Vision

To evolve into and sustain as a Centre of Excellence in Technological Education and Research with a holistic approach.
Mission

To produce high quality engineering graduates with the requisite theoretical and practical knowledge and social awareness to be able to contribute effectively to the progress of the society through their chosen field of endeavor.

To undertake Research & Development, and extension activities in the fields of Science and Engineering in areas of relevance for immediate application as well as for strengthening or establishing fundamental knowledge.
FORWARD

The G.V.P. College of Engineering has started its new life as an autonomous College with great responsibility and confidence one year ago. It has become now a torch bearer for other sister institutions because of its success story in running an autonomous system for the last one year. People are inquisitive to know what has happened and how it has happened.

The functional mechanism has been explained to the faculty and students before the start. A mid-term review and an end-term review are conducted with students as well as faculty for their feedback and corrective measures in both the semesters of first year. This helped us in eliminating some of the hitches and improving the rate of progression.

The course structure and syllabi for 1st and 2nd semesters have been reviewed for fine tuning in the second BOS meeting along with the syllabi for the 3rd, 4th and 5th semesters. The College expresses its thanks to all the members for their cooperation.

It must be said that the success is because of the acceptance of the main stakeholders, the students and their parents. The enthusiasm of the faculty cannot be understressed. Various learned academicians from outside, as paper setters and valuers have extended timely support through their positive response to become a part of the mechanism in the conduct of exams and bringing out the results quickly at the end of each semester. The college acknowledges their association and wishes to share its happiness with them.

Principal
SYLLABI FOR III, IV, V SEMESTERS
UNIT-I

UNIT-II
Physical Layer: Guided transmission media – Magnetic media, Twisted Pair, coaxial cable, fiber optics.

UNIT-III
The Medium Access Sub Layer: The channel allocation problem, Multiple access Protocols, Ethernet, Wireless LANs, Broadband Wireless, Bluetooth, and Data Link Layer Switching.

UNIT-IV

UNIT-V
UNIT-VI
The Application Layer: DNS-(Domain Name System), Electronic Mail, World Wide Web Multimedia,

UNIT-VII

UNIT-VIII

TEXT BOOKS:

REFERENCE BOOKS:
UNIT-I

UNIT-II

UNIT-III
2-D geometrical transforms: Translation, scaling, rotation, reflection and shear transformations, matrix representations and homogeneous coordinates, composite transforms, transformations between coordinate systems (p.nos 204-227 of text book-1).

UNIT-IV
UNIT-V


UNIT-VI

3-D Geometric transformations: Translation, rotation, scaling, reflection and shear transformations, composite transformations. 3-D viewing: Viewing pipeline, viewing coordinates, view volume and general projection transforms and clipping (p.nos 427-443, 452-481 of text book-1).

UNIT-VII

Visible surface detection methods: Classification, back-face detection, depth-buffer, scan-line, depth sorting, BSP-tree methods, area sub-division and octree methods (p.nos 489-505 of text book-1, Chapter 15 of text book-2).

UNIT-VIII

Computer animation: Design of animation sequence, general computer animation functions, raster animation, computer animation languages, key frame systems, motion specifications. (p.nos 604-616 of text book-1, chapter 21 of text book-2)

TEXT BOOKS:


REFERENCE BOOKS:


6. Computer Graphics, Steven Harrington, TMH
Course Code: ACA3119

UNIT – I

UNIT – II

UNIT – III
Form of Basic SQL Query – Examples of Basic SQL Queries – Introduction to Nested Queries – Correlated Nested Queries Set – Comparison Operators – Aggregative Operators – NULL values – Comparison using Null values – Logical connectivity’s – AND, OR and
NOTR – Impact on SQL Constructs – Outer Joins – Disallowing NULL values – Complex Integrity Constraints in SQL Triggers and Active Data bases.

UNIT – IV

UNIT – V

UNIT – VI


UNIT – VII
UNIT – VIII

TEXT BOOKS:


REFERENCE BOOKS:

1. Introduction to Database Systems, C.J.Date Pearson Education
3. Data base Management System, Elmasri Navrate Pearson Education
5. Data base Systems, Conoley Pearson education
UNIX NETWORK PROGRAMMING

Course Code: ACA3120

UNIT-I
Unix Utilities-Introduction to Unix file system, vi editor, file handling utilities, security by file permissions, process utilities, disk utilities, networking commands, cp, mv, ln, rm, unlink, mkdir, rmdir, du, df, mount, umount, find, umask, ulimit, ps, who, w, finger, arp, ftp, telnet, rlogin, text processing utilities and backup utilities, detailed commands to be covered are cat, tail, head, sort, nl, uniq, grep, egrep, fgrep, cut, paste, join, tee, pg, comm, cmp, diff, tr, awk, tar, cpio.

UNIT-II
Problem solving approaches in Unix: Using single commands, using compound Commands, shell scripts, C programs, building own command library of programs. Working with the Bourne shell: what is a shell, shell responsibilities, pipes and input Redirection, output redirection, here documents, the shell as a programming language, shell meta characters, shell variables, shell commands, the environment, control structures, shell script examples.

UNIT-III
Unix Files: Unix file structure, directories, files and devices, System calls, library functions, low level file access, usage of open, creat, read, write, close, lseek, stat, fstat, octl, umask, dup, dup2.
The standard I/O (fopen, fclose, fflush, fseek, fgetc, getc, getchar, fputc, putc, putchar, fgets, gets ), formatted I/O, stream errors, streams and file descriptors, file and directory maintenance (chmod, chown, unlink, link, symlink, mkdir, rmdir, chdir, getcwd), Directory handling system calls.
(opendir, readdir, closedir, rewinddir, seekdir, telldir)

**UNIT-IV**
Unix Process and Signals: What is process, process structure, starting new process, waiting for a process, zombie process, process control, process identifiers, system call interface for process management-fork, vfork, exit, wait, waitpid, exec, system, Signals- Signal functions, unreliable signals, interrupted system calls, kill and raise functions, alarm, pause functions, abort, sleep functions.

