Branch: Computer Science and Engineering

Semester 5

SL.No	Subject Code	Subject	L	T	P	CR
Theory						
1	1805501	Web Technologies	2	0	0	2
2	1805502	Data Base Management Systems	3	0	0	3
3	1805503	Computer Networks	3	0	0	3
4	1805504	Software Engineering	3	0	0	3
5	1805505 1805506 1805507	Professional Elective – 1 1.Human Computer Interaction 2. Multimedia Systems 3. Distributed Systems	3	0	0	3
6	1805508	Compiler Design	3	0	0	3
7	1825509	Constitution of India (Mandatory Course)	2	-	-	0
Labs						
1	1805510	Databases Lab	0	0	2	1
2	1805511	Web Technologies Lab	0	0	2	1
3	1824512	Advanced English & Communication Skills lab	0	0	2	1
4	1805513	Socially Relevant Project	0	0	4	2
		Total	19	0	10	22

Course Title	WEB TECHNOLOGIES					B.Tech CSE V Sem (R18)		
Course Code	Category	Hours/Week			Credits	Maximum Marks		
1805501	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		2	0	0	2	30	70	100
Mid Exam Duration: 2 Hours					End Exam Duration: 3Hrs			

Course Objectives:

- To learn the basic web concepts and Internet protocols.
- To introduce client side scripting with Java script and HTML.
- To introduce server side programming with PHP.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Define web server and installations of various web servers.
CO 2	Understand the scripting languages HTML, CSS, Java Script and create static web pages.
CO 3	Interpret the server side scripting PHP and create dynamic web pages.
CO 4	Outline the advanced concepts of PHP and design web pages to authenticate users.
CO 5	Develop server side programs using PHP and accessing database through PHP.

UNIT-I

Introduction to Web Technologies: Introduction to Web servers like Apache1.1,IIS XAMPP(Bundle Server), WAMP(Bundle Server), Handling HTTP Request and Response, installations of above servers.

UNIT-II

HTML Common tags: List, Tables, images, forms, Frames; Cascading Style sheets;

Introduction to Java Script: Introduction to Java Scripts, Objects in Java Script, Dynamic HTML with Java Script.

UNIT-III

Overview of PHP Data types and Concepts: Variables and data types, Operators, Expressions and Statements, Strings, Arrays and Functions.

Overview of Classes, Objects, and Interfaces: Creating instances using Constructors, Controlling access to class members, Extending classes, Abstract classes and methods, using interfaces, Using class destructors, File Handling and Using Exceptions.

UNIT-IV

PHP Advanced Concepts: Using Cookies, Using HTTP Headers, Using Sessions, Authenticating users, Using Environment and Configuration variables, Working with Date and Time.

UNIT-V

Using Creating and Forms: Understanding Common Form Issues, GET vs. POST, Validating form input..

PHP and Database Access: Basic Database Concepts, Connecting to a MYSQL database, Retrieving and Displaying results, Modifying, Updating and Deleting data..

TEXT BOOKS:

1. Beginning PHP and MySQL, 5th Edition, Jason Gilmore, Apress Publications (Dream tech.)
2. PHP 5 Recipes A problem Solution Approach Lee Babin, Nathan A Good, Frank M.Kromann and Jon Stephens.
3. Web Programming, building internet applications, Chris Bates 3rd edition, WILEY Dreamtech.

REFERENCES:

1. Open Source Web Development with LAMP using Linux, Apache, MySQL, Perl and PHP, J.Lee and B.Ware(Addison Wesley) Pearson Education.
2. PHP 6 Fast and Easy Web Development, Julie Meloni and Matt Telles, Cengage Learning Publications.
3. PHP 5.1, I Bayross and S. Shah, The X Team, SPD
4. PHP and My SQL by Example, E. Quigley, Prentice Hall (Pearson).
5. PHP Programming solutions, V. Vaswani. TMH

Course Title	DATABASE MANAGEMENT SYSTEMS					B.Tech CSE V Sem (R18)		
Course Code	**Category**	**Hours/Week**			**Credits**	**Maximum Marks**		
1805502	**PJ**	**L**	**T**	**P**	**C**	**Continuous Internal Assessment**	**End Exams**	**Total**
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours						**End Exam Duration: 3Hrs**		

Course Objectives:

- To study the physical and logical database designs, database modeling, relational, hierarchi and network models.
- To understand and use data manipulation language to query, update, and manage a database
- To develop an understanding of essential DBMS concepts such as: database security, integr concurrency.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	To understand the basic concepts and the application of Database systems.
CO 2	To understand the basics of SQL and construct queries using SQL
CO 3	To understand the Relational Database design principles
CO 4	To apply concurrency control and recovery techniques during transaction execution.

