



**VEL TECH MULTI TECH  
Dr RANGARAJAN Dr.SAKUNTHALA  
ENGINEERING COLLEGE**

(An ISO 9001: 2008 Certified Institution)  
(Owned by 'VEL Shree R. Rangarajan  
Dr. Sakunthala Rangarajan Educational Academy)  
(Approved by AICTE, New Delhi &  
Govt. of Tamil Nadu and affiliated to Anna University)



**SYLLABUS**

**WEEKLY SCHEDULE**

**VI SEMESTER                      2015-16**

**DEPARTMENT OF CSE**

**IV DEGREE COURSE**

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**SEM : VI**

**YEAR : III**

**ACADEMIC YEAR: 2015-16**

<b>S.NO</b>	<b>WEEKS</b>	<b>DATE</b>	
		<b>FROM</b>	<b>TO</b>
1	WEEK 1	18.01.16	23.01.16
2	WEEK 2	25.01.16	30.01.16
3	WEEK 3	01.02.16	06.02.16
4	WEEK 4	08.02.16	13.02.16
5	WEEK 5	15.02.16	20.02.16
6	WEEK 6	22.02.16	27.02.16
7	WEEK 7	29.02.16	05.03.16
8	WEEK 8	07.03.16	12.03.16
9	WEEK 9	16.03.16	20.03.16
10	WEEK 10	22.03.16	26.03.16
11	WEEK 11	27.03.16	02.04.16
12	WEEK 12	03.04.16	09.04.16
13	WEEK 13	11.04.16	16.04.16
14	WEEK 14	18.04.16	23.04.16
15	WEEK 15	25.04.16	30.04.16

## CONTENTS

<b>THEORY</b>		
<b>Sl.NO</b>	<b>SUB. CODE</b>	<b>SUBJECT</b>
1	CS6601	Distributed Systems
2	IT6601	Mobile Computing
3	CS6660	Compiler Design
4	CS6659	Artificial Intelligence
5	IT6502	Digital Signal Processing
6	IT6004	Software Testing
<b>PRACTICAL</b>		
7	CS6611	Mobile Application Development
8	CS6612	Compiler Design Lab
9	GE6674	Communication Skills Lab

### **TEST / EXAM SCHEDULE**

<b>SL.NO</b>	<b>SUBJECT CODE</b>	<b>SUBJECT NAME</b>	<b>UNIT TEST I</b>	<b>UNIT TEST II</b>	<b>PRE MODEL EXAM</b>	<b>MODEL EXAM</b>
1	CS6601	Distributed Systems	01.02.16	15.02.16	29.02.06	01.04.16
2	IT6601	Mobile Computing	02.02.16	16.02.16	01.03.16	04.04.16
3	CS6660	Compiler Design	03.02.16	17.02.16	02.03.16	06.04.16
4	CS6659	Artificial Intelligence	04.02.16	18.02.16	03.03.16	08.04.16
5	IT6502	Digital Signal Processing	05.02.16	19.02.16	04.03.16	11.04.16
6	IT6004	Software Testing	06.02.15	20.02.16	05.03.16	13.04.16

# CS6601 DISTRIBUTED SYSTEMS

## UNIT I INTRODUCTION

### WEEK-1

Introduction – Examples of Distributed Systems–Trends in Distributed Systems

### WEEK-2

Focus on resource sharing – Challenges. **Case study:** World Wide Web

### WEEK-3

### UNIT TEST-1

## UNIT II COMMUNICATION IN DISTRIBUTED SYSTEM

### WEEK-4

System Model – Inter process Communication - the API for internet protocols – External data representation and Multicast communication. **Network virtualization:** Overlay networks. **Case study:** MPI Remote Method Invocation and Objects:

### WEEK 5

Remote Invocation – Introduction - Request-reply protocols - Remote procedure call - Remote method invocation **Case study:** Java RMI - Group communication - Publish-subscribe systems - Message queues - Shared memory approaches -Distributed objects - Case study: Enterprise Java Beans -from objects to components