**UNIT-V**
Interprocess Communication Overview: Introduction to IPC, IPC between processes on a single computer system, IPC between processes on different systems, file and record locking, other unix locking techniques, pipes, FIFOs, streams and messages, namespaces, introduction to three types of IPC(system-V)-message queues, semaphores and shared memory.

**UNIT-VI**
Message Queues-Unix system-V messages, unix kernel support for messages, unix APIs for messages, client/server example.

**UNIT-VII**
Semaphores-Unix system-V semaphores, unix kernel support for semaphores, unix APIs for semaphores, file locking with semaphores.
Shared Memory-Unix system-V shared memory, unix kernel support for shared memory, unix APIs for shared memory, semaphore and shared memory example.

**UNIT-VIII**
Sockets: Berkeley sockets, socket system calls for connection oriented protocol and connectionless protocol, example-client/server program.
TEXT BOOKS:
1. Unix Network Programming, W.R.Stevens Pearson/PHI.

REFERENCE BOOKS:
1. Unix system programming using C++, T.Chan, PHI.
4. Unix programming environment, Kernighan and Pike, PHI. / Pearson Education
MANAGEMENT INFORMATION SYSTEMS

Course Code: ACA3121

UNIT I
The meaning and role of MIS: What is MIS?, Decision support systems, systems approach, the systems view of business, MIS organization within the company, Managers view of Information systems.

UNIT II
Management organizational theory and the systems approach
Development of organizational theory, management and organizational behavior, management, information, and the systems approach, using Information systems for feedback.

UNIT III
Information systems for decision making: Evolution of an information system, Basic information systems, decision making and MIS, MIS as a technique for making programmed decisions, decision assisting information systems. Communication systems basics.

UNIT IV
Strategic and project planning for MIS: General business planning, appropriate MIS response, MIS planning-general, MIS planning-details.

UNIT V
Conceptual system design: Define the problems, set system objectives, establish system constraints, determine information needs, determine information sources, develop alternative conceptual
designs and select one, document the system concept, prepare the conceptual design report.

UNIT VI
Detailed system design: Inform and involve the organization, aim of detailed design, project management of MIS detailed design, identify dominant and trade off criteria, define the subsystems, sketch the detailed operating subsystems and information flows, determine the degree of automation of each operation, inform and involve the organization again, inputs, outputs, and processing, early system testing, software, hardware and tools, propose an organization to operate the system, document the detailed design, revisit the manager-user.

UNIT VII
Implementation, evaluation and maintenance of the MIS: Plan the implementation, acquire floor space and plan space layouts, organize for implementation, develop procedures for implementation, train the operating personnel, computer related acquisitions, develop forms for data collection and information dissemination, develop the files, test the system, cutover, document the system, evaluate the MIS, control and maintain the system.

UNIT VIII
Pitfalls in MIS development: Fundamental weaknesses, soft spots, in planning, design problems, implementation: the TAR PIT. Applications of information systems to business. Security and ethical issues of information systems.

TEXT BOOK:

REFERENCE BOOKS:
2. Management Information Systems, 9/e, Laudon & Laudon, V.M.Prasad, Pearson, 2005,
DATABASE MANAGEMENT SYSTEMS LAB

Course Code: ACA3122

1. Creating tables for various relations (in SQL)

2. Implementing the queries in SQL for
   a) Insertion
   b) Retrieval (Implement all the operation like Union, Intersect, Minus, in, exist, aggregate functions (Min., Max…) etc…
   c) Updation
   d) Deletion

3. Creating Views

4. Writing Assertions

5. Writing Triggers

6. Implementing Operations on relations (tables) using PL/SQL

7. Creating FORMS

8. Generating REPORTS.
1. Write a shell script that generates a multiplication table.

2. Write a shell script that copies multiple files to a directory.

3. Write a shell script that counts the number of lines and words present in a given file.

4. Write a shell script that displays the list of all files in the given directory.

5. Write a shell script (small calculator) that adds, subtracts, multiplies and divides the given two integers. There are two division options: one returns the quotient and the other returns reminder. The script requires 3 arguments: The operation to be used and two integer numbers. The options are add (-a), subtract (-s), multiply (-m), quotient (-c) and reminder (-r).

6. Write a shell script to reverse the rows and columns of a matrix.

7. Write a C program that counts the number of blanks in a text file.
   Using standard I/O
   Using system calls.

8. Implement in C the following Unix commands using system calls.
9. Write a program that takes one or more file/directory names as command line input and reports the following information on the file:
   a) File type.
   b) Number of links.
   c) Time of last access.
   d) Read, Write and Execute permissions.

10. Write a C program that illustrates uses of the mkdir, opendir, readdir, closedir, and rmdir APIs.

11. Write a C program that illustrates how to execute two commands concurrently with a command pipe.

12. Write a C program that illustrates the following:
   a) Two-way communication with unidirectional pipe
   b) Two-way communication with bidirectional pipes

13. Write a C program that illustrates the creation of child process using fork system call.

14. Write a C program that displays the real time of a day every 60 seconds.

15. Write a C program that illustrates file-locking using semaphores.

16. Write a C program that implements a producer-consumer system with two processes. (Using semaphores)

17. Write a C program that illustrates inter process communication using shared memory system calls.
18. Write a C program that illustrates the following.

   a) Creating a message queue.
   a) Writing to a message queue.
   b) Reading from a message queue.