UNIT-I

Introduction - Database-System Applications, Purpose of Database Systems, View of Data, Database languages, Data base architecture ,Database Users and Administrators.

Introduction to the Relational Model - Structure of Relational Databases, Database Schema, Keys, Schema Diagrams, Relational Query Languages, Relational Operations.

Database Design and the E-R Model - Overview of the Design Process, The EntityRelationship Model, Constraints, Removing Redundant Attributes in Entity Sets, EntityRelationship Diagrams.

UNIT-II

Introduction to SQL - Overview of the SQL Query Language, SQL Data Definition, BasicStructure of SQL Queries, Additional Basic Operations, Set Operations, Null Values,Aggregate Functions, Nested Sub queries, Modification of the Database.

Advanced SQL - Integrity Constraints, SQL Data Types and Schemas,Functions and Procedures, Triggers.

Other Relational Query Languages - The Relational Algebra, Tuple RelationalCalculus, Domain Relationalcalculus.

UNIT-III

Schema Refinement and Normal Forms - Schema Refinement – Problems Caused byRedundancy, Decompositions, Problems related to decomposition. Reasoning aboutFunctional Dependencies, First, Second, Third Normal forms, BCNF. Lossless joinDecomposition, Dependency- preserving Decomposition. Schema refinement in Data base Design, Multi valued Dependencies, Fourth Normal Form, Join Dependencies,FifthNormalForm,Inclusiondependencies.

UNIT-IV

Query Processing and Optimization- Overview, Measures of Query Cost, Selection Operation, Transformation of Relational Expressions.

Transactions - Transaction Concept, A Simple Transaction Model, Storage Structure,Transaction Atomicity and Durability, Transaction Isolation, Serializability, TransactionIsolation and Atomicity, Transaction Isolation Levels, Implementation of Isolation Levels,Transactions as SQL Statements .

UNIT-V

Concurrency Control - Lock-Based Protocols, Deadlock Handling, Multiple Granularity,Timestamp-Based Protocols, Validation-Based Protocols, Multi version Schemes, SnapshotIsolation, Insert Operations, Delete Operations, and Predicate Reads.

Recovery System - Failure Classification, Storage, Recovery and Atomicity, Recovery Algorithm, Buffer Management, Failure with Loss of Nonvolatile Storage, Early Lock Release and Logical Undo Operations, RemoteBackupSystems.

TEXTBOOKS:

1.Silberschatz,Korth,DatabasesystemConcepts.5thEdition,McGrawhill.

2.Raghurama Krishnan, Johannes Gehrke, Data base Management Systems. 3rd Edition, Tata McGrawHill.

REFERENCEBOOKS:

1. Elmasri, Navathe, Fundamentals of Database Systems, Pearson Education.

2. Peter Rob, Ananda Rao and Carlos Corone, Database Management Systems, Cengage Learning.

3. C.J.Date, Introduction to Database Systems.

Course Title	COMPUTER NETWORKS				B.Tech CSE V Sem (R18)			
Course Code	Category	Hours/Week			Credits	Maximum Marks		
1805503	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours					End Exam Duration: 3Hrs			

Course Objectives:

- Study the evolution of computer networks and future direction.
- Study the concepts of computer networks from layered.
- Perspective study the issues open for research in computer networks.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Understand the terminology and concepts of the OSI reference model and TCP-IP.
CO 2	Describe the functions of Data link layer and its protocols.
CO 3	Classifying the different routing algorithms and IP addressing with network layer
CO 4	Understand connection establishment and services provides by TCP and UDP.
CO 5	Explain the working of DNS and World Wide Web

UNIT-I

Introduction: Uses of Computer Networks, Network Hardware, Reference Models: OSI, TCP/IP, Comparison of OSI & TCP/IP reference models.

Introduction to physical layer: Data and Signals, Transmission impairment, Datarate limits, Performance.
Transmission media: Introduction, Guided Media, Unguided Media
Switching: Introduction, Circuit Switched Networks, Packet Switching

UNIT-II

The Data Link Layer: Data Link Layer design issues, Error Detection and Correction, Elementary Data Link Protocols, Sliding Window Protocols.

The Medium Access Control sublayer : Multiple Access protocols, Ethernet, Data Link Layer Switching.

