unit-5

The C++ I/O System Basics -The C++ I/O System basics, C++ predefined streams, Formatting using the ios members, Clearing Format Flags, An Overloaded form of setf( ), Examining the Formatted Flags, Using width( ), Using precision( ), Using fill( ), Using Manipulators to format I/O, Creating your own Manipulators.

Out Comes – After Study This Student Will Be Able To Know About And Concepts Of Oops with C++ Language,Classes.Student will be able to create Arrays Its uses,Uses of function overloading,inheritance & C++I/O system.

Practicals:

1. WAP to add, subtract, multiply and divide two numbers using concepts of C++.
2. WAP to show swapping of two numbers using C++.
3. WAP to calculate volume of cube, cylinder, rectangular box using three times function overloading in C++.
4. WAP using virtual function.
5. WAP using copy constructor.
6. WAP to show multiple inheritances.
7. WAP to find mean value of two numbers using friend function.
8. WAP using inline function.
9. WAP to demonstrate the use of Local Object, Static Object & Global Object using C ++.
10. WAP in C++ to demonstrate the creation and the use of dynamic object.
11. Derive the two classes son and daughter and, demonstrate polymorphism in action.

Reference Books:

1. Herbert Schildt, "C++ The Complete Reference " - TMH Publication ISBN 0-07-463880-7
2. R. Subburaj, "Object Oriented Programming With C++ ", Vikas Publishing House, New Delhi.isbn 81-259-1450-1
3. E. Balguruswamy, "C++ ", TMH Publication
4. M Kumar "Programming In C++", TMH Publications
5. R. Lafore, "Object Oriented Programming C++ "

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AISECT UNIVERSITY, Hazaribagh, 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			
TPDC-202	Dbms & Sql (With Ms Access / Ms Sql Server/ Oracle)	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 DBMS Concepts.
2 To understand the Database Design.
3 To understand the RELATIONAL DATA MODEL.
4 To understand the RELATIONAL DATABASE DESIGN.
5 To understand the Indexing & Hashing-Basic Concepts & Recovery System.

Syllabus

THEORY:

UNIT-1

Introduction to DBMS & RDBMS -Introduction to database, Introduction DBMS, Different database models, Structure of DBMS, RDBMS an introduction, Cod's law for RDBMS, Components of rdbms (kernel/data dictionary)introduction to oracle rdbms and client/server computing - Introduction to Oracle, The Features of Oracle 9i, The oracle product details, An introduction to client/server computing, Oracle and client/server computingoverview of oracle architecture - Oracle Architecture, Oracle Files, System and User Processes, Oracle Memory, System Database Object, Protecting Data.

Unit-2

Introduction to SQL*PLUS -Introduction to SQL, Features of SQL, Components of SQL, Introduction to SQL*PLUS, Features of SQL*PLUS, Execution of SQL*PLUS, Important commands used in SQL*PLUS, Oracle Data-Typesworking with tables -Tables - An Introduction, Use Of Table In SQL, Viewing The Stored Data In Tables, Filtering Table Data, Updating Data, Deleting Data From Tables, Modifying The Structure Of Tables, Destroying A Table, A Few Other SQL Statements. data constraints -Data Constraints, The Use of Data Constraints, The Types of Data Constraints, Defining Integrity Constraints By 'Alter Table', Removing Integrity Constraints, 'Null' Value Concept, 'Not Null' Constraint, Default Value Concept, 'User Constraints' Table

Unit-3

Data Manipulation in SQL - Oracle Operators, Range Searching, Pattern Matching, LIKE 'IN' and 'NOT IN' Predicates, An Introduction to 'DUAL' Table, An Introduction to 'SYSDATE'oracle functions- Oracle Function, Function Types, Group Function, Scalar Function, Working With 'Date' in SQL, Grouping Of Data Of Different Tables In SQLjoins, sub-queries & views-types of joins, use of sub-query, 'union' and clause, 'Intersect' Clause, Minus Clause, Concept of View, Types of View, Use of View

Unit-4

User Accounts Management & Indexing - Creation of User Account, User Account Management, Granting Privileges, Revoking Privileges, Modifying Password, Closing User Account, Concept of Index, Creation of Index, Types of Index, Use of Index, Deleting Index**.** introduction to pl/sql programming- Introduction to PL/SQL, Advantages of PL/SQL, Differences between SQL and PL/SQL, PL/SQL Block Structure, PL/SQL Character set, Variable, Constant and Data type, Assignment Operator and the use of 'SELECT....INTO, PL/SQL Program Control Structure, The use of 'IF...THEN...ELSE...ENDIF', Iteration Control (The use of LOOP, WHILE, FOR), The use of 'GOTO Statement .cursor -Cursor an Introduction, Types of Cursor, Features of Cursor, Implicit Cursor, Explicit Cursor, Application of for Loop with Cursor.

