### Chhattisgarh Swami Vivekanand Technical University, Bhilai

#### Scheme of teaching and examination

**B.E. VI Semester Information Technology**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Board of Study</th>
<th>Subject Code</th>
<th>Subject Name</th>
<th>Periods per week</th>
<th>Scheme of Exam</th>
<th>Total Marks</th>
<th>Credit</th>
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<tbody>
<tr>
<td></td>
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<td>L</td>
<td>T</td>
<td>P</td>
<td>ESE</td>
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<tr>
<td>1</td>
<td>Information Technology</td>
<td>333611(33)</td>
<td>Database Management System</td>
<td>3</td>
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<td>2</td>
<td>Information Technology</td>
<td>333612(33)</td>
<td>Information Theory &amp; Coding</td>
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<td>3</td>
<td>Information Technology</td>
<td>333613(33)</td>
<td>Internet &amp; Web Technologies</td>
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<td>Information Technology</td>
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<td>Cellular &amp; Mobile Computing</td>
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<td>5</td>
<td>Information Technology</td>
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<td>Computer Graphics</td>
<td>3</td>
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<td>Refer Table –1</td>
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<td>Professional Elective 1</td>
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<td>7</td>
<td>Information Technology</td>
<td>333621(33)</td>
<td>Database Management System lab</td>
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<td>Information Technology</td>
<td>333622(33)</td>
<td>Visual Programming Lab</td>
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<td>Software Technology Lab -3</td>
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<td>Information Technology</td>
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<td>Computer Graphics lab</td>
<td>-</td>
<td>-</td>
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<tr>
<td>11</td>
<td>Management etc</td>
<td>300625(36)</td>
<td>Managerial Skills</td>
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**TOTAL**

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<tr>
<th>L</th>
<th>T</th>
<th>P</th>
<th>ESE</th>
<th>CT</th>
<th>TA</th>
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<td>120</td>
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L-Lecture, T- Tutorial, P- Practical, ESE- End Semester Examination, CT- Class Test, TA- Teacher's Assessment

**Note :**  
Industrial Training of twelve weeks is mandatory for B.E. students. It is to be completed in two equal parts. The first part must have been completed in summer after IV sem. The second part to be completed during summer after VI sem. after which students have to submit a training report which will be evaluated by college teachers during B.E. VII sem.

### Table -1

<table>
<thead>
<tr>
<th>S.No</th>
<th>Board of Study</th>
<th>Subject Code</th>
<th>Subject Name</th>
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<tbody>
<tr>
<td>1</td>
<td>Computer Science &amp; Engg.</td>
<td>322631(22)</td>
<td>Digital Signal Processing</td>
</tr>
<tr>
<td>2</td>
<td>Computer Science &amp; Engg.</td>
<td>322632 (22)</td>
<td>Advanced Microprocessors &amp; Micro Controllers</td>
</tr>
<tr>
<td>3</td>
<td>Information Technology</td>
<td>333633 (33)</td>
<td>Multimedia &amp; Virtual Reality</td>
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<tr>
<td>4</td>
<td>Information Technology</td>
<td>333635 (33)</td>
<td>Advanced Computer Networks</td>
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<td>5</td>
<td>Computer Science &amp; Engg.</td>
<td>322636 (22)</td>
<td>Advanced Operating System</td>
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<td>6</td>
<td>Computer Science &amp; Engg.</td>
<td>322637 (22)</td>
<td>Logical &amp; Functional Programming</td>
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<tr>
<td>7</td>
<td>Computer Science &amp; Engg.</td>
<td>322638 (22)</td>
<td>Advanced Data Base Systems</td>
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</table>

**Note (1)-**  
1/4th of total strength of students subject to minimum of twenty students is required to offer an elective in the college in a particular academic session.