UNIT-III

The Network Layer: Network layer design issues, Routing algorithms : The Optimality Principle, Shortest Path Algorithm, Flooding, Distance Vector Routing, Link State Routing, Hierarchical Routing, Broadcast Routing, Multicast Routing, Anycast Routing,
Congestion control algorithms, Quality of service, IP Addresses, IPv4,IPv6,Tunneling, Fragmentation.

UNIT-IV

The Transport Layer: The Transport Service, Elements of Transport Protocols, Congestion Control, The internet transport protocols: UDP, TCP: Introduction to TCP, Service Model, Protocol, Segment Header, Connection Establishment, Connection Release.

UNIT-V

The Application layer: Domain Name System (DNS), World Wide Web (WWW), E-mail.

TEXT BOOKS:

1. "Computer Networks", Andrew S. Tanenbaum, David J.Wetherall, Pearson, 5th edition, 2010.
2. "Data communications and networking", Behrouz A. Forouzan, TMH, 5th edition, 2012.

REFERENCE BOOKS:

1. "Internetworking with TCP/IP – Principles, protocols, and architecture- Volume 1, Douglas E. Comer, 5 th edition, PHI
2. "Computer Networks", 5E, Peterson, Davie, Elsevier.
3. "Introduction to Computer Networks and Cyber Security", Chawan- Hwa Wu, Irwin, CRC Publications.
4. "Computer Networks and Internets with Internet Applications", Comer.

Course Title	SOFTWARE ENGINEERING				B.Tech CSE V Sem (R18)		
Course Code	Category	Hours/Week			Credits	Maximum Marks	
1805504	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours					End Exam Duration: 3Hrs		

Course Objectives:

- Knowledge of basic Software engineering methods and practices, and their appropriate application also the software engineering layered technology and Process frame work.
- A general understanding of software process models such as the waterfall and evolutionary models.
- Understanding of the role of project management including planning, scheduling, risk management, etc.
- Understanding of data models, object models, context models and behavioural models also different software architectural styles.
- Understanding of software testing approaches such as unit testing and integration testing other testing strategies and Risk management.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Ability to apply software engineering principles and techniques.
CO 2	Ability to develop, maintain and evaluate large-scale software systems.
CO 3	To produce efficient, reliable, robust and cost-effective software solutions.
CO 4	To manage time, processes and resources effectively by prioritising competing demands to achieve personal and team goals Identify and analyzes the common threats in each domain.

UNIT-I

Software and Software Engineering: The Nature of Software, Software Engineering, Software Process Software Myths. Process Models: A Generic Process Model, Prescriptive Process Models, Specialized Process Models, The Unified Process, Personal and Team Process Models.

UNIT-II

Understanding Requirements: Requirements Engineering, Establishing the Groundwork, Eliciting Requirements, Building the Requirements Model, Negotiating Requirements, Validating Requirements.

Requirements Modeling: Requirements Analysis, Scenario-Based Modeling, Data Modeling Concepts, Class-Based Modeling.

UNIT-III

Design Concepts: Design within the Context of Software Engineering, Design Process, Design Concepts, The Design Model.

Architectural Design: Software Architecture, Architectural Genres, Architectural Styles, Architectural Design.

UNIT-IV

User Interface Design: The Golden Rules, User Interface Analysis and Design, Interface Analysis, Interface Design Steps, Design Evaluation.

Coding and Testing: Testing, Testing in the Large versus Testing in the Small, Unit Testing, Integration Testing, Black-Box Testing, White-Box Testing, Debugging, System Testing.

UNIT- V

Software Project Management: Project Planning, Metrics for Project Size Estimation, Project Estimation Techniques, Empirical Estimation Techniques, COCOMO-A Heuristic Estimation Technique, Halstead's Software Science-An Analytical Technique, Risk Management.

TEXT BOOKS :

1. Software Engineering: A practitioner's Approach, Roger S. Pressman, Seventh Edition, 2010, McGrawHill International Edition.