### WEEK-6

### UNIT TEST-2

## UNIT III PEER TO PEER SERVICES AND FILE SYSTEM

### WEEK-7

Peer-to-peer Systems – Introduction - Napster and its legacy - Peer-to-peer – Middleware – Routing overlays **Overlay case studies:** Pastry, Tapestry- Distributed File Systems –Introduction - File service architecture – Andrew File system. **File System:** Features-File model -File accessing models

### WEEK-8

File sharing semantics **naming:** Identifiers, Addresses, and Name Resolution – Name Space Implementation – Name Caches – LDAP

### WEEK-9

## **PRE MODEL EXAM**

### **UNIT IV SYNCHRONIZATION AND REPLICATION**

#### **WEEK-10**

Introduction - Clocks, events and process states - Synchronizing physical clocks- Logical time and logical clocks - Global states – Coordination and Agreement – Introduction - Distributed mutual exclusion

#### **WEEK-11**

Elections – Transactions and Concurrency Control– Transactions - Nested transactions – Locks – Optimistic concurrency control - Timestamp ordering – Atomic Commit protocols -Distributed deadlocks – Replication – Case study – Coda

#### **WEEK-12**

### **UNIT V PROCESS & RESOURCE MANAGEMENT**

#### **WEEK-13**

**Process Management:** Process Migration: Features, Mechanism - Threads: Models, Issues, Implementation

#### **WEEK-14**

**Resource Management:** Introduction- Features of Scheduling Algorithms –Task Assignment Approach – Load Balancing Approach – Load Sharing Approach

#### **WEEK-15**

**MODEL EXAMINATION-I (5 UNITS)**

#### **WEEK-16**

**MODEL EXAMINATION-I (5 UNITS)**

#### **WEEK-17**

**MODEL PRACTICAL EXAMINATION**

#### **TEXT BOOKS**

1. George Coulouris, Jean Dollimore and Tim Kindberg, “Distributed Systems Concepts and Design”, Fifth Edition, Pearson Education, 2012.

#### **REFERENCE BOOKS**

1. Pradeep K Sinha, "Distributed Operating Systems: Concepts and Design", Prentice Hall of India, 2007.
2. Tanenbaum A.S., Van Steen M., “Distributed Systems: Principles and Paradigms”, Pearson Education, 2007.

3. Liu M.L., “Distributed Computing, Principles and Applications”, Pearson Education, 2004.
4. Nancy A Lynch, “Distributed Algorithms”, Morgan Kaufman Publishers, USA, 2003

## **IT6601 MOBILE COMPUTING**

### **UNIT I INTRODUCTION**

#### **WEEK-1**

Mobile Computing – Mobile Computing Vs wireless Networking – Mobile Computing Applications – Characteristics of Mobile computing

#### **WEEK-2**

Structure of Mobile Computing Application MAC Protocols – Wireless MAC Issues – Fixed Assignment Schemes – Random Assignment Schemes – Reservation Based Schemes

#### **WEEK-3**

#### **UNIT TEST-1**

### **UNIT II MOBILE INTERNET PROTOCOL AND TRANSPORT LAYER**

#### **WEEK-4**

Overview of Mobile IP – Features of Mobile IP – Key Mechanism in Mobile IP – route Optimization. Overview of TCP/IP

#### **WEEK 5**

Architecture of TCP/IP- Adaptation of TCP Window – Improvement in TCP Performance

#### **WEEK-6**

#### **UNIT TEST-2**

### **UNIT III MOBILE TELECOMMUNICATION SYSTEM**

#### **WEEK-7**

Global System for Mobile Communication (GSM)

#### **WEEK-8**

General Packet Radio Service (GPRS) – Universal Mobile Telecommunication System (UMTS)

#### **WEEK-9**

#### **PRE MODEL EXAM**

## **UNIT IV MOBILE AD-HOC NETWORKS**

### **WEEK-10**

Ad-Hoc Basic Concepts – Characteristics – Applications – Design Issues – Routing – Essential of Traditional Routing Protocols – Popular Routing Protocols