**Note (2) -**  
Choice of elective course once made for an examination cannot be changed in future examinations.
UNIT-I INTRODUCTION TO DATA BASE

UNIT-II THE RELATIONAL DATA MODEL
Relational data model concepts, constraints, relational algebra, relational calculus, SQL: DDL, DML, DCL, View, Index, Cursors and Triggers

UNIT-III DATABASE DESIGN

UNIT-IV QUERY & TRANSACTION PROCESSING
Query Processing: Query processing stages, Query interpretation, Query execution plan, Table scans, Fill factor, Multiple index access, Methods for join tables scans, Structure of a query optimizer. Transaction Processing: Types of failures, ACID property, schedules and recoverability, serialisability of schedules, Levels of transaction consistency, Deadlocks, Nested transaction, Transaction benchmarking.

UNIT –V CRASH RECOVERY
Failure classification, Different type of Recovery techniques & their comparative analysis, deferred update, immediate update, Shadow paging, Check points, On-line backup during database updates, Concurrency Control: Different type of concurrency control techniques & their comparative analysis, Locking techniques, Time-stamp ordering, Multi-version techniques, Optimistic techniques, Multiple granularity. Integrity, Security, Non-procedural and procedural integrity constraints, Integrity constraints specifications in SQL.

Text Books
1. Database system concept, Korth & Sudarshan, MH.
2. Introduction to Database Systems, C.J.Date, Pearson Education.

Reference Books
3. Database Design Fundamentals, Rishe, PHI.
UNIT-I: Uncertainty, Information and Entropy Information Measures: Characteristics on information measure; Shannon’s concept of information; Shannon’s measure of information; Model for source coding theorem; Communication system; Source coding and line/channel coding; channel mutual information capacity (Bandwidth);

UNIT-II: Channel coding, Theorem for discrete memory less channel, Information capacity theorem: Error detecting and error correcting codes; Types of codes; Block codes; Tree codes; Hamming codes; Description of linear block codes by matrices; Description of linear tree code by matrices; Parity check codes; Parity check polynomials;

UNIT-III: Compression: Lossless and lossy; Huffman codes; Binary Image compression schemes; Run – length Encoding; CCITT group-3 1D compression; CCITT group-3 2D compression; CCITT group-4 2D compression;

UNIT-IV: Video Image Compression: Requirement of full motion video compression; CCITT H 261 video coding algorithm; MPEG compression methodology; MPEG-2 compression; Audio (Speech) compression;

UNIT-V: Cryptography: Encryption; Decryption; Cryptogram (cipher text); Concept of cipher; Cryptanalysis; Keys: Single key (Secret key); Cryptography; two-key (Public key) cryptography; Single key cryptography; Ciphers; Block Cipher code; Stream ciphers; Requirements for secrecy; The data Encryption Standard; Public Key Cryptography; Diffie-Hellmann public key distribution; The Rivest- Shamim Adelma(R-S-A) system for public key cryptography; Digital Signature;

Text Books:

2. Digital Communication by Proakis, TMH
4. Local Area Network by G. Keiser, TMH (for Unit – V)


What is XML – Basic Standards, Schema Standards, Linking & Presentation Standards, Standards that build on XML, Generating XML data, Writing a simple XML File, Creating a Document type definition, Documents & Data ,Defining Attributes & Entities in the DTD ,Defining Parameter Entities & conditional Sections, Resolving a naming conflict, Using Namespaces, Designing an XML data structure, Normalizing Data, Normalizing DTDS


1. Internet & Intranet Engineering.- Daniel Minoli, TMH.
2. Alexis Leon and Mathews Leon – Internet for Every One, Tech World.
5. Frontiers of Electronics of Commerce, Ravi kalakota & Andrew B. Whinston Addison Wesley
UNIT-I INTRODUCTION TO MOBILE & WIRELESS DEVICES

UNIT-II TELECOMMUNICATION & BROADCAST SYSTEMS

UNIT-III WIRELESS NETWORKS

UNIT-IV MOBILE NETWORK AND TRANSPORT LAYERS
Mobile Network Layer; Mobile IP, DHCP, ADHOC Networks; Mobile Transport Layer; Traditional TCP, Indirect TCP, Snooping TCP, Mobile TCP; Fast Transmit/Fast Recovery, Transmission/Time Out Freezing, Selective Retransmission, Transaction Oriented TCP.

