BACHELOR OF TECHNOLOGY

COMPUTER ENGINEERING

SYLLABI BOOK
4th Year B.Tech. Program

Department of Computer Engineering
Faculty of Technology
Dharmsinh Desai University
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B. Tech. Semester VII

SUBJECTS	Teaching Scheme			Total	Credit	Examination Scheme (Marks)				
	Th	Tut	Pract			Th	Sess	TW	Prac	Total
Artificial Intelligence	4	0	2	6	5.0	60	40	25	25	150
Elective I	4	0	2	6	5.0	60	40	25	25	150
Elective II	4	0	2	6	5.0	60	40	25	25	150
Elective III	4	0	2	6	5.0	60	40	25	25	150
Compiler Construction	4	0	2	6	5.0	60	40	25	25	150
	20	0	10	30	25	300	200	125	125	750

B. Tech. Semester VIII

SUBJECTS	Teaching Scheme			Total	Credit	Examination Scheme (Marks)				
	Th	Tut	Pract			Th	Sess	TW	Prac	Total
Industrial Internship	0	6	24	30	18.0	0	0	150	350	500
Communication Practices for Software Industries	1	0	4	5	3.0	0	0	100	0	100
	1	0	4	5	21	0	0	300	300	600

Elective I, II and III in 7th semester are offered from the list of the following subjects

PEC : Professional Elective Course
CS : Computer Science
S : System
A: Applications
D: Data Science

Coures Name	Category
Cloud computing and IoT	PEC : CS-S
Image Processing	PEC : CS-A
Big Data Analytics	PEC : CS-D
Embedded Systems	PEC : CS-S
Computer Graphics	PEC : CS-A
Advanced Computer Network	PEC : CS-S
Knowledge Discovery	PEC: CS-D
Mobile Application Development	PEC : CS-A
Distributed Operating Systems	PEC : CS-S

B. TECH. SEMESTER – VII (CE)
SUBJECT: ARTIFICIAL INTELLIGENCE

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE701

A. COURSE OBJECTIVE

The main objective of this course is to make students aware about achievements and vast opportunities present in the fields of AI. The course covers importantly three main facets of AI designing: Search Technique, Knowledge Representation and Learning. The course additionally covers advanced topics in the field such as Fuzzy Logic, Game Playing, Natural Language Processing, Evolutionary Computations and Expert Systems.

B. DETAILED SYLLABUS

[1] Introduction to Artificial Intelligence
Introduction problems, problem space, production systems, problem characteristics

[2] Search Techniques
Uniformed search techniques (best-first search, Depth-First search), Heuristic search techniques (General and test, Hill climbing, Simulated anncalling, A* algorithm, Constraint satisfaction, Means-end-analysis) Adverserial search techniques (Game playing, MINIMAX algorithm, alpha-Beta pruning)

[3] Knowledge Representative
Propositional Logic, predicate logic, Instance and isa relationship, semantic net, frames.

[4] Fuzzy Logic
Definition, need fuzzy set, fuzzy operators, fuzzy control systems, limitations

[5] Inference techniques
Representing knowledge using rules, procedure versus declarative knowledge, forward versus backward reasoning, unification, resolution.

[6] Natural Language Processing
Introduction NLP, NLU, phase of NLP (Morphological analysis, syntactic analysis, semantic analysis, discourse integration), introduction to Machine Translation.

[7] Expert System
ES architectures, representation and use of domain knowledge, expert system shells, knowledge acquisition.

[8] PROLOG
Facts and predicate, data types, goal finding, backtracking, simple object, compound objects, use of cut and fail predicates, recursion, lists, simple input/output.