2. Fundamentals of Software Engineering, Rajib Mall, 4th Edition, 2014, PHI.

REFERENCE BOOKS:

1. Software Engineering, Ian Sommerville, Ninth edition, Pearson education.

2. Software Engineering : A Primer, Waman S Jawadekar, Tata McGraw-Hill, 2008

3. Software Engineering, A Precise Approach, Pankaj Jalote, Wiley India,2010.

4. Software Engineering, Principles and Practices, Deepak Jain, Oxford University Press.

5. Software Engineering1: Abstraction and modeling, Diner Bjorner, Springer International edition, 2006.

6. Software Engineering2: Specification of systems and languages, Diner Bjorner, Springer International edition , 2006.

7. Software Engineering Foundations, Yingxu Wang, Auerbach Publications,2008.

Course Title	HUMAN COMPUTER INTERACTION (PE-I)				B.Tech CSE V Sem (R18)			
Course Code	Category	Hours/Week			Credits	Maximum Marks		
1805505	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours					End Exam Duration: 3Hrs			

Course Objectives:

- To gain an overview of Human-Computer Interaction (HCI), with an understanding of user interface design in general.
- To apply models from cognitive psychology to predicting user performance in various human-computer interaction tasks and recognize the limits of human performance as they apply to computer operation.
- Evaluate techniques in interface design.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Ability to identify screen elements to solve real time problems.
CO 2	Ability to identify and implement proper components for different web needs.
CO 3	Ability to apply HCI and principles to interaction design.
CO 4	Ability to explore different devices based on social needs.

UNIT - I

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

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 - II

Design process – Human interaction with computers, importance of human characteristics human consideration, Human interaction speeds, understanding business functions- Business definition and requirement analysis, Basic business functions.

UNIT-III

Screen Designing:- Design goals – Screen planning and purpose, organizing screen elements, ordering of screen data and content – screen navigation and flow – Visually pleasing composition – amount of information – focus and emphasis – presentation information simply and meaningfully – information retrieval on web – statistical graphics – Technological consideration in interface design.

UNIT- IV

Windows – New and Navigation schemes selection of window, selection of devices based and screen based controls. Components – text and messages, Icons and increases – Multimedia, colors, uses problems, choosing colors.

UNIT- V

Software tools: Specification methods, Interactive-building tools, Evaluation and Critiquing tools. Interactive devices: Interactive device- keyboards and function keys- pointing devices- Speech reorganization, digitalization and generation- Image and video displays – Printers.

TEXT BOOKS:

1. The essential guide to user interface design, Wilbert O Galitz, Wiley Dream Tech.
2. Designing the user interface. 3rd Edition Ben Shneidermann, Pearson Education Asia.

REFERENCE BOOKS:

1. Human – Computer Interaction. Alan Dix, Janet Fincay, Gre Goryd, Abowd, Russell Bealg, Pearson Education.
2. Interaction Design Prece, Rogers, Sharps. Wiley Dreamtech.
3. User Interface Design, Soren Lauesen, Pearson Education.
4. Human –Computer Interaction, D. R. Olsen, Cengage Learning.
5. Human –Computer Interaction, Smith - Atakan, Cengage Learning.

Course Title	MULTIMEDIA SYSTEMS (PE-I)				B.Tech CSE V Sem (R18)		
Course Code	**Category**	**Hours/Week**		**Credits**	**Maximum Marks**		
1805506	**PJ**	**L**	**T**	**P**	**C**	**Continuous Internal Assessment**	**End Exams**	**Total**
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours					**End Exam Duration: 3Hrs**		

Course Objectives:

- To adapt the architecture for design of multimedia system.
- To solve issues related to multimedia file handling.
- To adopt hypermedia standards in developing multimedia applications.
- Know the basics of creating multimedia applications.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Analyze and synthesis the key components of multimedia technologies including text, audio and graphics.
CO 2	Understand the key components of multimedia technologies including video, animation and compression techniques.
CO 3	Examine various process scheduling techniques
CO 4	Recall the data storage and retrieval methods..
CO 5	Interpret reference model for multimedia synchronization and summarize applications of multimedia.

UNIT-I

Multimedia: Definition, Where to use multimedia, Medium, Main properties of multimedia system, Traditional data stream characteristics, Data stream characteristics for continuous media, Information units.

Sound/Audio: Basic sound concepts, Music, Speech**.**

Images/Graphics: Basic concepts, Computer image processing.

UNIT-II

Video and Animation: Basic concepts, Television, Computer based animation**.**

Data Compression: Storage space, Coding requirements, Source, Entropy and Hybrid coding, Some basic compression techniques, JPEG, H.261,(Px64), MPEG, DVI.

UNIT-III

Computer Technology: Communication Architecture, Multimedia Workstation**.**
Multimedia Operating Systems: Introduction, Real time, Resource management, Process management.
Multimedia Communication systems: Application Subsystem, Transport subsystem.

UNIT-IV

Database Systems: Multimedia Database Management System, Characteristics of an MDBMS, Data Analysis, Data Structure, Operations on data, Integration in a Database model.