UNIT – V MOBILE SYSETEM DEVELOPMENT & SUPPORT

Text Book
1. Mobile Communications – Schiller, Jochen; 2nd Indian Reprint, Pearson Education Asia – Addison Wesley Longman PTE. Ltd.

Reference Books:
UNIT-I  OVERVIEW OF GRAPHICS SYSTEM
I/O devices, Raster scan & Random scan system, line-circle-ellipse generating algorithm, filled area primitives, 2-D & 3-D transformation, Clipping: 2-D Cyrus Beck clipping, 2-D & 3-D Sutherland Cohen clipping, Polygon clipping, Hodgeman-Sutherland & Weiler-Atherton polygon clipping.

UNIT-II  CURVES & SURFACES
Conics-Parametric forms for circle, ellipse, parabola, Bezier Curves-Need for cubic parametric curves c0, c1, c2 continuity, Generation through Bernstein polynomials, Condition for smooth joining of 2 segments, Convex Hull property, B-Spline Curves: Knot vectors-uniform and open uniform curves, Uniform, Periodic B-splines, Open, Uniform B-splines, Non-uniform, rational B-splines, Beta splines, Subdividing curves, Drawing curves using forward differences.

UNIT-III  PROJECTIONS & HIDDEN SURFACE REMOVAL
3-D Transformation for right handed co-ordinate system (Z-axis towards viewer), Parallel projection on xy plane (including oblique view), Perspective projection-1, 2 and 3 Vanishing points, Handling points at infinity, Reconstruction of 3-D images. Hidden Surface Removal: Back face removal, Floating Horizon method for curved objects, Z-Buffer or depth buffer algorithm, Painters algorithm (Depth sorting method), Binary space partitioning trees, Scan-line algorithm, Warnock’s algorithm.

UNIT-IV  SHADING & COLOR ISSUES

UNIT-V  FRACTALS & ANIMATION
Fractals: self-similar fractals-fractal dimension, Generation of Terrain-random mid point displacement, Grammar based models, Self-squaring fractals. Solid Modelling: Generation through sweep techniques, Constructive solid geometry, B representations, Octrees, Ray Tracing & their Theory, Animation: In-betweening using rotation and translation, Procedural animation, Image Transformation- Translation and rotation, Morphing, Motion Control (Key framing, Spline Driven animation, Arc length parameterization, Velocity curves, Euler angles and use of quaternion.

Text Books: -
1. Computer graphics, Hearn and Baker, PHI
2. Computer Graphics, Foley, PE-LPE,

Reference Books:-
1. Procedural Elements of Computer graphics, Rogers, McGraw Hill
UNIT-I  DISCRETE-TIME SIGNALS
Signal classifications, frequency domain representation, time domain representation, representation of sequences by Fourier transform, properties of Fourier transform, discrete time random signals, energy and power theorems.

UNIT-II  SAMPLING OF TIME SIGNALS
Sampling theorem, application, frequency domain representation of sampling, and reconstruction of band limited signal from its samples. Discrete time processing of continuous time signals, changing the sampling rate using discrete time processing.

UNIT-III  Z-TRANSFORM
Introduction, properties of the region of convergence, properties of the Z-transform, inversion of the Z-transform, applications of Z-transform.

UNIT-IV  BASICS OF DIGITAL FILTERS
Classification, properties, time invariant system, finite impulse Response (FIR) system, infinite impulse response (IIR) system.
Fundamentals of digital filtering, various types of digital filters, design techniques of digital filters: window technique for FIR, bi-linear transformation and backward difference methods for IIR filter design, analysis of finite word length effects in DSP, DSP algorithm implementation consideration. Applications of DSP.

UNIT-V  DISCRETE & FAST FOURIER TRANSFORM
DFT and FFT: Discrete Fourier transforms properties of DFT, circular convolution, linear convolution using DFT, fast Fourier transform: Radix 2 FFT algorithm, decimation in time, decimation in frequency, bit reversal.