19. Write a C program to develop simple client and server application using sockets (system calls).

**Suggested textbooks for lab:**

ADVANCED JAVA PROGRAMMING

Course Code: ACA3124

UNIT-I
HTML Common tags- List, Tables, images, forms, Frames;  Cascading Style sheets;
Introduction to Java Scripts, Objects in Java Script, Dynamic HTML with Java Script

UNIT -II

UNIT- III
Review of Applets, Class, Event Handling, AWT Programming
Introduction to Swing:

UNIT - IV
Java Beans Introduction to Java Beans, Advantages of Java Beans, BDK Introspection, Using Bound properties, Bean Info Interface, Constrained properties Persistence, Customizers, Java Beans API

UNIT - V
Introduction to Servelets: Lifecycle of a Serverlet, JSDK The Servelet API, The javax.servelet Package, Reading Servelet parameters, Reading
Initialization parameters. The javax.servlet HTTP package, Handling HTTP Request & Responses, Using Cookies - Session Tracking, Security Issues

UNIT - VI
Introduction to JSP The Problem with Servlet. The Anatomy of a JSP Page, JSP Processing.
JSP Application Design with MVC Setting Up and JSP Environment: Installing the Java Software Development Kit, Tomcat Server & Testing Tomcat

UNIT - VII
JSP Application Development: Generating Dynamic Content, Using Scripting Elements
Implicit JSP Objects, Conditional Processing – Displaying Values Using an Expression to Set an Attribute, Declaring Variables and Methods
Error Handling and Debugging Sharing Data Between JSP pages, Requests, and Users Passing Control and Date between Pages – Sharing Session and Application Data – Memory Usage Considerations

UNIT - VIII
Introduction to struts framework.

TEXT BOOKS
Internet and World Wide Web – How to program by Dietel and Nieto Pearson Education Asia. (Chapters: 3, 4, 8, 9, 10, 11, 12 – 18)
The complete Reference Java 2 Third Edition by Patrick Naughton and Herbert Schildt. (Chapters: 19, 20, 21, 22, 25, 27)
Java Server Pages by Hans Bergstan. (Chapters: 1 – 9)
REFERENCE BOOKS:

1. Internet and World Wide Web – How to program by Dietel and Nieto PHI/Pearson Education Asia.
3. Murach’s beginning JAVA JDK 5, Murach, SPD
5. Web Applications Technologies Concepts-Knuckles, John Wiley
6. Programming world wide web-Sebesta, Pearson
7. Building Web Applications-NIIT, PHI
8. Web Warrior Guide to Web Programming-Bai/Ekedaw-Thomas
9. Beginning Web Programming-Jon Duckett WROX.
DATA WAREHOUSING AND MINING

Course Code: ACA3125

UNIT-I
Introduction: Fundamentals of data mining, Data Mining Functionalities, Classification of Data Mining systems, Major issues in Data Mining, Data Warehouse and OLAP Technology for Data Mining Data Warehouse, Multidimensional Data Model, Data Warehouse Architecture, Data Warehouse Implementation, Further Development of Data Cube Technology, From Data Warehousing to Data Mining.

UNIT-II
Data Preprocessing: Needs Preprocessing the Data, Data Cleaning, Data Integration and Transformation, Data Reduction, Discretization and Concept Hierarchy Generation, Online Data Storage.

UNIT-III
Data Mining Primitives, Languages, and System Architectures: Data Mining Primitives, Data Mining Query Languages, Designing Graphical User Interfaces Based on a Data Mining Query Language Architectures of Data Mining Systems,

UNIT-IV
Concepts Description: Characterization and Comparison: Data Generalization and Summarization-Based Characterization, Analytical Characterization: Analysis of Attribute Relevance, Mining Class Comparisons: Discriminating between Different Classes, Mining Descriptive Statistical Measures in Large Databases.
UNIT-V
Mining Association Rules in Large Databases: Association Rule Mining, Mining Single-Dimensional Boolean Association Rules from Transactional Databases, Mining Multilevel Association Rules from Transaction Databases, Mining Multidimensional Association Rules from Relational Databases and Data Warehouses, From Association Mining to Correlation Analysis, Constraint-Based Association Mining.

UNIT-VI
Classification and Prediction: Issues Regarding Classification and Prediction, Classification by Decision Tree Induction, Bayesian Classification, Classification by Back propagation, Classification Based on Concepts from Association Rule Mining, Other Classification Methods, Prediction, Classifier Accuracy.

UNIT-VII
Cluster Analysis Introduction: Types of Data in Cluster Analysis, A Categorization of Major Clustering Methods, Partitioning Methods, Density-Based Methods, Grid-Based Methods, Model-Based Clustering Methods, Outlier Analysis.

UNIT-VIII
Mining Complex Types of Data: Multidimensional Analysis and Descriptive Mining of Complex, Data Objects, Mining Spatial Databases, Mining Multimedia Databases, Mining Time-Series and Sequence Data, Mining Text Databases, Mining the World Wide Web.

TEXT BOOKS:
1. Data Mining – Concepts and Techniques - JIAWEI HAN & MICHELNE KAMBER Harcourt India.
2. Data Mining Techniques – ARUN K PUJARI, Press
REFERENCE BOOKS:

2. Data Warehousing Fundamentals – PAULRAJ PONNAIAH WILEY STUDENT EDITION
3. The Data Warehouse Life cycle Tool kit – RALPH KIMBALL WILEY STUDENT EDITION
4. Data Mining Introductory and advanced topics –MARGARET H DUNHAM, PEARSON EDUCATION
SOFTWARE ENGINEERING

Course Code: ACA3126  

UNIT-I  

UNIT-II  
Process models: The waterfall model, Incremental process models, Evolutionary process models, The Unified process.  
Software Requirements: Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document.

UNIT-III  
Requirements engineering process: Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management.  
System models: Context Models, Behavioral models, Data models, Object models, structured methods.

UNIT-IV  
Design Engineering: Design process and Design quality, Design concepts, the design model.  
Creating an architectural design: software architecture, Data design,
Architectural styles and patterns, Architectural Design.

UNIT-V
Object-Oriented Design: Objects and object classes, An Object-Oriented design process, Design evolution.
Performing User interface design: Golden rules, User interface analysis and design, interface analysis, interface design steps, Design evaluation.

UNIT-VI
Testing Strategies: A strategic approach to software testing, test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing, the art of Debugging.
Product metrics: Software Quality, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance.

UNIT-VII
Risk management: Reactive vs Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM Plan.