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Artificial Intelligence by Elaine Rich and Kevin Knight, TMH
2) Introduction to Turbo PROLOG by Carl Townsend, BPB
3) Artificial Intelligence : A Modern Approach by Stuart Russell and Peter Norvig, PHI
4) Artificial Intelligence and Expert System by D.W. Patterson, PHI
5) Introduction to Applied Fuzzy Logic by Ahmed Abraham, PHI

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- Understand conceptual and contextual meaning of AI and views of AI.
- Analyze and represent an AI problem
- Aware of several logic based techniques for knowledge representation and inference.
- Create interactive programs using declarative programming language PROLOG.
- Represent problems with uncertain information with the use of fuzzy logic representation and solve using fuzzy inference mechanisms.
- Design intelligent systems using Game Playing, Expert Systems and Evolutionary algorithms

B. TECH. SEMESTER – VII (CE)
SUBJECT: EMBEDDED SYSTEMS

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE710

A. COURSE OBJECTIVE

To introduce the concepts of an embedded system design, design methodology, programming language and to describe the real-time system concepts.

B. DETAILED SYLLABUS

[1] Programming languages for embedded systems

Desirable characteristics of programming languages for embedded systems, low-level versus high-level language, main language implementation issues : control, typing, exdception handling, modularity and multithreading, major programming languages for embedded systems : Assembly, C/C++, Java and Esterel. Timing characteristics of embedded systems : hard, soft and firm systems : fail-safe and fail-operational systems, guaranteed- response, bes-effort, event and time-triggered systems, timing constraints in embedded systems.

[2] Performance analysis of embedded sysems

Software timing characterization and analysis methods.

[3] Runtime and operational system design

Real time and non-real time applications, task assignment and scheduling : characteristics of tasks, task assignments and multi-tasking, Static and dynamic scheduling under constrains.

[4] Memory management and synchronization for embedded software :

Mutual exclusion, deadlock, starvation and lockouts : priority assignments, inversion, event flags and signals, software optimization techniques under constraints : size, performance, embaddedibility metrics.

[5] Compilation techniques for embedded software :

Code generation, re- targetability, code optimization.

[6] Examples of embedded and real-time software systems, real time applications.

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Software design methods for concurrent and real-time systems by Gomaa, Addision-Wesley 1993.
2) Real-time systems by H. Kopetz, Kluwer 1997
3) Co-synthesis of hardware and software for Embedded Systems by R. Gupta, Khuwer 1995

4) Introduction to real-time software design by S. Allworht, Springer-Verlag, 1984.
5) Real Time Systems by C.M. Krishna, Mc-Graw Hill 1997
6) Code generation for Embedded Processors by Peter Marwedel, G. Goosens, Kluner Academic Pub. 1993.
7) Embedded system design : Aunified hardware software introduction by Frank Vahid and Tony Givargis,John Wiley & Sons
8) Additional reading from selected journal papers

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- Understand the issues in designing embedded system
- Design customized single purpose processor
- Understand the concepts of real-time systems
- Solve problems of real-time task scheduling and resource sharing

B. TECH. SEMESTER – VII (CE)
SUBJECT: ADVANCED COMPUTER NETWORKS

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE713

A. COURSE OBJECTIVE

To provide advanced topics of computer networking and to introduce network programming.

B. DETAILED SYLLABUS

[1] Introduction
Introduction to internetworking, TCP/IP protocol stack, Internetworking concepts..

[2] TCP/IP Protocols
Addressing scheme (classful and classless), subnetting and supernetting, Ipv6, ARP, RARP, ICMP, IGMP, RIP, OSPF, BGP, DNS, application layer protocols : FTP, TFTP, NFS.

[3] Sockets interface
Introduction to socket function, connect, accept, listen, bind function calls, TCP client server, concurrent server to server multiple clients..

[4] I/O multiplexing
I/O models : blocking, polling, signal driven, multiplexed. Select system call, multiplexed TCP server to serve clients, use of p select.

[5] UDP socket
UDP socket functions, difference : blocking, polling, signal driven, multiplexed. Select system call, multiplexed TCP server to serve clients, use of p select

[6] Domain name server
Introduction to DNS, resource record and resolver function, mapping between IP address and domain name.