TEXT BOOKS:
1. Digital Signal Processing: Proakis and Manolakis; PHI
2. Digital Signal Processing: Salivahanan, Vallavaraj and Gnanapriya; TMH

REFERENCE BOOKS:
1. Digital Signal Processing: Alon V. Oppenheim; PHI
UNIT-I  ARCHITECTURE & INSTRUCTION SET FOR 8086
Architecture and pin configuration of 8086, Instruction Format; Addressing modes, Data Transfer Instruction; Arithmetic Instructions; Branching and Looping Instructions, NOP and Halt, Flag Manipulation Instructions; Logical, Shift and Rotate Instruction. Byte and String Manipulation: String Instructions; REP Prefix, Table Translation, Number Format conversions. Assembler Directives and Operators; Assembly Process; Translation of assembler Instructions. Programming of microprocessor 8086

UNIT-II  SYSTEM BUS STRUCTURE
Basic 8086/8088 system bus architecture, Minimum mode Configuration, Maximum mode configuration; memory interfacing with 8086/8088 in minimum and maximum mode; System Bus Timings, Bus Standards. Interrupts of microprocessor 8086

UNIT-III  ADVANCED MICROPROCESSOR ARCHITECTURE
CPU 80386 Architecture and functional pin diagram, Function of Bus interface unit, Execution unitcontrol unit, Instruction Decoder Unit, Segmentation unit & page unit. General purpose Registers, Iag Register, Test & Debug Register, and Pipelining. Addressing mode and Instruction set of microprocessor 80386

UNIT-IV  TASK AND MODES OF OPERATION
Real mode, Virtual Mode, Protected Mode, Page based Virtual Memory; Single level tasks: SegmentRegister. Segment descriptors, Local descriptor table, Global Descriptor Register, Interrupt Descriptor Register. Multilevel tasks: Gate Descriptor, Task state segment; Task switch; Task gate descriptors, Related Instructions, Page descriptors, Addressing technique. Address Calculation, Segment and Page Protection, Scaling; Bit Addressing, Programmer invisible register, Cache memory, virtual memory, Types of cache.

UNIT-V  MULTIPROCESSOR CONFIGURATION & INTERFACING
Numeric data Processor 8087; I/O Processor 8089, Communication between CPU and IOP, Related Instructions; Interfacing and programming of programmable peripheral interface 8255 and programmable interrupt controller 8259 with microprocessor 8086.

Text Books:

Reference books:
1. The 8088 and 8086 microprocessors: programming, interfacing, software, hardware and applications; Tribel and Singh; PHI publication
2. Advanced microprocessors and peripherals: Ray and Burchandi; TMH publication
**Unit I: Introduction**


**Unit II: Compression Techniques**


**Unit III: Multimedia Systems Architecture**


**Unit IV: Multimedia Information Management**


**Unit V: Virtual Reality**

Introduction to Virtual Reality and Virtual Reality Systems, Related Technologies: Tele-operation and Augmented Reality Systems Interface to the Virtual World-Input; Head and hand trackers, data globes, haptic input devices. Interface to the Virtual World- Output, Stereo display, head-mounted display, auto-stereoscopic displays, haptic displays, haptic and force feedback. VRML Programming; Modeling objects and virtual environments Domain Dependent applications: Medical, Visualization, Entertainment, etc.

**Text Books:**
1. Multimedia System Design, Anandligh and Thakarar, PHI

**Reference Books:**
UNIT-I  INTRODUCTION AND LAYERED NETWORK ARCHITECTURE

UNIT-II  DELAY MODELS IN DATA NETWORKS
Queuing Models: Little’s Theorem. The M / M / 1 Queuing System, The M / M / m, M / M / ∞, M / M / m / m, and Other Markov Systems, The M / M / 1 System, Priority Queuing, An Upper Bound for the G / G / 1 System, The Klein rock Independence Approximation, Time Reversibility- Burke’s Theorem, Networks of Queues-Jackson’s Theorem, Extension of Jackson’s Theorem.