### **WEEK-11**

Vehicular Ad Hoc networks (VANET) –MANET Vs VANET – Security

### **WEEK-12**

## **UNIT V MOBILE PLATFORMS AND APPLICATIONS**

### **WEEK-13**

Mobile Device Operating Systems – Special Constrains & Requirements – Commercial Mobile Operating Systems

### **WEEK-14**

Software Development Kit: iOS, Android, BlackBerry, Windows Phone – M Commerce– Structure – Pros & Cons – Mobile Payment System – Security Issues

### **WEEK-15**

### **MODEL EXAMINATION-I (5 UNITS)**

### **WEEK-16**

### **MODEL EXAMINATION-I (5 UNITS)**

### **WEEK-17**

### **MODEL PRACTICAL EXAMINATION**

### **TEXT BOOKS**

1. Prasant Kumar Pattnaik, Rajib Mall, “Fundamentals of Mobile Computing”, PHI Learning Pvt. Ltd, New Delhi – 2012.

### **REFERENCE BOOKS**

1. Jochen H. Schller, “Mobile Communications”, Second Edition, Pearson Education, New Delhi, 2007.
2. Dharma Prakash Agarval, Qing and An Zeng, "Introduction to Wireless and Mobile systems", Thomson Asia Pvt Ltd, 2005.
3. Uwe Hansmann, Lothar Merk, Martin S. Nicklons and Thomas Stober, “Principles of Mobile Computing”, Springer, 2003.



4. William.C.Y.Lee,“Mobile Cellular Telecommunications-Analog and Digital Systems”, Second Edition,Tata Mc Graw Hill Edition ,2006.
5. C.K.Toh, “AdHoc Mobile Wireless Networks”, First Edition, Pearson Education, 2002.
6. Android Developers : <http://developer.android.com/index.html>
7. Apple Developer : <https://developer.apple.com/>
8. Windows Phone Dev Center  
: <http://developer.windowsphone.com>
9. BlackBerry Developer : <http://developer.blackberry.com/>

## **CS6660 COMPILER DESIGN**

### **UNIT I INTRODUCTION TO COMPILERS**

#### **WEEK-1**

Translators-Compilation and Interpretation-Language processors -The Phases of Compiler-Errors Encountered in Different Phases

#### **WEEK-2**

The Grouping of Phases-Compiler Construction Tools - Programming Language basics

#### **WEEK-3**

#### **UNIT TEST-1**

### **UNIT II LEXICAL ANALYSIS**

#### **WEEK-4**

Need and Role of Lexical Analyzer-Lexical Errors-Expressing Tokens by Regular Expressions- Converting Regular Expression to DFA

#### **WEEK 5**

Minimization of DFA-Language for Specifying Lexical Analyzers-LEX-Design of Lexical Analyzer for a sample Language

#### **WEEK-6**

#### **UNIT TEST-2**

### **UNIT III SYNTAX ANALYSIS**

#### **WEEK-7**

Need and Role of the Parser-Context Free Grammars -Top Down Parsing -General Strategies- Recursive Descent Parser Predictive

Parser-LL(1) Parser-Shift Reduce Parser-LR Parser-LR (0)Item-Construction of SLR Parsing Table -Introduction to LALR Parser

### **WEEK-8**

Error Handling and Recovery in Syntax Analyzer-YACC-Design of a syntax Analyzer for a Sample Language

### **WEEK-9**

### **PRE MODEL EXAM**

## **UNIT IV SYNTAX DIRECTED TRANSLATION & RUN TIME ENVIRONMENT**

### **WEEK-10**

Syntax directed Definitions-Construction of Syntax Tree-Bottom-up Evaluation of S-Attribute Definitions- Design of predictive translator Type Systems-Specification of a simple type checker- Equivalence of Type Expressions-Type Conversions