Documents, Hypertext and MHEG: Documents, Hypertext and Hypermedia, Document Architecture ODA, MHEG.

UNIT-V

Synchronization: Introduction, Notion of Synchronization, Presentation requirements, Reference model for multimedia synchronization, Synchronization specifications.

Multimedia Applications: Introduction, Media Presentation, Media Composition, Media Integration, Media Communication, Media Consumption, and Media Entertainment.

Text Books:

1. " Multimedia: Computing, Communications and Applications", Ralf Steinmetz and Klara Nahrstedt, Pearson Education.
2. "Multimedia: Making It work:, Tay Vaughan, Pearson Education.

Reference Books:

1. " Multimedia System design ", Prabhat K. Andheigh, Kiran Thakrar, THM
2. " Multimedia Systems", Koegel Buford, Pearson Education
3. " Fundamentals of Multimedia , Ze-Nian Li, Mark.S.Drew
4. " Multimedia Communication Systems: Techniques, standards and networks, K.R.Rao,D.Milovanovic

Course Title	DISTRIBUTED SYSTEMS (PE-I)				B.Tech CSE V Sem (R18)		
Course Code	**Category**	**Hours/Week**			**Credits**	**Maximum Marks**	
1805507	**PJ**	**L**	**T**	**P**	**C**	**Continuous Internal Assessment**	**End Exams**	**Total**
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours					**End Exam Duration: 3Hrs**		

Course Objectives:

- To make the student to understand the features of distributed systems.
- Creating awareness among students on processes and synchronization among processes.
- Learn the concepts of consistency models, replication and fault tolerance in distributed systems

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Identify the core concepts of distributed systems.
CO 2	Understand the concepts of threads and communication mechanisms for processes.
CO 3	Develop the clock synchronization, mutual exclusion and election algorithms.
CO 4	Analyze the consistency and replication models.
CO 5	Understand the fault tolerance mechanisms in distributed systems.

UNIT - I

Introduction: Definition of a distributed system, Goals, Types of distributed systems.

Architectures: Architecture styles, System architectures.

UNIT - II

Processes: Threads, virtualization, clients, servers, code migration.

Communication: Fundamentals, Remote Procedure Call, Message oriented communication, Stream oriented communication, Multicast communication.

UNIT-III

Synchronization: Clock synchronization, Logical clocks, Mutual exclusion, Election Algorithms.

UNIT- IV

Consistency and Replication: Introduction, Data centric consistency models, Client centric consistency models, Replica management, Consistency protocols.

UNIT- V

Fault Tolerance: Introduction to fault tolerance, Process resilience, Reliable client server communication, Reliable group communication, Distributed commit, Recovery.

TEXT BOOKS:

1. Andrew S. Tanenbaum, Marteen Van Steen, "Distributed Systems: Principles and Paradigms", 2nd Edition, PHI.

REFERENCE BOOKS:

1. George Coulouris, Jean Dollimore, Tim Kindberg, "Distributed Systems – Concepts and Design", Fourth Edition, Pearson Education.
2. Andrew S. Tanenbaum, "Distributed Operating System", Pearson Education. .
3. Pradeep K. Sinha, "Distributed Operating Systems – Concepts and Design", PHI publications.

Course Title	COMPILER DESIGN				B.Tech CSE V Sem (R18)		
Course Code	Category	Hours/Week			Credits	Maximum Marks	
1805508	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		3	0	0	3	30	70	100
Mid Exam Duration: 2 Hours					End Exam Duration: 3Hrs		

Course Objectives:

- To make the student to understand the process involved in compilation.
- Creating awareness among students on various types of parsers.
- Understand the syntax analysis, intermediate code generation, type checking, and the role of symbol table.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Understand and analyze the various phases of Compiler.
CO 2	Identify the tokens using lexical analyzer techniques.
CO 3	Categorize and implement parsing techniques.
CO 4	Understand syntax directed definition and develop type checking semantics using synthesized and inherited attributes.
CO 5	Understand the storage allocation and intermediate code representations.
CO 6	Summarize the code optimize techniques and demonstrate code generation technique and concepts

UNIT-I

Introduction to Compiling: Compilers, Analysis of the Source program, the phases of a compiler, the cousins of the Compiler, grouping of phases, Compiler construction tools.

Lexical Analysis: The role of the analyzer. Input buffering, Specification of tokens, Recognition of tokens, A language for Specifying Lexical analyzer.