UNIT-III  MULTI-ACCESS COMMUNICATION

UNIT-IV  ROUTING IN DATA NETWORKS

UNIT-V  FLOW CONTROL

Text Books: -
2. Data Communication, Computer Networks, Halsall, Pearson Education.

Reference Books: -
CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.)

Semester – VI
Subject: Advanced Operating System
Total Theory Periods: 40
Marks in End Semester Exam: 80
Minimum number of class test to be conducted: 02

Branch: Information Technology
Code: 322636 (22)
Total Tutorial Periods: Nil

UNIT-I  INTRODUCTION TO DISTRIBUTED OPERATING SYSTEM

UNIT-II  SECURITY AND DISTRIBUTED ALGORITHM
Overview of security techniques, Cryptographic algorithms, digital signatures, Cryptographic pragmatics. Distributed Algorithms: Distributed algorithm design principles and issues such as coordination, agreement. Examine source of difficulties such as timing, interaction models, and failures.

UNIT – III  STRUCTURE OF UNIX OPERATING SYSTEM

UNIT – IV  STRUCTURE OF WINDOWS OPERATING SYSTEM
Overview of WINDOWS OS, Internal architecture of WINDOWS OS, Classification of WINDOWS OS command, Handling files, Handling directories, File – Memory – I/O – Process management in WINDOWS OS, Administration of WINDOWS OS system, WINDOWS programming environment.

UNIT – V  CASE STUDY OF OPERATING SYSTEMS
Case Study of Process Management, Memory Management, File Management, I/O Management, System calls for WINDOWS, UNIX, LINUX etc.

Text Books: -
1. Distributed OS, A.S Tanenbaum, PHI.
2. Distributed Operating System By P. K. Singha, IEEE Press
3. Understanding UNIX, K. Sirengan, PHI.

Reference Books:-
2. Operating System, Milan, TMH.
3. LINUX OS, BPB publication.
UNIT I  INTRODUCTION OF LOGIC PARADIGM
Prepositional calculus & logic, natural deduction & axiomatic system, semantic tableaux & resolution.. FOPL: predicate calculus, Prenex normal forms & skolemization, Herbrand universe & H- interpretation.

UNIT II  LOGIC PROGRAMMING
Logic formulas, Logical Inference, The least Herbrand Model, Unification, SLD – Resolution, Negation in logic programming, Cut & Arithmetic, Recursive data structure.

UNIT III PROLOG PROGRAMMING
Execution of query in prolog program; programming in PROLOG (overview): predicates, Rules, Computations, Lists & data, Arithmetic operations, Grammar Rules, meta level & non deterministic programming, second order program in prolog, logic grammars, Recursion, cut & fail, Higher order Predicates .

Unit IV  ADVANCED FEATURE OF LOGIC PROGRAMMING
Object & Meta language, Context free grammar vs logical grammar, Compilation of DCGs into prolog, Searching in state space, Concurrent logic programming, Constraint logic Programming.

UNIT V  FUNCTIONAL PROGRAMMING
Introduction to functional programming (FP), Higher order functions, Introduction to SMIL a functional language, Lazy evaluation & delay of unnecessary computation, Functional – Logic program (FLP), Explicit data values, Recursive list, The relational functional markup language, Horizon transformation.

Text Books: -
1. Logic & Prolog programming, Saroj Kaushik, New Age International.
2. Element of functional Programming, Reade Chris, AWL.

Reference Books: -
1. The essence of logic, K. John, PHI.
3. Prolog programming, Bratko, Pearson Education.
CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.)

Semester – VI      Branch: Information Technology
Subject:-  Advanced DATA Base Systems  Code: 322638 (22)
Total Theory Periods: 40
Total Marks in End Semester Exam. : 80   Total Tutorial Periods: Nil
Minimum number of class test to be conducted: 02

UNIT- I  DISTRIBUTED DATABASE DESIGN
Design strategies, Distribution design issues, Fragmentation, Allocation, and Oracle DDB design, Distributed database system architecture, Date’s rule for DDBS.