UNIT-VIII

TEXT BOOKS:

REFERENCE BOOKS:

EMBEDDED SYSTEMS
(ELECTIVE-I)

Course Code: ACA3127

UNIT - I

(Chapter I from Text Book 1, Wolf)

UNIT - II

(Chapter 3 from Text Book 2, Ayala)

UNIT - III
Basic Assembly Language Programming Concepts: The Assembly Language Programming Process, Programming Tools and Techniques, Programming the 8051. Data Transfer and Logical Instructions. (Chapters 4, 5 and 6 from Text Book 2, Ayala)

UNIT - IV
Arithmetic Operations, Decimal Arithmetic. Jump and Call Instructions, Further Details on Interrupts. (Chapter 7 and 8 from Text Book 2, Ayala)
UNIT - V
Applications: Interfacing with Keyboards, Displays, D/A and A/D Conversions, Multiple Interrupts, Serial Data Communication. (Chapter 10 and 11 from Text Book 2, Ayala)

UNIT - VI
Introduction to Real – Time Operating Systems: Tasks and Task States, Tasks and Data, Semaphores, and Shared Data; Message Queues, Mailboxes and Pipes, Timer Functions, Events, Memory Management, Interrupt Routines in an RTOS Environment (Chapter 6 and 7 from Text Book 3, Simon)

UNIT - VII
Basic Design Using a Real-Time Operating System: Principles, Semaphores and Queues, Hard Real-Time Scheduling Considerations, Saving Memory and Power, An example RTOS like uC-OS (Open Source); Embedded Software Development Tools: Host and Target machines, Linker/Locators for Embedded Software, Getting Embedded Software into the Target System; Debugging Techniques: Testing on Host Machine, Using Laboratory Tools, An Example System. (Chapter 8,9,10 and 11 from Text Book 3, Simon)

UNIT - VIII
Introduction to advanced architectures: ARM and SHARC, Processor and memory organization and Instruction level parallelism; Networked embedded systems: Bus protocols, I2C bus and CAN bus; Internet-Enabled Systems, Design Example-Elevator Controller.

(Chapter 8 from Text Book 1, Wolf)

Text Books:
Computers and Components, Wayne Wolf, Elseveir.
An Embedded Software Primer, David E. Simon, Pearson Education.
Reference Books:
  Embedding system building blocks, Labrosse, via CMP publishers.
  Embedded Systems, Raj Kamal, TMH.
  Micro Controllers, Ajay V Deshmukhi, TMH.
  Microcontrollers, Raj kamal, Pearson Education.
HUMAN COMPUTER INTERACTION
(ELECTIVE -I)

Course Code: ACA3128 L T P 4 1 -

UNIT-I
Introduction: Importance of user Interface – definition, importance of good design. Benefits of good design. A brief history of Screen design,

UNIT-II
The graphical user interface – popularity of graphics, the concept of direct manipulation, graphical system, Characteristics, Web user – Interface popularity, characteristics- Principles of user interface.

UNIT-III
Design process – Human interaction with computers, importance of human characteristics human consideration, Human interaction speeds, understanding business junctions.

UNIT-IV

UNIT-V
UNIT-VI
Components – text and messages, Icons and increases – Multimedia, colors, uses problems, choosing colors.

UNIT-VII

UNIT-VIII

TEXT BOOKS:

The essential guide to user interface design, Wilbert O Galitz, Wiley DreamTech.

Designing the user interface. 3rd Edition Ben Shneidermann, Pearson Education Asia

REFERENCE BOOKS:

1. Human – Computer Interaction. Alan Dix, Janet Finlay, Gre Goryd, Abowd, Russell Bealg, Pearson Education

2. Interaction Design Prece, Rogers, Sharps. Wiley Dreamtech,

PERL PROGRAMMING
(ELECTIVE-I)

Course Code: ACA3129

UNIT-I
Introduction to perl: # ! , Basic I/O, Variables variables & Backslash Interpolation, Scalar/list control operators, operator procedure, if unless, loops, loop control (ch1, ch3, pg 60-65, 69-72, III-127)

UNIT-II
Debugging perl scripts: Debugging commands, Debugger customization, Unattended execution, Debugging support, the perl profiler.

UNIT-III
Built in Function: Perl functions by category, Perl functions in alphabetical order.

UNIT-IV
Regular expressions: Pattern Matching, operators, Meta character and meta symbols. Character classes, quantifiers, Pointers, capturing & clustering, Alternation, staying in control.

UNIT-V
UNIT-VI
References: Creating References, using hard references, symbolic references, Braces, Brackets and quotes.
Data Structure: Arrays of Arrays, Hashes of arrays, Arrays of Hashes, Hashes of Hashes, Hashing as function, Elaborate records, Hashes of functions.

UNIT-VII
CGI Programming: CGI Basic, Forms, Methods.

UNIT-VIII
More CGI: Here Docs, Emailing, Cookies, File uploading, E-mail.

Text Books:

2. CGI Programming with Perl Scott Guelich, et al., O’Reily
DISTRIBUTED OPERATING SYSTEMS  
(ELECTIVE – II)

Course Code: ACA3130

UNIT-I
Introduction to Distributed Systems:
Distributed systems : Goals Hardware Concepts Software - design

UNIT-II
Communication distributed systems:

UNIT-III
Synchronization:
Clock synchronization - mutual exclusion - election atomic transactions - dead locks.

UNIT-IV
Process and Processors:
Threads - System models processor allocation - scheduling fault tolerance - real time distributed systems.

UNIT-V
Distributed file systems:
File system design and implementation - trends in distributed file systems.
UNIT-VI
Shared Memory:
Introduction - bus based multi processors ring based multiprocessors switched multiprocessors - NUMA comparison of shared memory systems -

UNIT-VII
consistency models - page based distributed shared memory - shared variable distributed shared memory - object based distributed shared memory.