Unit-5

Exception Handling in PL/SQL - Exception Handling in PL/SQL, Built in Exception Handling, User Defined Exception Handling, The Raise Application-error Procedure oracle transaction-Oracle Transaction, Commit Statement, Rollback Statement, Save point statement, Concept of lock, Types of locks, Levels of Locks, 'SELECT.....FOR UPDATE' Statement, Removing the Lock. procedures and functions-Concept of Procedures and Functions, Advantages of Procedure and Function, Creation of Procedure and Function, Deleting Procedure and Functiondatabase triggers-Concept of Triggers, Types of Triggers, Creation of Triggers, Application of Triggers, Deleting Triggers.

Out Comes – After study this student will be able to know about and concepts & Fundamentals of DBMS, Concept of keys, RELATIONAL DATA MODEL & design.

Practical:

1. Write a query to implement Different types of DDL statements in SQL.
2. Write a query to implement Different types of DML statements in SQL.
3. Write a query to implement Different types of DQL statements in SQL.
4. Write a query to implement Different types of DCL statements in SQL.
5. Write a query to explore 'select' clause using where, order by, between, like, group-by,
6. Write a query to implement the concept of Joins in SQL.
7. Write a query to implement the concept of Indexes and views.
8. Write a query to implement the restrictions on the table.
9. Write a query to implement the concept of SubQuestionries.
10. Write a query to implement the structure of the table.

Reference Books:

1. "Database Management System" bY Leon & Leon, Vikas Publications
2. "Database System Concepts" by Henry F.Korth & Abraham Silberschatz .
3. "an introduction to database system" by Bipin C.Desai
4. "An Introduction To Database System" by C.J.Date

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AISECT UNIVERSITY, Hazaribagh, Jharkhand
Scheme of Examination

Department: Computer Science and Information Technology

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			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TPDC-203	Computerised Accounting With Tally	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

Syllabus

Theory:

Unit-1

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-2

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 .

Unit-3

Reports.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, Diaplay Pay Heads, Multiple Group Creation, Employee Creation, Salary Detail, Attendance, Attendance Type, Voucher Creation.Export & Import, Introduction, Export, Import, ODBC Complianies 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.

Unit-4

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 Fixt Rate, Voucher Interest At Variable Rate, Statement Of Interest Due On Invoice, Interest Reports, Interest Voucher Class .

Unit-5

Printing, Introduction Cheque Printing Printing Of Cheque 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 DataInventory, 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. <u>Creating [Sales Ledger] Masters for Service Tax</u>

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

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

5. <u>Creating [Purchase Ledger] Masters for Service Tax</u>

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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AISECT UNIVERSITY, Hazaribagh, 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			
TPDC-204	Introduction To Internet & Web Technology	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

Syllabus

Theory:

Unit-1

Internet - Evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP, Connectivity - Dial-up, Leased line, VSAT etc., URLs, Domain names, Portals, Application.
Word Wide Web (WWW) - History, Working, Web Browsers, Its functions, Concept of Search Engines, Searching the Web, HTTP, URLs, Web Servers, Web Protocols Browsers - features, services offered by browsers, browsers evaluation, extensions and plug-ins for browsers, some important plug-ins introduction like - flash, java, silverlight, etc. features of some major browsers - IE, Firefox, and Google Chrome.E-mail- Process, obtaining an e-mail address, types of email services - Web based and POP3. Understanding e-mail address, SMTP and MIME protocols, Using web based and pop3 e-mail -creating a message, sending a message, CC, BCC, replay, forward, reply to all, attach a document, add signature to mail, spam mails handling, junk mails, etc. email clients software - installation and configuration. Configuring and Using Outlook Express.

Unit-2

File Transfer using FTP - F'I`P Process fundamentals, How to use FTP using browsers, FTP using client software like - Cute F'I`P, WS FTP, File Zilla etc. File formats and Transfer types, Anonymous and non-anonymous F'I`P. E-Mail - Concepts, POP and WEB Based E-mail ,merits, address, Basics of Sending & Receiving, E-mail Protocols, Mailing List, Free Email services. Internet Protocols - Data Transmission Protocols, Client/ Server Architecture & its Characteristics, FTP & its usages. Telnet Concept, Remote Logging, Protocols, Terminal Emulation, Massage Board, Internet chatting - Voice chat, text chat. Web publishing - Concepts, Domain name Registration, Space on Host Server for Web site, HTML, Design tools, HTML editors , Image editors, Issues in Web site creations & Maintenance, F'TP software for upload web site.