### **WEEK-11**

RUN-TIME ENVIRONMENT: Source Language Issues-Storage Organization-Storage Allocation- Parameter Passing-Symbol Tables-Dynamic Storage Allocation-Storage Allocation in FORTAN

### **WEEK-12**

## **UNIT V CODE OPTIMIZATION AND CODE GENERATION**

### **WEEK-13**

Principal Sources of Optimization-DAG- Optimization of Basic Blocks-Global Data Flow Analysis

### **WEEK-14**

Efficient Data Flow Algorithms-Issues in Design of a Code Generator - A Simple Code Generator Algorithm

### **WEEK-15**

### **MODEL EXAMINATION-I (5 UNITS)**

### **WEEK-16**

### **MODEL EXAMINATION-I (5 UNITS)**

### **WEEK-17**

### **MODEL PRACTICAL EXAMINATION**

### **TEXT BOOKS**

1. Alfred V Aho, Monica S. Lam, Ravi Sethi and Jeffrey D Ullman, "Compilers – Principles, Techniques and Tools", 2nd Edition, Pearson Education, 2007.

## **REFERENCE BOOKS**

1. Randy Allen, Ken Kennedy, “Optimizing Compilers for Modern Architectures: A Dependence-based Approach”, Morgan Kaufmann Publishers, 2002.
2. Steven S. Muchnick, “Advanced Compiler Design and Implementation, “Morgan Kaufmann Publishers - Elsevier Science, India, Indian Reprint 2003.
3. Keith D Cooper and Linda Torczon, “Engineering a Compiler”, Morgan Kaufmann Publishers Elsevier Science, 2004.
4. Charles N. Fischer, Richard. J. LeBlanc, “Crafting a Compiler with C”, Pearson Education, 2008.

## **IT6502 DIGITAL SIGNAL PROCESSING**

### **UNIT I SIGNALS AND SYSTEMS**

#### **WEEK-1**

Basic elements of DSP – concepts of frequency in Analog and Digital Signals – sampling theorem – Discrete – time signals, systems

#### **WEEK-2**

Analysis of discrete time LTI systems – Z transforms – Convolution– Correlation

#### **WEEK-3**

#### **UNIT TEST-1**

### **UNIT II FREQUENCY TRANSFORMATIONS**

#### **WEEK-4**

Introduction to DFT – Properties of DFT – Circular Convolution - Filtering methods based on DFT – FFT Algorithms - Decimation – in – time Algorithms

#### **WEEK 5**

Decimation – in – frequency Algorithms – Use of FFT in Linear Filtering – DCT – Use and Application of DCT

#### **WEEK-6**

#### **UNIT TEST-2**

### **UNIT III IIR FILTER DESIGN**

#### **WEEK-7**

Structures of IIR – Analog filter design – Discrete time IIR filter from analog filter – IIR filter design by Impulse Invariance, Bilinear transformation

**WEEK-8**

Approximation of derivatives – (LPF, HPF, BPF, BRF) filter design using frequency translation

**WEEK-9**

**PRE MODEL EXAM**

**UNIT IV FIR FILTER DESIGN**

**WEEK-10**

Structures of FIR – Linear phase FIR filter – Fourier Series

**WEEK-11**

Filter design using windowing techniques (Rectangular Window, Hamming Window, Hanning Window), Frequency sampling techniques

**WEEK-12**

**UNIT V FINITE WORD LENGTH EFFECTS IN DIGITAL FILTERS**

**WEEK-13**

Binary fixed point and floating point number representations – Comparison

**WEEK-14**

Quantization noise –truncation and rounding – quantization noise power- input quantization error- coefficient quantization error – limit cycle oscillations-dead band- Overflow error-signal scaling

**WEEK-15**

**MODEL EXAMINATION-I (5 UNITS)**

**WEEK-16**

**MODEL EXAMINATION-I (5 UNITS)**

**WEEK-17**

**MODEL PRACTICAL EXAMINATION**

**TEXT BOOKS**

1. John G. Proakis and Dimitris G.Manolakis, “Digital Signal Processing – Principles, Algorithms & Applications”, Fourth Edition, Pearson Education, Prentice Hall, 2007