[7] IPv4 and IPv6 interperability
Introduction, IPv4 client-server, IPv-6 address testing macro, source code portability.

[8] Deamon process
Introduction to daemon process, syslog, creating a daemon process, i net daemon.

[9] Advance UDP socket
Receiving flags, destination address and interface info, adding reliability to UDP, concurrent UDP server.

[10] Broadcasting and multicasting

Broadcast address structure, broadcast client-server, multicasting address structure, multicasting on WAN, multicasting v/s broadcasting, multicast example.

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Unix network programming vol. 1 by W.R. Stevens
2) TCP/IP protocol suite by B.A. Forouzan
3) TCP/IP vol. 1 by D.E. Comer
4) TCP/IP Vol. 1 by W.R. Stevens

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- Be familiar with several common programming interfaces for network communication.
- Have a detailed knowledge of the TCP/UDP Sockets
- Design and write client-server programs
- Use of unix network programming system calls for handling multiple client requests

B. TECH. SEMESTER – VII (CE)
SUBJECT: DISTRIBUTED OPERATING SYSTEMS

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE716

A. COURSE OBJECTIVE

To give students knowledge of the principles, architectures, algorithms, programming models used in distributed systems. Also, to give detailed idea about on Distributed operating system concepts whichincludes Mutual exclusion algorithms, Deadlock detection algorithms and agreement protocols.

B. DETAILED SYLLABUS

[1] Introduction to Distributed Systems

[2] Interprocess Communication and Coordination

[3] State Maintenance

[4] Distributed Mutual Exclusion Algorithms

[5] Election Algorithms

[6] Fault Tolerance and Distributed Agreement

[7] Database Techniques

[8] Check Point and Recovery

[9] Distributed Deadlock Detection

[10] Load Balancing & Scheduling

[11] Security

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) "Distributed Operating Systems and Algorithms" by Randy Chow and Theodore Johnson, Addison Wesley, 1997

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- understand issues of the Distributed Environment and different mechanisms to handle them
- Ability to demonstrate the Mutual exclusion, Deadlock detection and agreement protocols of Distributed operating system
- Gain understanding of the various resource management techniques for distributed systems
- Ability to summarize the major security issues associated with distributed systems along with the range of techniques available for increasing system security

B. TECH. SEMESTER – VII (CE)
SUBJECT: IMAGE PROCESSING

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE714

A. COURSE OBJECTIVE

The objective of the course is to understand the image formation and representation. To Learn various enhancement and restoration techniques in different domains. Learn about the various compression techniques.

B. DETAILED SYLLABUS

[1] Introduction

[2] Image Transformation Techniques

[3] Image Enhancement Algorithms

[4] Image Restoration Methods

[5] Image Compression Techniques

[6] Image Segmentation Schemes

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) R.C.Gonzalez and R.E.Woods, "Digital Image Processing", Addison-Wesley Longman, Inc, 1999
2) A.K.Jain, "Digital Image Processing", PHL
3) M.Sonka, V.Hlavac, and R.Boyle – Image processing, Analysis and Machine vision, Thomson Asia pvt. Ltd, 1999.

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- Apply various enhancement and restoration techniques in both spatial and frequency domain.
- Decide which technique would be suitable for a given application.
- Make decision based upon the requirement which compression technique to apply.
- Segment the images for further processing

B. TECH. SEMESTER – VII (CE)
SUBJECT: KNOWLEDGE DISCOVERY

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE715

A. COURSE OBJECTIVE

The objective of the course is to understand the digital data generated by various sources and to find implicit patterns from it which can be utilized for business intelligence. Students will be able to understand the problems in the digital data and will learn various data cleaning, data transformation, data reductions techniques. They will learn various machine learning algorithms to apply on the data which will help in decision making in industries..