UNIT-II

Syntax Analysis: The role of the parser, Context-free grammars, writing a grammar, Top down parsing, Bottom-up parsing, Operator-precedence parsing, LR parsers, Parser generators.

UNIT-III

Syntax Directed Translation: Syntax-directed definitions, Construction of syntax trees, S-attributed definitions, L-attributed definitions.

Type Checking: Type systems, Specification of simple type checker, Equivalence of type expressions, type conversions.

UNIT-IV

Run-Time Environments: Source Language issues, storage organization, Storage-allocation strategies, Access to non local names, Symbol tables.

Intermediate Code generation: Intermediate languages, three address code, quadruple, triple and indirect triple.

UNIT-V

Code Generation: Issues in the Design of a code generator, The target machine, Basic blocks and flow graphs, Next-use information, A simple code generator, Register allocation and assignment, DAG representation of basic blocks, peephole optimization.

Code Optimization: Introduction, the principle source of optimization.

Text Book:

1. Alfred V. Aho, Ravi Sethi, Jeffrey D. Ullman, Compilers-Principles, Techniques and Tools, Pearson Education

Reference Books:

1. Alfred V. Aho, Jeffrey D. Ullman, Principles of Compiler Design. Narosa Publications.
2. K. V. N. Sunitha, Compiler Construction, Pearson Education.
3. K. Muneeswaran, Compiler Design, Oxforward university press

Course Title	CONSTITUTION OF INDIA (Mandatory Course)				B.Tech CSE V Sem (R18)			
Course Code	Category	Hours/Week			Credits	Maximum Marks		
1805509	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		2	-	-	0			

Course Objectives:

- To understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
- To address the growth of Indian opinion regarding modern Indian intellectuals' constitutional role and entitlement to civil and economic rights as well as the emergence of nationhood in the early years of Indian nationalism.
- To address the role of socialism in India after the commencement of the Bolshevik Revolution in 1917 and its impact on the initial drafting of the Indian Constitution.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Understand the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
CO 2	Tell the intellectual origins of the frame work of argument that informed the conceptualization of social reforms leading to revolution in India.
CO 3	Explain the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
CO 4	Define the passage of the Hindu Code Bill of 1956.

UNIT-I

History of Making of the Indian Constitution:
History, Drafting Committee, (Composition & Working)
Philosophy of the Indian Constitution:
Preamble, Salient Features

UNIT-II

Contours of Constitutional Rights & Duties:
Fundamental Rights, Right to Equality, Right to Freedom, Right against Exploitation, Right to Freedom of Religion, Cultural and Educational Rights, Right to Constitutional Remedies, Directive Principles of State Policy, Fundamental Duties.

UNIT-III

Organs of Governance:
Parliament, Composition, Qualifications and Disqualifications, Powers and Functions
Executive:
President, Governor, Council of Ministers, Judiciary, Appointment and Transfer of Judges, Qualifications, Powers and Functions.

UNIT-IV

Local Administration:
District's Administration head: Role and Importance, Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation.
Pachayati raj: Introduction, PRI: Zila Pachayat.
Elected officials and their roles, CEO Zila Pachayat: Position and role.
Block level: Organizational Hierarchy (Different departments),
Village level: Role of Elected and Appointed officials, Importance of grass root democracy.

UNIT-V

Election Commission:
Election Commission: Role and Functioning, Chief Election Commissioner and Election Commissioners.
State Election Commission: Role and Functioning.
Institute and Bodies for the welfare of SC/ST/OBC and women.

TEXT BOOKS:

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S. N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1st Edition, 2015.
3. M. P. Jain, Indian Constitution Law, 7th Edn., Lexis Nexis, 2014.
4. D.D. Basu, Introduction to the Constitution of India, Lexis Nexis, 2015.

Course Title	DATABASES LAB				B.Tech CSE V Sem (R18)		
Course Code	**Category**	**Hours/Week**			**Credits**	**Maximum Marks**	
1805510	**PJ**	**L**	**T**	**P**	**C**	**Continuous Internal Assessment**	**End Exams**	**Total**
		0	0	2	1	50	50	100
					End Exam Duration: 3Hrs		

Course Objectives:

- This course will enable students to Foundation knowledge in database concepts, technology and practice to groom students into well-informed database application developers.
- Strong practice in SQL programming through a variety of database problems.
- Develop database applications using front-end tools and back-end DBMS

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Construct, Update and query on the database.
CO 2	Demonstrate the working of different concepts of DBMS
CO 3	Implement, analyze and evaluate the project developed for an application.