UNIT- II  DATA REPLICATION & QUERY PROCESSING IN DDBS
Classification of replica control strategies, Consistency & Request ordering, The Gossip Architecture, Process groups & ISIS, Replication in Oracle, Query optimization in Centralized system, Objective of query processing, Query decomposition, Distributed query optimization algorithms, Query optimization in Oracle.

UNIT-III  TRANSACTION PROCESSING & RECOVERY
Centralized & client serer architecture, server systems architectures, parallel & distributed systems, distributed data storage, Transaction property, distributed transactions, commit protocols, concurrency control in distributed database, availability, heterogeneous distributed databases, Distributed deadlock management, recovery concepts, recovery techniques based on deferred update & on immediate update shadow paging, The ARIES Recovery Algo, Recovery in multidatabase systems, database backup and recovery from catastrophic failures, Reliability concept & measure, Site failure & network portioning, directory systems, Database recovery in Oracle.

UNIT- IV  SECURITY MANAGEMENT & PL/SQL

UNIT- V  DIFERENT DATABASES

Text books:
1. Database system concepts, 4th edition, Silberschatz-Korth-Sudarshan, MH

Reference Books:-
1. Database concepts & systems, 2nd edition, Ivan Bayross, SPD
2. Database Management System, Rajesh Narang, PHI.
3. An introduction to database systems, 7th edition, C.J. Date, Pearson education
Suggested List of Experiments (but should not be limited to):

Schema for table creation
Employee (person name, street, city)
Works (person name, company name, salary)
Company (company name, city)
Manages (person name, Manager Name)

1. Viewing data in tables
2. Filtering data.
3. Creating a table from another table.
4. Inserting data into a table from another table.
6. Renaming tables.
7. Data constraints.
   - Primary key, foreign key, unique, not null, check.
8. Grouping data.
9. Set operations.
10. Sub queries.
12. Cursor.
13. PL-SQL.

Text Books:-
1. SQL & PL/SQL, Ivan Bayross, SPD.
2. Database Design Fundamentals, Rishe, PHI.

Reference Books
2. Introduction to Database Systems, C.J.Date, Pearson Education.
Suggested List of Experiments (but should not be limited to):

**LIST OF CONSOLE PROGRAMMING**

2. WAP to find the Average, Total Grade of student using if else statements (In Console).
3. WAP to input any number between (0—6) and print appropriate day week.
4. Print the pattern Using For loop.
5. WAP to input numbers in 1D array and print in ascending & descending order.
6. WAP to input number in 2D array and perform the following operation.
   1. Sum of all number
   2. Forward Diagonal & Backward diagonal
   3. Print Upper & Lower triangle matrices.
7. WAP to input number in 2D array and perform the following operation.
   1. Sum of to matrices.
8. WAP to explain Class, Constructor & Inheritances.

**GUI PROGRAMMING**

9. Design simple calculation to implement Addition, Subtraction and Multiplication and Division.
10. Design the marks sheet of student. Which Display all details including the total marks of student and percentage.
11. Create a from using check box & option box to give the effect of fonts such as Bold, Italic, underline strike through respectively for the text entered in the Rich Text Box.
12. Demonstrate use of Data Environment; add tables and queries, place field on from, report etc.
13. Create simple Notepad application, Which cantina menus Rich Text Box, Common Dialogs Box formatted text, using toolbar and Replace text, window, status bar and scroll bar.
14. Develop a three-difference program, which uses different Data Access Component ODBC.

**OLE DB ADO**

15. Modify the Practical on 12 to all following Button FIND, ADD, DELETE, MODSIFY, and CONCEL. Give proper code to perform the activity described by the buttons.

**CASE STUDY** (Design the and develop one of the following three case studies)

A. Design a program for online Examination system, which include database and recorded facility.
B. Develop a program for telephone bill generation, which include database and recorded facility
C. Develop a program for super market includes the database. And recorded facility.