Unit-3

HTML - Concepts of Hypertext, Versions of HTML, Elements of HTML syntax, Head & Body Sections, Building HTML documents, Basic Tags of HTML - HTML Tag, TITLE Tag, BODY Tag, Formatting of Text - Headers, Formatting Tags, PRE Tag, FONT Tag, Size, Color and other attributes, Special Characters, Working with Images, META Tag, Links - Anchor tag, Lists - Unordered Lists, Ordered Lists, Definition Lists, Tables - TABLE, TR and TD Tags, Cell Spacing and Cell Padding, Colspan and Rowspan, Frames- Frameset, FRAME Tag, NOFRAMES Tag, Forms - FORM and INPUT Tag, Text Box, Radio Button, Checkbox, SELECT Tag and Pull Down Lists, Hidden, Submit and Reset, Some Special Tags - COLGROUP, THREAD, TBODY, TFOOT,

_blank, _self, _parent, _top, IFRAME, LABEL, Attribute for <SELECT>, TEXTAREAIntroduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage/ Macromedia Dreamweaver/ MS Expression Web and other popular HTML editors, designing web sites using MS FrontPage/ MS Expression Web.

Unit-4

Interface basics, Create your first page, View your page in browser, Insert hyperlinks , insert image, text alignment and formatting, Insert Images, bookmarks, setting up background, images and colors, Creating tables, table properties, cell properties, background pictures and colors, create list, bullets and headlines, Introduction to CSS, using CSS. Javascript Overview, Javascript vs. VBScript, Javascript vs. Java, Javascript versions, Script element,syntax& conventions. Variables, Expressions, Branching 85 Looping statements, Functions, Arrays Objects, Events 81; Document Object Model - onClick, onMouseOver, onSubmit, onFocus, onChange, onBlur. onLoad, onUnload. Alerts, Prompts 85 Confirms, Getting data with forms.

Unit-5

E - Commerce An introductions, Concepts, Advantages and disadvantages, Some popular E-commerce sites of World and India - Amazon, e-bay, rediff, irctc etc. (at least 10 from World and 10 from India) Technology in E-Commerce, Internet 85 E-business, Applications, Feasibility & various constraints. E-transition challenges for Indian corporate. Electronic Payment Systems: Introduction, Types of Electronic Payment Systems, Digital Token-Based Electronic Payment Systems, Smart Cards and Electronic Payment Systems, Credit Card-Based Electronic Payment Systems, Risk and Electronic Payment Systems.

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.

Reference Books:

1. Frontiers of Electronic Commerce, By- Kalakota, Ravi ; Stone, Tom ; Whinston, Andrew B, Addison Wesley Publishing Co , ISBN 8178080575
2. E-Commerce An Indian Perspective (Second Edition) – by P.T. Joseph, S.J. Prentice-Hall of India
3. Internet & Web Design By A. Mansoor, Pragya Publications.
4. Learn HTML in a weekend by Steven E. Callihan, PHI
5. Using HTML By Lee Anne Phillips, PHI
6. SAMS Teach Yourself Javascript in 24 Hrs. By Michael Moncur, TechMedia

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AISECT UNIVERSITY, Hazaribagh, 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			
TPDC 205	Programming with VB.Net	6(3-2-1)	50	20	30	25	25	150	3 hr	2 hr

- 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-1

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-2

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 Delegateworking 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-3

Designing Menus - Menus, Context menu, Event of the MenuItem, Creating menu items in Visual Studio .Netobject 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 .NETthe .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.IOole/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

Unit-4

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 Buttona 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.

Unit-5

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 C#.

8. Creating a Windows Service with C#

9. Using Reflection in C#

10. Sending Mail and SMTP Mail and C#

11. Write a program working with Page using VB.Net.

Reference Books:

1. VB.NET Programming Black Book by steven holzner –dreamtech publications
2. Mastering VB.NET by Evangelos petroutsos- BPB publications
3. Introduction to .NET framework-Worx publication

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			Theory			Practical		Total	Theory	Practical
			End Sem	Mid Sem	Assign.	End Sem	Term work			
TPDC 206	Project Report	2(0-0-2)	_	_	_	50	50	100	_	_

Pattern:

The question paper will consist of six questions. Question no. 1 will have 10 objective type questions of 10 marks, covering entire syllabus. Objective questions should have right mix of questions to test the logic, problem solving skill and reasoning. Each objective question should have four choices to pick up from. Remaining five questions will carry 08 marks each, one from each of the five units of the syllabus and may have internal choice. These five questions will have two parts A & B, preferably one theoretical and other numerical/short notes. Questions should test the concepts, knowledge and application. Candidates are required to answer all the questions..

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