List of Sample Experiments:

1. Practicing DDL Commands.
2. Practicing DML Commands.
3. Implementation of Aggregate operations.
4. Implementation of special operators such as LIKE, BETWEEN, IN, EXISTS etc.
5. Implementation of SET operations (UNION, INTERSECTION, MINUS, JOIN etc)
6. Implementation of Oracle Functions.
7. Creating Views, Updatable views.
8. Creation of Triggers.
9. Creation of Cursors.
10. Writing sample programs in PL/SQL.

Course Title	WEB TECHNOLOGIES LAB				B.Tech CSE V Sem (R18)			
Course Code	Category	Hours/Week			Credits	Maximum Marks		
1805511	UG	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		0	0	2	1	50	50	100
					End Exam Duration: 3Hrs			

Course Objectives:

- To learn the basic web concepts and Internet protocols.
- To introduce client side scripting with Java script and HTML.
- To introduce server side programming with PHP.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Design static web pages using HTML, CSS and Java Script.
CO 2	Create dynamic web pages using PHP and Java Script.
CO 3	Design web pages to authenticate users using Cookies.
CO 4	Develop server side programs using PHP and accessing database through PHP.

Hardware and Software required:

1. A working computer system with either Windows or Linux

2. A web browser either IE or Firefox

3. Apache web server or IIS Web server

4. A database either Mysql or Oracle

LIST OF EXPERIMENTS

1. Basic HTML Tags,Table Tags,List Tags,Image Tags, Forms
2. Implement forms using HTML,FRAMES,CSS.
3. Write *JavaScript* to validate the following fields of the above registration page.

   1. Name (Name should contains alphabets and the length should not be less than 6 characters).

   2. Password (Password should not be less than 6 characters length).

   3. E-mail id (should not contain any invalid and must follow the standard pattern name@domain.com)

   4. Phone number (Phone number should contain 10 digits only).

4. Install the following on local machine
   • Apache web server
   • Tomcat application server locally,
   • Install MySQL
   • PHP and configure it to work with Apache web server and MySQL.
5. Write an HTML page with Javascript that takes a number from one text field in the range 0-999 and display it in other text field in words. If the number is out of range ,it should show “out of range” and if it is not a number ,it should show “not a number” message in the result box.
6. Write an HTML page that has one input, which can take multi-line text and a submit button. Once the user clicks the submit button ,it should show the number of characters ,lines and words in the text entered using an alert message. Words are separated with white space and lines are separated with new line character.
7. Write an HTML page that contains a selection box with a list of 5 countries In the above page when the user selects a country, its capital should be printed next to the list, and add CSS to customize the properties of the font of the capital.
8. Create a php program to demonstrate the different predefined functions in Array and Math.
9. A user validation web application, where user submits the login name and password to server. These are checked against the data already available in database and if the data matches a successful login page is returned. Otherwise a failure message is shown to the user.
10. Create and save an XML document at the server, which contains 10 users information. Write a program which takes User Id as input and returns the user details by taking the user information from the XML document.

11. A web application takes a name as input and on submit it shows a hello page where is taken from the request and it shows a start time at the right top corner of the page and provides the logout button on clicking this button it should show a logout page with thank you message with the duration of Usage.

12. A web application that lists all cookies stored in the browser on clicking “list cookies” button, add cookies if necessary.
13. Create a table which should contain at least the following fields: name, password, email-id, phone number (these should hold the data from the registration form).

    Write a PHP program to connect to that database and extract data from the tables and display them. Experiment with various SQL queries.

    Insert the details of the users who register with the web site, whenever a new user clicks the submit button in the registration page
14. Write a PHP which does the following job:
    Insert the details of the 3 or 4 users who register with the web site by using registration. Authenticate the user when he submits the login form using the user name and password from the database.

Course Title	Advanced English Communication Skills Lab				B. Tech. V Sem. C.S.E (R18)		
Course Code	Category	Hours/Week		Credits	Maximum Marks		
1824512	Humanities and social sciences	L	T	P	C	Internal Assessment	External Exams	Total
		--	--	2	1	50	50	100
					End Exam Duration: 3Hrs			

Course Objectives:

- To focus on improving the student's proficiency in English at all levels.
- To train students to use language effectively to participate in group discussions,
- To help them face interviews and sharpen public speaking skills
- To enhance the confidence of the student by exposing him/her to various situations and contexts which he/she would face in his/her career.
- To make students industry-ready.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	**Describe** various employability skills required for the employment
CO 2	**Understand** speaking and listening skills.
CO 3	**Analyze** Behavioural skills.
CO 4	**Illustrate** various kinds of reports and present them schematically
CO 5	**Classify** the verbal and non-verbal communication

1.Syllabus:

The following course content is prescribed for the Advanced Communication Skills Lab:

Functional English – Introduction --Starting & Responding a Conversation--Social Etiquette Conversation -- role play – Body language in conversation—departure phrases.