## **REFERENCE BOOKS**

1. Emmanuel C.Ifeachor, and Barrie.W.Jervis, “Digital Signal Processing”, Second Edition, Pearson Education, Prentice Hall, 2002.
2. Sanjit K. Mitra, “Digital Signal Processing – A Computer Based Approach”, Third Edition, Tata Mc Graw Hill, 2007
3. A.V.Oppenheim, R.W. Schafer and J.R. Buck, Discrete-Time Signal Processing, 8th Indian Reprint, Pearson, 2004.
4. Andreas Antoniou, “Digital Signal Processing”, Tata McGraw Hill, 2006.

## **CS6659 ARTIFICIAL INTELLIGENCE**

### **UNIT I INTRODUCTION TO AI AND PRODUCTION SYSTEMS**

#### **WEEK-1**

Introduction to AI-Problem formulation, Problem Definition - Production systems, Control strategies, Search strategies Problem characteristics, Production system characteristics -Specialized production system- Problem solving methods

#### **WEEK-2**

Problem graphs, Matching, Indexing and Heuristic functions –Hill Climbing-Depth first and Breath first, Constraints satisfaction - Related algorithms, Measure of performance and analysis of search algorithms

#### **WEEK-3**

#### **UNIT TEST-1**

### **UNIT II REPRESENTATION OF KNOWLEDGE**

#### **WEEK-4**

Game playing - Knowledge representation, Knowledge representation using Predicate logic,

Introduction to predicate calculus

#### **WEEK 5**

Resolution, Use of predicate calculus, Knowledge representation using other logic-Structured representation of knowledge

#### **WEEK-6**

#### **UNIT TEST-2**

## **UNIT III KNOWLEDGE INFERENCE**

### **WEEK-7**

Knowledge representation -Production based system, Frame based system. Inference – Backward Chaining

### **WEEK-8**

Forward chaining, Rule value approach, Fuzzy reasoning - Certainty factors, Bayesian Theory-Bayesian Network-Dempster - Shafer theory

### **WEEK-9**

## **PRE MODEL EXAM**

## **UNIT IV PLANNING AND MACHINE LEARNING**

### **WEEK-10**

Basic plan generation systems - Strips -Advanced plan generation systems – K strips –Strategic Explanations

### **WEEK-11**

Why, Why not and how explanations. Learning- Machine learning, adaptive Learning

### **WEEK-12**

## **UNIT V EXPERT SYSTEMS**

### **WEEK-13**

Expert systems - Architecture of expert systems, Roles of expert systems - Knowledge Acquisition – Meta knowledge

### **WEEK-14**

Heuristics Typical expert systems - MYCIN, DART, XOON, Expert systems shells

### **WEEK-15**

## **MODEL EXAMINATION-I (5 UNITS)**

### **WEEK-16**

## **MODEL EXAMINATION-I (5 UNITS)**

### **WEEK-17**

## **MODEL PRACTICAL EXAMINATION**

## **TEXT BOOKS**

1. Kevin Night and Elaine Rich, Nair B., “Artificial Intelligence (SIE)”, Mc Graw Hill- 2008. (Units-I,II,VI & V)

2. Dan W. Patterson, “Introduction to AI and ES”, Pearson Education, 2007. (Unit-III)

## **REFERENCE BOOKS**

1. Peter Jackson, “Introduction to Expert Systems”, 3rd Edition, Pearson Education, 2007.
2. Stuart Russel and Peter Norvig “AI – A Modern Approach”, 2nd Edition, Pearson Education 2007.
3. Deepak Khemani “Artificial Intelligence”, Tata Mc Graw Hill Education 2013.
4. <http://nptel.ac.in>