B. DETAILED SYLLABUS

[1] Introduction

An overview of data warehousing and data mining

[2] Data Pre-processing

Overview, Need for pre-processing
Issues related to efficient data handling (Extraction, Transformation, And updating of large databases (ADDED) Data Cleaning
Data Integration & Transformation Data Reduction
Discretization & Concept Hierarchy Generation

[3] Data warehouse and OLAP technology

Multi-dimensional Data Cubes
Star, Snow Flakes, & Fact Constellation Schema Concept Hierarchies
OLAP
Data Warehouse Architecture
Steps for design and construction of data warehouse A 3-tier data warehouse architecture
ROLAP, MOLAP, HOLAP.
Data Warehouse Implementation

[4] Mining Frequent patterns, Association and Correlation Logic

Basic Concepts,
Item set mining methods
Mining association rules
Correlation analysis

[5] Classification & prediction

An Overview & Basic Concepts Classification by decision tree induction Bayesian Classification

[6] Cluster Analysis

An Overview & Basic Concepts Partitioning methods Hierarchical methods
Density-Based methods Outlier analysis

[7] Graph Mining

Methods for Mining Frequent Subgraphs
Mining Variant and Constrained Substructure Patterns
Applications: Graph Indexing, Similarity Search, Classification and Clustering

[8] Mining Multimedia, Text, and Web Data

Multimedia Data Mining

- Similarity Search in Multimedia Data
- Multidimensional Analysis of Multimedia Data
- Classification and Prediction Analysis of Multimedia Data
- Mining Associations in Multimedia Data
- Audio and Video Data Mining

Text Mining

- Text Data Analysis and Information Retrieval
- Dimensionality Reduction for Text
- Text Mining Approaches

Mining the World Wide Web

- Mining the Web Page Layout Structure
- Mining the Web‟s Link Structures to Identify
- Authoritative Web Pages
- Mining Multimedia Data on the Web
- Automatic Classification of Web Documents
- Web Usage Mining

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Jiawei Han & Micheline Kamber, “Data Mining – Concepts & Techniques”,2nd edition, Morgan Kaufmann Publishers
2) Data mining: multimedia, soft computing, and bioinformatics By Sushmita Mitra, Tinku Acharya, published by John Wiley and Sons
3) Introduction to Data Mining. Tan, Steinbach, Kumar. Addison-Wesley. 2006.

D. COURSE OUTCOMES

At the end of the course students will :

- Be able to understand various sources of data generation and how to deal will heterogeneous data.
- learn various data cleaning, data transformation, data reductions techniques.
- learn various supervised and unsupervised algorithms
- learn various outlier detection techniques
- learn data warehousing concepts and they will also learn the concepts of text mining, web mining and multimedia miningDesign intelligent systems using Game Playing, Expert Systems and Evolutionary algorithms

B. TECH. SEMESTER – VII (CE)
SUBJECT: MOBILE APPLICATION DEVELOPMENT

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE717

A. COURSE OBJECTIVE

The Mobile Application Development course is designed to teach students to develop mobile applications for the Android devices that use basic and advanced phone features. Students will also be able to deploy applications to the Android marketplace for distribution.

B. DETAILED SYLLABUS

[1] Getting started with mobility

Mobility landscape, Mobile platforms, Mobile apps development, Overview of Android platform, setting up the mobile app development environment along with an emulator, a case study on Mobile app development

[2] Building blocks of mobile apps

App user interface designing – mobile UI resources (Layout, UI elements, Draw-able, Menu), Activity- states and life cycle, interaction amongst activities. Application functionality beyond user interface - Threads, Async task, Services – states and life cycle, Notifications, Broadcast receivers, Telephony and SMS APIs. Native data handling – on-device file I/O, shared preferences, mobile databases such as SQLite, and enterprise data access (via Internet/Intranet)

[3] Sprucing up mobile apps

Graphics and animation – custom views, canvas, animation APIs, multimedia – audio/video playback and record, location awareness, and native hardware access (sensors such as accelerometer and gyroscope)