**List of Equipment/machine required:**

1. P-3 or above Computer System.
3. MSDN Library.
4. Database (Oracle/MS Access/ Sql. Server)

**Text Books:**

1. Black Book (VB & VB. NET)
2. Complete Reference (VB & VB.NET)
Suggested List of Experiments (but should not be limited to):

1. Write a program to print Hello World using Message Box.
2. Write a program to get two strings from the user with the help of Input Box & Concatenate them & print on form.
3. Write a program to get a number from the user with the help of Input Box & check whether the number is even or odd.
4. Write a program to calculate the factorial of any number.
5. Write a program to get a number from the user and check whether the number is prime or not.
6. Write a program to get a number from the user with the help of text box and check whether the number is prime or not.
7. Write a program to generate Fibonacci series.
8. Write a program to get the marks of 5 subjects from the user & calculate the percentage & division.
9. Write a program to get two numbers from the user swap them & print them using your own subroutines.
10. Write a program to get two numbers from the user & return the greatest using your own function.
11. Write a program to find the sum of the series \(1 + 2^3 + 4^3 + 6^3 + 8^3 + \ldots\)
12. Write a program to find the sum of the series \(1 + 1/1! + 2/2! + 3/3! + \ldots\)
13. Write a program to calculate addition, subtraction, multiplication & division of two numbers using Select Case.
14. Write a program to validate Text entered into a textbox.
15. Write a program to validate Numbers entered into a textbox.
16. Write a program to validate all the controls used in forms & send the data from form to database using ASP.

Reference Books:

1. Java Script manual
2. JavaScript Interactive Course - Techmedia
Suggested List of Experiments (but should not be limited to):

1. Write a program to draw the line using DDA algorithm.
2. Write a program to draw the line using Bresenham’s algorithm.
3. Write a program to draw circle using Bresenham’s algorithm.
4. Write a program to draw circle using mid-point algorithm.
5. Write a program to demonstrate draw ellipse using midpoint algorithm.
6. Write a program Rotation of Triangle.
7. Write a program Rotation of Line.
8. Write a program Rotation of Triangle.
9. Write a program Translation of Line.
10. Write a program Translation of Triangle.
11. Write a program Translation of Rectangle.
12. Write a program to perform scaling of line.
13. Write a program shearing of Line.
14. Write a program shearing of Triangle.
15. Write a program shearing of Rectangle.

Book Reference:-

Chhattisgarh Swami Vivekanand Technical University, Bhilai  
(C.G.)

Semester: VI  
Subject: Managerial Skills  
Total Practical Periods: 28  
Total Tut Periods: NIL  
Total Marks in End Semester Exam: 40  
Minimum number of class test to be conducted: 2

Unit-I  
Managerial Communication Skills: Importance of Business Writing: writing business letters, memorandum, minutes, and reports- informal and formal, legal aspects of business communication, oral communication- presentation, conversation skills, negotiations, and listening skills, how to structure speech and presentation, body language.

Unit-II  
Managerial skills: Leadership: Characteristics of leader, how to develop leadership; ethics and values of leadership, leaders who make difference, conduct of meetings, small group communications and Brain storming, Decision making, How to make right decision, Conflicts and cooperation, Dissatisfaction: Making them productive.

Unit-III  
Proactive Manager: How to become the real you: The journey of self-discovery, the path of self-discovery, Assertiveness: A skill to develop, Hero or developer, Difference between manager and leader, Managerial skill check list, team development, How to teach and train, time management, Stress management, Self assessment.

Unit-IV  
Attitudinal Change: Meaning of attitude through example, benefits of positive attitude, how to develop habit of positive thinking, what is fear? How to win it? How to win over failure? How to overcome criticism? How to become real you? How to Motivate?

Unit-V  
Creativity – a managerial skill, Trying to get a grip on creativity.  

Text & Reference Books:
1. Basic Managerial skills for all by E.H. McGrawth, Prentice Hall India Pvt Ltd,2006
2. How to develop a pleasing personality by Atul John Rego, Better yourself bools, Mumbai, 2006
3. The powerful Personality by Dr. Ujjawal Patni & Dr. Pratap Deshmukh, Fusion Books, 2006
4. How to Success by Brian Adams, Better Yourself books, Mumbai, 1969