UNIT-VIII
Case studies : MACH and CHORUS

Text Book:
MOBILE COMPUTING
(ELECTIVE – II)

Course Code: ACA3131

UNIT–I
Introduction to Network Technologies and Cellular Communications:
HIPERLAN: Protocol architecture, physical layer, Channel access
control sub-layer, MAC sub-layer, Information bases and networking
WLAN: Infrared vs. radio transmission, Infrastructure and ad hoc
networks, IEEE 802.11. Bluetooth.: User scenarios, Physical layer,
MAC layer, Networking, Security, Link management
GSM: Mobile services, System architecture, Radio interface, Protocols,
Localization and calling, Handover, Security, and New data services.
Mobile Computing (MC): Introduction to MC, novel applications,
limitations, and architecture.

UNIT –II
(Wireless) Medium Access Control:
Motivation for a specialized MAC (Hidden and exposed terminals, Near
and far terminals), SDMA, FDMA, TDMA, CDMA.

UNIT –III Mobile Network Layer:
Mobile IP (Goals, assumptions, entities and terminology, IP packet
delivery, agent advertisement and discovery, registration, tunneling and
encapsulation, optimizations), Dynamic Host Configuration Protocol
(DHCP).

UNIT – IV Mobile Transport Layer:
Traditional TCP, Indirect TCP, Snooping TCP, Mobile TCP, Fast
retransmit/fast recovery, Transmission /time-out freezing, Selective
retransmission, Transaction oriented TCP.

**UNIT – V Database Issues:**
Hoarding techniques, caching invalidation mechanisms, client server computing with adaptation, power-aware and context-aware computing, transactional models, query processing, recovery, and quality of service issues.

**UNIT – VI Data Dissemination:**
Communications asymmetry, classification of new data delivery mechanisms, push-based mechanisms, pull-based mechanisms, hybrid mechanisms, selective tuning (indexing) techniques.

**UNIT – VII Mobile Ad hoc Networks (MANETs):**
Overview, Properties of a MANET, spectrum of MANET applications, routing and various routing algorithms, security in MANETs.

**UNIT – VIII Protocols and Tools:**
Wireless Application Protocol-WAP. (Introduction, protocol architecture, and treatment of protocols of all layers), Bluetooth (User scenarios, physical layer, MAC layer, networking, security, link management) and J2ME.

**Text Books:**


**Reference Books:**
SYSTEMS PROGRAMMING
(ELECTIVE-II)

Course Code: ACA3132

UNIT-I
Introduction to Device Drivers: Role of Device Drivers, splitting the kernel, classes of Devices and modules, security issues, version numbering, building and running modules Kernel modules Vs Applications, compiling & loading, kernel symbol table, preliminaries, Interaction and shutdown, module parameters, doing it in user space.

UNIT-II
Char Drivers: Design of scull, major and minor numbers, important data structures, char device registration, open and release, memory usage, read, write, playing with the new devices.

UNIT-III
Introduction to the Kernel – Important Data Structures, Main Algorithms, and Implementation of system calls. Debugging Techniques: Design support in the Kernel, debugging by printing, querying, watching, system faults.

UNIT-IV
Memory Management: Architecture Independent memory models, Virtual address space of a process, block device caching, paging under Linux.
Allocating memory – Kmalloc, look aside caches, get free page and friends, vmalloc and friends, per-CPU variables, obtaining large Buffers.
UNIT-V
Concurrency and race Conditions: Pitfalls in scull, concurrency & its management, semaphores and mutexes, completions, spin locks, loading traps, alternatives to Locking.

UNIT-VI
Time, Delays, Deferred Work: Measuring time lapses, knowing current time, delaying execution, kernel timers, tasklets, workqueues.

UNIT-VII:
Interrupt handling: Preparing the parallel port, installing an Interrupt handler, implementing a handler, Top and bottom Halves, Interrupt Sharing, Interrupt driven I/O
Communicating with H/W: I/O ports and I/O Memory, Using I/O ports, An I/O port example, using I/O memory.

UNIT-VIII:
Data types in Kernel: Uses of structured C types, assigning an explicit size to data items, interface specific types, other portability issues, linked lists.

TEXT BOOKS


REFERENCES:
1. Develop static pages (using Only HTML) of an online Bookstore. The pages should resemble: www.amazon.com. The website should consist the following pages.

- Home Page
- Registration and user Login
- User Profile Page
- Books catalog
- Shopping Cart
- Payment By credit card
- Order Conformation

2. Validate the Registration, user profile and payment by credit card pages using JavaScript.

3. Create and save an XML document at the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.

4. Bean Assignments
   a. Create a Java Bean which gives the exchange value of INR (Indian Rupees) into equivalent American/Canadian/Australian Dollar value.
   b. Create a simple Bean with a label – which is the count of number of clicks. Than create a Bean Info class such that only
the “count” property is visible in the Property Window.
c. Create two Beans-a) Key Pad b) Display Pad. After that integrate the two Beans to make it work as a Calculator.
d. Create two Beans traffic Light (Implemented as a Label with only three background Colors-Red, Green, Yellow) and Automobile (Implemented as a Text Box which states its state/movement). The state of the Automobile should depend on the following Light Transition Table.

<table>
<thead>
<tr>
<th>Light</th>
<th>Automobile State</th>
<th>Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Yellow</td>
<td>Ready</td>
</tr>
<tr>
<td>Yellow</td>
<td>Green</td>
<td>Move</td>
</tr>
<tr>
<td>Green</td>
<td>Red</td>
<td>Stopped</td>
</tr>
</tbody>
</table>

5. Install TOMCAT web server. Convert the static web page of assignments 2 into dynamic web pages using servlets and cookies. Hint: Users information (user id, password, credit card number) would be stores in web.xml. Each user should have a separate Shopping Cart.

6. Redo the previous task using JSP by converting the static web pages of assignments 2 into dynamic web pages. Create a database with user information and books information. The books catalogue should be dynamically loaded from the database. Follow the MVC architecture while doing the website.