Technical Report Writing --- Types of formats and styles, subject matter, organization, clarity, coherence and style, data-collection, tools, analysis

Resume' Writing --- Structure, format and style, planning, defining the career, objective, projecting one's strengths, and skills, creative self-marketing, cover letter

Group Discussion--- Communicating views and opinions, discussing, intervening.Providing solutions on any given topic across a cross-section of individuals, (keeping an eye on modulation

of voice, clarity, body language, relevance, fluency and coherence) in personal and professional lives.

Interview Skills --- Concept and process, pre-interview planning, mannerisms, body language, organizing, answering strategies, interview through tele and video-conferencing.

Technical Presentations (Oral) --- Collection of data, planning, preparation, type, style and format, use of props, attracting audience, voice modulation, clarity, body language, asking queries.

2. Minimum Requirements

The English Language Lab shall have two parts:

The Computer aided Language Lab for 60 students with 60 systems, one master console, LAN facility and English language software for self-study by learners.

The Communication Skills Lab with movable chairs and audio-visual aids with a P.A System, a TV, A digital stereo-audio and video system, Camcorder etc.

System Requirement (Hardware Component):

Computer network with LAN with a minimum of 60 multimedia systems with the following specifications:

P-IV Processor, Speed-2.8 GHz, RAM_512 MB minimum, Hard Disk-80 GB, Headphones

Prescribed Software: Walden and K-Van Solutions.

Books Suggested for English Language Lab Library (to be located within the lab in addition to the CDs of the text book which are loaded on the systems):

1. **Technical writing and professional communication, Huckin and Olsen** Tata McGraw-Hil 2009.
2. **Speaking about Science,** A Manual for Creating Clear Presentations **by Scott Morgan and Barrett Whitener, Cambridge University press, 2006**.
3. **Handbook for Technical Writing** by David A McMurrey& Joanne Buckely CENGAGE Learomg 2008.
4. **Technical Communication** by Meenakshi Raman &Sangeeta Sharma, Oxford University Press 2009.
5. **The ACE of Soft Skills** by Gopal Ramesh and Mahadevan Ramesh, Pearson Education, 2010.

6. **Cambridge English for Job-Hunting** by ColmDownes, Cambridge Unicversity Press, 2008.
7. **Resume's and Interviews** by M. Ashraf Rizvi, Tata McGraw-Hill, 2008.
8. **From Campus to Corporate** by KK Ramachandran and KK Karthick, Macmillan Publishers India Ltd, 2010.
9. **English Language Communication: A Reader cum Lab Manual**Dr A Ramakrishna Rao, Dr G Natanam& Prof SA Sankaranarayanan, Anuradha Publications, Chennai 2008.
10. **Managing Soft Skills** by K R Lakshminarayan and T. Muruguvel, Sci-Tech Publications, 2010.
11. **Business Communication** by John X Wang, CRC Press, Special Indian Edition, 2008.

Course Title	SOCIAL RELEVANT PROJECT				B.Tech CSE V Sem (R18)			
Course Code	Category	Hours/Week			Credits	Maximum Marks		
1805513	PJ	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		-	-	4	2	100	-	100

Course Objectives:

The objective of the project is to enable the student to take up investigative study in rural areas in the field of Computer Science and Engineering.

Course Outcomes: On successful completion of this course, the students will be able to

CO 1	Understand core concepts and research findings relative to human development, socialization, group dynamics and life course processes.
CO 2	Identify and transfer existing ideas into new contexts and applications
CO 3	Apply and transfer academic knowledge into the real-world
CO 4	Design a component or a product applying all the relevant standards and with realistic constraints

The following are the rules and regulation for **Socially Relevant Projects:**

1. The student has to spend 50 to 60 Hrs in the semester on any socially relevant project and submit a report for evaluation.
2. The project is evaluated for 100 marks in the semester by a committee consisting of head of the department, project mentor and one senior faculty member of the department.
3. A student shall acquire 2 credits assigned, when he/she secures 50% or more marks from the total of 100 marks.
4. In case, if a student fails, he/she shall resubmit the report.
5. There is no external evaluation for the socially relevant project.