[4] Testing mobile apps

Debugging mobile apps, White box testing, Black box testing, and test automation of mobile apps, JUnit for Android, Robotium, MonkeyTalk

[5] Taking apps to market

Versioning, signing and packaging mobile apps, distributing apps on mobile market place

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Android – Wireless Application Development by Lauren Darcey and Shane Conder, 3rd Ed., Pearson Education
2) Beginning Android Application Development by Wei-Meng-Lee, Wiley Publication
3) Professional Android 4 Application Development by Reto Meier, Wiley Publication

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- apply layout management and multi-layout definition techniques to create adaptable user interfaces for mobile applications that share a common data model.
- manage user data and multimedia on a mobile device via the Android framework libraries.
- use the sensors available on mobile devices to enhance user interaction and feedback.
- publish Applications to the Google Play Store.

B. TECH. SEMESTER – VII (CE)
SUBJECT: BIG DATA AND ANALYTICS

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE720

A. COURSE OBJECTIVE

The objective of the course is to understand digital data, data preprocessing, data warehousing and various supervised and unsupervised algorithms. Students will learn big data, sources of big data and various platforms to handle big data. They will also learn HADOOP and its components.

B. DETAILED SYLLABUS

[1] Types of Digital Data (Structured, Semi-Structured, Unstructured)

[2] Introduction to Big Data.

[3] Te Big Data Technology Landscape
NoSQL – NewSQL
Hadoop- Introduction to Eco system

[4] Hadoop – Distributed File System and Processing using MapReduce

[5] Introduction to Map Reduce Programming

[6] Introduction to Big Data Analytics

[7] Data Storage and Handling (Apache Cassandra/mongoDB)

[8] Querying Data using Hive/Pig like components

[9] Data Reporting Tools (i.e. Community Edition : Jasper Soft

[10] The realm of Data Science

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Big Data and Analytics – Seema Acharya and Subhashini C – Wiley India
2) Hadoop: The Definitive Guide by Tom White
3) Big Data Analytics: Methods and Applications by B. L. S. Prakasa Rao (Editor), S. B. Rao (Editor)

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- Learn various types of digital data and how to deal with them.
- Learn various data cleaning, data transformation, data reductions techniques.
- Students will learn various supervised and unsupervised algorithms
- Understand big data, sources of big data, characteristics of big data
- Students will learn HADOOP and its components.
- Learn concepts of mapreduce programming.

B. TECH. SEMESTER – VII (CE)
SUBJECT: CLOUD COMPUTING AND IOT

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

A. COURSE OBJECTIVE

- To explain the components of the cloud infrastructure and their functions.
- To describe service models such as Software-as-a-Service, Platform-as-a-Service, Infrastructure-as-a-Service; and various deployment models of the cloud;
- To introduce the concepts how virtual machines, hypervisors, virtual networks and virtual storage work together.
- To understand about the fundamentals of Internet of Things and its building blocks along with their characteristics and protocols

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B. DETAILED SYLLABUS

[1] Introduction to Cloud Computing
- Overview of Computing
- Cloud Computing (NIST Model)
- Properties, Characteristics & Disadvantages
- Role of Open Standards

[2] Cloud Computing Architecture
- Service Models (Iaas, Paas, Saas, XaaS)
- Deployment Models

[3] Service Management in Cloud Computing
- Service Level Agreements(SLAs) and related examples
- Cloud Economics and related examples

[4] Virtualization
- Benefits of virtualization
- Types of virtualization
- Load balancing
- Hypervisors.

[5] The management of virtual machines for cloud infrastructures
- Distributed management of virtual machines
- Scheduling techniques for advance reservation of capacity
- Capacity management to meet SLA commitments

[6] Data Management in Cloud Computing
- Looking at Data, Scalability & Cloud Services
- Database & Data Stores in Cloud
- Large Scale Data Processing

[7] Cloud Security
- Infrastructure Security
- Data security and Storage

- Identity and Access Management
- Access Control, Trust, Reputation, Risk

[8] Introduction to IoT, IoT architecture, IoT challenges.