7. Implement the “Hello World!” program using JSP Struts Framework.
The objective of the lab exercises is to use data mining techniques to identify customer segments and understand their buying behavior and to use standard databases available to understand DM processes using WEKA (or any other DM tool)

1. Gain insight for running pre-defined decision trees and explore results using MS OLAP Analytics.

2. Using IBM OLAP Miner – Understand the use of data mining for Evaluating the content of multidimensional cubes.

3. Using Teradata Warehouse Miner – Create mining models that are Executed in SQL.

( BI Portal Lab: The objective of the lab exercises is to integrate pre-built reports into a portal application )

4. Publish cognos cubes to a business intelligence portal.

Metadata & ETL Lab: The objective of the lab exercises is to implement metadata import agents to pull metadata from leading business intelligence tools and populate a metadata repository. To understand ETL processes

5. Import metadata from specific business intelligence tools and populate a metadata repository.

6. Publish metadata stored in the repository.
7. Load data from heterogenous sources including text files into a pre-defined warehouse schema.

Case study

9. Design a data mart from scratch to store the credit history of customers of a bank. Use this credit profiling to process future loan applications.

10. Design and build a Data Warehouse using bottom up approach titled ‘Citizen Information System’. This should be able to serve the analytical needs of the various government departments and also provide a global integrated view.
E- COMMERCE

**Course Code:** ACA3135

**UNIT-I**
Electronic Commerce-Frame work, anatomy of E-Commerce applications, E-Commerce Consumer applications, E-Commerce organization applications.

**UNIT-II**
Consumer Oriented Electronic commerce - Mercantile Process models

**UNIT-III**
Electronic payment systems - Digital Token-Based, Smart Cards, Credit Cards, Risks in Electronic Payment systems.

**UNIT-IV**
Inter Organizational Commerce - EDI, EDI Implementation, Value added networks.

**UNIT-V**
Intra Organizational Commerce - work Flow, Automation Customization and internal Commerce, Supply chain Management.

**UNIT-VI**
UNIT-VII
Consumer Search and Resource Discovery - Information search and Retrieval, Commerce Catalogues, Information Filtering.

UNIT VIII
Multimedia - key multimedia concepts, Digital Video and electronic Commerce, Desktop video processings, Desktop video conferencing.

TEXT BOOKS:


REFERENCE BOOKS:
1. E-Commerce fundamentals and applications Hendry Chan, Raymond Lee, Tharam Dillon, Ellizabeth Chang, John Wiley.
MULTIMEDIA AND APPLICATION DEVELOPMENT

Course Code: ACA3136

UNIT-I

UNIT-II
Fundamental concepts in video and digital audio: Types of video signals, analog video, digital video, digitization of sound, MIDI, quantization and transmission of audio.

UNIT-III
Action Script I: Action Script Features, Object-Oriented Action Script, Data types and Type Checking, Classes, Authoring an Action Script Class

UNIT-IV
Action Script II: Inheritance, Authoring an Action Script 2.0 Subclass, Interfaces, Packages, Exceptions

UNIT-V
Application Development: An OOP Application Frame work, using Components with Action Script Movie Clip Subclasses.
UNIT VI

UNIT VII
Basic Video Compression Techniques: Introduction to video compression, video compression based on motion compensation, search for motion vectors, MPEG, Basic Audio Compression Techniques.

UNIT-VIII

Text Books:
1) Fundamentals of Multimedia by Ze-Nian Li and Mark S. Drew PHI/Pearson Education
2) Essentials ActionScript 2.0, Colin Moock, SPD O,REILLY.

Reference Books:
1) Digital Multimedia, Nigel chapman and jenny chapman, Wiley-Dreamtech.
3) Multimedia and communications Technology, Steve Heath, Elsevier(Focal Press)
4) Multimeda Applications, Steinmetz, Nahrstedt, Springer.
5) Multimedia Basics by Weixel Thomson
6) Multimedia Technology and Applications, David Hilman, Galgotia

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OBJECT ORIENTED ANALYSIS AND DESIGN  
(Using UML)

Course Code: ACA3137  

UNIT-I  
Introduction to UML: Importance of modeling, principles of modeling, object oriented modeling, conceptual model of the UML, Architecture, Software Development Life Cycle.

UNIT-II  
Basic Structural Modeling: Classes, Relationships, common Mechanisms, and diagrams.  
Advanced Structural Modeling: Advanced classes, advanced relationships, Interfaces, Types and Roles, Packages.

UNIT-III  
Class & Object Diagrams: Terms, concepts, modeling techniques for Class & Object Diagrams.

UNIT- IV  

UNIT-V  
Basic Behavioral Modeling-II: Use cases, Use case Diagrams, Activity Diagrams.

UNIT-VI  
Advanced Behavioral Modeling: Events and signals, state machines, processes and Threads, time and space, state chart diagrams.
UNIT-VII
Architectural Modeling: Component, Deployment, Component diagrams and Deployment diagrams.

UNIT-VIII
Case Study: The Unified Library application

TEXT BOOKS:

2. Hans-Erik Eriksson, Magnus Penker, Brian Lyons, David Fado: UML 3 Toolkit, WILEY-Dreamtech India Pvt. Ltd.

REFERENCE BOOKS:

SOFTWARE PROJECT MANAGEMENT
(Elective – III)

Course Code: ACA3138

UNIT-I
Conventional Software Management: The waterfall model, conventional software Management performance.

UNIT-II
The old way and the new: The principles of conventional software Engineering, principles of modern software management, transitioning to an iterative process.

UNIT-III
Life cycle phases: Engineering and production stages, inception, Elaboration, construction, transition phases.
Artifacts of the process: The artifact sets, Management artifacts, Engineering artifacts, programmatic artifacts.

UNIT-IV
Model based software architectures: A Management perspective and technical perspective.
Work Flows of the process: Software process workflows, Iteration workflows,
UNIT-V
Checkpoints of the process: Major milestones, Minor Milestones, Periodic status assessments.
Iterative Process Planning: work breakdown structures, planning guidelines, cost and schedule estimating, Iteration planning process, Pragmatic planning.

UNIT-VI

UNIT-VII
Project Control and Process instrumentation: The seven core Metrics, Management indicators, quality indicators, life cycle expectations, pragmatic Software Metrics, Metrics automation.
Tailoring the Process: Process discriminates.

UNIT-VIII
Future Software Project Management: modern Project Profiles, Next generation Software economics, modern process transitions.
Case Study: The command Center Processing and Display system- Replacement (CCPDS-R)

TEXT BOOKS:

REFERENCE BOOKS:
Software Project Management, Joel Henry, Pearson Education.
UNIT-I

UNIT-II
CORBA with Java: Review of Java concept like RMI, RMI API, JDBC. Client/Server CORBA-style, The object web: CORBA with Java.

UNIT III
Introducing C# and the .NET Platform; Understanding .NET Assemblies; Object-Oriented Programming with C#; Callback Interfaces, Delegates, and Events.

UNIT IV
Building c# applications: Type Reflection, Late Binding, and Attribute-Based Programming; Object Serialization and the .NET Remoting Layer; Data Access with ADO.NET; XML Web Services.

UNIT-V
Core CORBA / Java: Two types of Client/ Server invocations-static, dynamic. The static CORBA, first CORBA program, ORBlets with Applets, Dynamic CORBA-The portable count, the dynamic count multi count.
UNIT-VI
Existential CORBA: CORBA initialization protocol, CORBa activation services, CORBAIDL mapping CORBA java-to-IDL mapping, The introspective CORBA/Java object.

UNIT-VII
Java Bean Component Model: Events, properties, persistency, Introspection of beans, CORBA Beans

UNIT-VIII
EJBs and CORBA: Object transaction monitors CORBA OTM’s, EJB and CORBA OTM’s, EJB container frame work, Session and Entity Beans, The EJB client/server development Process The EJB container protocol, support for transaction EJB packaging EJB design Guidelines.

Text Books
1 Client/Server programming with Java and CORBA Robert Orfali and Dan Harkey, John Wiley & Sons, SPD 2nd Edition

2 Java programming with CORBA 3rd Edition, G.Brose, A Vogel and K.Duddy, Wiley-dreamtech, India John wiley and sons

3 C# and the .NET Platform Andrew Troelsen, Apress Wiley-dreamtech, India Pvt Ltd

Reference Books:
1. Distributed Computing, Principles and applications, M.L.Liu, Pearson Education
3. Client/Server Computing D T Dewire, TMH.
4. IBM Webspere Starter Kit Ron Ben Natan Ori Sasson, TMh, New Delhi
6. C# Preciesely Peter Sestoft and Henrik I. Hansen, Prentice Hall of India
7. Intoduction to C# Using .NET Pearson Education
8. C# How to program, Pearson Education
INFORMATION RETRIEVAL SYSTEMS

Course code: ACA3140

UNIT-I
Introduction: Definition, Objectives, Functional Overview, Relationship to DBMS, Digital libraries and Data Warehouses.

UNIT-II
Information Retrieval System Capabilities: Search, Browse, Miscellaneous

UNIT-III

UNIT-IV

UNIT-V
Automatic Indexing: Classes of automatic indexing, Statistical indexing, Natural language, Concept indexing, Hypertext linkages

UNIT-VI
Document and Term Clustering: Introduction, Thesaurus generation, Item clustering, Hierarchy of clusters.
UNIT-VII
User Search Techniques: Search statements and binding, Similarity measures and ranking, Relevance feedback, Selective dissemination of information search, Weighted searches of Boolean systems, Searching the Internet and hypertext.
Information Visualization: Introduction, Cognition and perception, Information visualization technologies.

UNIT-VIII
Text Search Algorithms: Introduction, Software text search algorithms, Hardware text search systems.
Information System Evaluation: Introduction, Measures used in system evaluation, Measurement example – TREC results.

TEXTBOOKS:


REFERENCE BOOKS:

Modern Information Retrieval By Yates Pearson Education.
SOFTWARE TESTING METHODOLOGIES  
(Elective – IV)

Course Code: ACA3141  L  T  P  
4  1  -

UNIT-I
Introduction: - Purpose of testing, Dichotomies, model for testing, consequences of bugs, taxonomy of bugs

UNIT-II
Flow graphs and Path testing:- Basics concepts of path testing, predicates, path predicates and achievable paths, path sensitizing, path instrumentation, application of path testing.

UNIT-III
Transaction Flow Testing:-transaction flows, transaction flow testing techniques. Dataflow testing:- Basics of dataflow testing, strategies in dataflow testing, application of dataflow testing.

UNIT-IV
Domain Testing:-domains and paths, Nice & ugly domains, domain testing, domains and interfaces testing, domain and interface testing, domains and testability.

UNIT-V
Paths, Path products and Regular expressions:- path products & path expression, reduction procedure, applications, regular expressions & flow anomaly detection.
UNIT-VI
Logic Based Testing:- overview, decision tables, path expressions, kv charts, specifications.

UNIT-VII
State, State Graphs and Transition testing:- state graphs, good & bad state graphs, state testing, Testability tips.

UNIT-VIII
Graph Matrices and Application:- Motivational overview, matrix of graph, relations, power of a matrix, node reduction algorithm, building tools. (Student should be given an exposure to a tool like JMeter or Win-runner).

TEXT BOOKS:


REFERENCE BOOKS:

1. The craft of software testing - Brian Marick, Pearson Education.
2. Software Testing Techniques – SPD(Oreille)
ADVANCED DATABASES

Course Code: ACA3142

UNIT-1
Introduction; Distributed Data Processing, Distributed Database System, Promises of DDBSs, Problem areas.
Overview of Relational DBMS: Relational Database Concepts, Normalization, Integrity rules, Relational data languages.

UNIT-II

UNIT-III
Query Processing and decomposition: Query Processing Objectives, Characterization of query processors, layers of query processing, query decomposition, Localization of distributed data.

UNIT-IV
Distributed query Optimization: Query optimization, centralized query optimization, Distributed query optimization algorithms.

UNIT-V
Transaction Management: Definition, properties of transaction, types of transactions. Distributed concurrency control: Serializability, concurrency control Mechanisms & Algorithms, Time stamped &
Optimistic concurrency control Algorithms, Deadlock Management.