[9] Networking protocols- MQTT and COAP

[10] Communication Protocols
- Zigbee
- 6LoWPAN
- RFID

[11] Software Defined Network (SDN), SDN for IoT

[12] Smart Use cases of IoT

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Cloud Computing Bible, Barrie Sosinsky, Wiley-India, 2010
2) Cloud Computing: Principles and Paradigms, Editors: Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, Wiley,2011
3) "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", by Pethuru Raj and Anupama C. Raman (CRC Press)
4) Enterprise Cloud Computing - Technology, Architecture, Applications, Gautam Shroff, Cambridge University Press, 2010
5) Cloud Security: A Comprehensive Guide to Secure Cloud Computing, Ronald L. Krutz, Russell Dean Vines, Wiley- India,2010
6) "Internet of Things: A Hands-on Approach", by Arshdeep Bahga and Vijay Madisetti (Universities Press)

D. COURSE OUTCOMES

At the end of the course, students should be able to:

- explain the core concepts of the cloud computing paradigm
- understand virtualization and outline its role in enabling the cloud computing system model
- Understand the concept of Cloud Security.
- understand building blocks of Internet of Things and characteristics.
- design and develop scalable, reliable and cost effective solutions of real world problems using compute, networking, storage and database services of cloud.

B. TECH. SEMESTER – VII (CE)
SUBJECT: COMPILER CONSTRUCTION

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
4	0	2	6	5	60	40	25	25	150

Reference Code CE718

A. COURSE OBJECTIVE

The objective of this course is to get familiar with the different phases of a compiler, to learn algorithms for parsing and their usefulness in semantic analysis. This course will help to realize the need of run time environment support, symbol table organization, garbage collection, various machine independent code optimization techniques etc. Also, the course involves developing programs using LEX and YACC.

B. DETAILED SYLLABUS

[1] Introduction
Language processor, Structure of compiler, the science of building compilers, Applications of language processors

[2] Lexical analysis
The role of lexical analyzer, input buffering, specification of tokens, recognition of tokens, lexical analyzer generator (lex)

[3] Syntax analysis
Top-down parsing, Bottom-up parsing, Introduction to LR parsing, More powerful LR parsers, Using ambiguous grammars, Parser generators (yacc)

[4] Syntax directed translation (SDT)
Syntax directed definitions (SDD), Evaluation order of SDD‟s, Applications of SDT, SDT schemes

[5] Intermediate code generation
Variants of syntax tree, three-address code, types and declarations, translation of expressions, type checking

[6] Runtime Environments
Storage organization, stack allocation of space, access to non-local data on the stack, heap management

[7] Code generation
Issues in the design of code generator, the target language, addresses in the target code, basic blocks and flow-graphs, optimization of basic blocks, peephole optimization, register allocation and assignments

C. RECOMMENDED TEXT / REFERENCE BOOKS

1) Compiler: Principles, techniques and tools by Aho, Ullman and Sethi, 2nd Ed., Pearson Education

2) Theory and Practice of Compiler Writing, Jean-Paul Tremblay, Paul G. Sorenson, McGraw Hill

D. COURSE OUTCOMES

- To know how a compiler tokenizes, parses the input program and how different phases of compiler are involved.
- To be able to develop programs using LEX (Tool for Automatic Lexical Analyzer) and YACC (tool for Automatic Parser Generator).
- Understanding how different code optimization techniques reduce time or space required for the runtime.
- Understanding the semantic aspects of compilation like how type insertion, checking, code generation etc. can be done

B. TECH. SEMESTER – VIII (CE)
SUBJECT: INDUSTRIAL INTERNSHIP

Teaching Scheme (Hours/Week)				Credits	Examination Scheme				
Lect	Tut	Prac	Total		Ext	Sess.	TW	Prac	Total
0	6	24	30	18	-	-	150	350	500

Reference Code AF801