UNIT –VI
Distributed DBMS Reliability: Reliability concepts and Measures, fault-tolerance in Distributed systems, failures in Distributed DBMS, local & Distributed Reliability Protocols, site failures and Network partitioning.
Parallel Database Systems: Database Series, Parallel Architecture, Parallel DBMS Techniques, Parallel exception problems, Parallel Execution for Hierarchical architecture.

UNIT-VII

UNIT VIII
Object Oriented Data Model: Inheritance, Object identity, persistent programming languages, persistence of objects, comparing OODBMS and ORDBMS

Text Books:
2. Stefano Ceri and Willipse Pelagatti: Distributed Databases, McGraw Hill.
3. Henry F Korth, A Silberchatz and Sudershan : Database System Concepts, MGH
4. Raghuramakrishnan and Johhanes Gehrke: Database Management Systems, MGH
INFORMATION SECURITY

Course Code ACA3143

UNIT-I
Security Attacks ( Interruption, Interception, Modification and Fabrication), Security Services (Confidentiality, Authentication, Integrity, Non-repudiation, access Control and Availability) and Mechanisms, A model for Inter network security, Internet Standards and RFC’s, Buffer overflow & format string vulnerabilities, TCP session hijacking, ARP attacks, route table modification, UDP hijacking, and man-in-the-middle attacks.

UNIT-II
Conventional Encryption Principles, Conventional encryption algorithms, cipher block modes of operation, location of encryption devices, key distribution Approaches of Message Authentication, Secure Hash Functions and HMAC,

UNIT-III
Public key cryptography principles, public key cryptography algorithms, digital signatures, digital Certificates, Certificate Authority and key management Kerberos, X.509 Directory Authentication Service

UNIT-IV
Email privacy: Pretty Good Privacy (PGP) and S/MIME.

UNIT-V
IP Security Overview, IP Security Architecture, Authentication Header, Encapsulating Security Payload, Combining Security Associations and
Key Management

UNIT-VI
Web Security Requirements, Secure Socket Layer (SSL) and Transport Layer Security (TLS), Secure Electronic Transaction (SET)

UNIT-VII
Basic concepts of SNMP, SNMPv1 Community facility and SNMPv3, Intruders, Viruses and related threats

UNIT-VIII
Firewall Design principles, Trusted Systems, Intrusion Detection Systems

TEXT BOOKS:
2. Hack Proofing your network by Ryan Russell, Dan Kaminsky, Rain Forest Puppy, Joe Grand, David Ahmad, Hal Flynn Ido Dubrawsky, Steve W.Manzuik and Ryan Permeh, wiley Dreamtech,

REFERENCE BOOKS:
1. Fundamentals of Network Security by Eric Maiwald (Dreamtech press)
MULTIMEDIA APPLICATION DEVELOPMENT LAB

Course Code: ACA3144

Assigning actions to an object, and a button.

1. Creating Loops
2. Generation Random numbers
3. Creating a Function, calling a function
4. Detecting the Player Version
5. Detecting the operating system
6. Checking the System language
7. Detecting display settings
8. Tinting a movie clip’s color
9. Controlling a movie clip’s color with sliders
10. Drawing a circle
11. Drawing a rectangle
12. Filling a shape with a Gradient
13. Scripting masks
14. Converting angle measurements
15. Calculating the Distance between the two points
16. Formatting Currency amount
17. Converting between units of measurement
18. Determining points along a circle
19. Sorting or reversing an array
20. Implementing a custom sort
21. Creating a text field
22. Making a password input field

All the above programs are to be done in Flash MX 2004
Reference:
1. Action Script cookbook, Joey Lott, SPD-oreilly
2. Flash MX Action script for designers, Doug Sahlin, Dreamtech Weily
3. Flash MX Professional 2004 Unleashed, Dabid Vogeleeer and matthew pizzi, Pearson Education.
UML LAB

Course Code: ACA3145

1. The Student should take up the case study of Unified Library application which is mentioned in the theory, and model it in different views i.e. UseCase View, Logical view, component view, Deployment view, Database design, Forward and Reverse Engineering, and Generation of documentation of the Project.

2. Student has to take up another case study of his/her own interest and do the same whatever mentioned in the first problem. Some of the ideas regarding case studies are given in reference books, which were mentioned in theory syllabus, can be referred for some idea.
## VI Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Theory/Lab</th>
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<tbody>
<tr>
<td>ACA3146</td>
<td>Project Seminar</td>
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<tr>
<td>ACA3147</td>
<td>Dissertation/Thesis</td>
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Excellent/Good/Satisfact
Andhra University College of Law. University, college. Still no ratings.
Andhra University College of Arts and Commerce. University, college. Still no ratings.
Andhra University College of Science and Technology. University, college. Still no ratings.
Andhra University College of Engineering. University, college. Still no ratings.
Visakha Institute of Technology and Science. University, college. Still no ratings.
Sisir Varma, studies Mechanical Engineering at Gayatri Vidya Parishad College Of Engineering (2022) and.
Vishal Bondala, studies Chemical Engineering at Gayatri Vidya Parishad College Of Engineering (2020).
I cannot give you a review, but I will share some of my experiences (both pathetic and painful, with rare good moments).

Draw your conclusions or whatever based on them.⁠ I'm from GVP and I think I'm fit for answering this. "Gayatri Vidya Parishad College of Engineering (A)”, The best college in AP. This may be the feeling of most of the guys who are looking to go through the EAMCET counselling. And when you get into the college for B.Tech you may probably feel distressed.

Central library: Gayatri Vidya Parishad College of Engineering Library is established in the year 1996 and named after Former President Gayatri Vidya Parishad, great Economist, Former ViceChancellor Nagarjuna University, Emeritus Professor of Economics, A.U and Economic Advisor to Government of Nigeria as Prof B Sarveswara Rao Library.⁠ Sir wat about the fee structures in ur college of year 2012? I want to join in ur college for course CSE. please send this answer to my mail. i request u kindly. Reply. Umadevi miriyala says