## **IT6004 SOFTWARE TESTING**

### **UNIT I INTRODUCTION**

#### **WEEK-1**

Testing as an Engineering Activity – Testing as a Process – Testing axioms – Basic definitions – Software Testing Principles – The Tester’s Role in a Software Development Organization – Origins of Defects

#### **WEEK-2**

Cost of defects – Defect Classes – The Defect Repository and Test Design – Defect

Examples – Developer/Tester Support of Developing a Defect Repository – Defect Prevention strategies

#### **WEEK-3**

### **UNIT TEST-1**

### **UNIT II TEST CASE DESIGN**

#### **WEEK-4**

Test case Design Strategies – Using Black Bod Approach to Test Case Design – Random Testing –Requirements based testing – Boundary Value Analysis – Equivalence Class Partitioning – State based testing – Cause-effect graphing – Compatibility testing – user documentation testing – domain testing – Using White Box Approach to Test design

#### **WEEK 5**

Test Adequacy Criteria – static testing vs. structural testing – code functional testing – Coverage and Control Flow Graphs – Covering

Code Logic – Paths – code complexity testing – Evaluating Test Adequacy Criteria

## **WEEK-6**

### **UNIT TEST-2**

## **UNIT III LEVELS OF TESTING**

### **WEEK-7**

The need for Levers of Testing – Unit Test – Unit Test Planning – Designing the Unit Tests – The Test Harness – Running the Unit tests and Recording results – Integration tests – Designing Integration Tests – Integration Test Planning – Scenario testing – Defect bash elimination

### **WEEK-8**

System Testing – Acceptance testing – Performance testing – Regression Testing – Internationalization testing – Ad-hoc testing – Alpha, Beta Tests – Testing OO systems – Usability and Accessibility testing – Configuration testing – Compatibility testing – Testing the documentation – Website testing

### **WEEK-9**

### **PRE MODEL EXAM**

## **UNIT IV TEST MANAGEMENT**

### **WEEK-10**

People and organizational issues in testing – Organization structures for testing teams – testing services – Test Planning – Test Plan Components – Test Plan Attachments – Locating Test Items – test management – test process

### **WEEK-11**

Reporting Test Results – The role of three groups in Test Planning and Policy Development – Introducing the test specialist – Skills needed by a test specialist – Building a Testing Group

### **WEEK-12**

## **UNIT V TEST AUTOMATION**

### **WEEK-13**

Software test automation – skill needed for automation – scope of automation – design and architecture for automation – requirements for a test tool



## **WEEK-14**

Challenges in automation – Test metrics and measurements – project, progress and productivity metrics

## **WEEK-15**

### **MODEL EXAMINATION-I (5 UNITS)**

## **WEEK-16**

### **MODEL EXAMINATION-I (5 UNITS)**

## **WEEK-17**

### **MODEL PRACTICAL EXAMINATION**

#### **TEXT BOOKS**

1. Srinivasan Desikan and Gopalaswamy Ramesh, “Software Testing – Principles and Practices”, Pearson Education, 2006.
2. Ron Patton, “Software Testing”, Second Edition, Sams Publishing, Pearson Education, 2007

#### **REFERENCE BOOKS**

1. Ilene Burnstein, “Practical Software Testing”, Springer International Edition, 2003.
2. Edward Kit,” Software Testing in the Real World – Improving the Process”, Pearson Education, 1995.
3. Boris Beizer,” Software Testing Techniques” – 2nd Edition, Van Nostrand Reinhold, New York,1990.
4. Aditya P. Mathur, “Foundations of Software Testing \_ Fundamental Algorithms and Techniques”, Dorling Kindersley (India) Pvt. Ltd., Pearson Education, 2008

## **CS6611 MOBILE APPLICATION DEVELOPMENT LABORATORY**

### **LIST OF EXPERIMENTS:**

1. Develop an application that uses GUI components, Font and Colours
2. Develop an application that uses Layout Managers and event listeners.
3. Develop a native calculator application.
4. Write an application that draws basic graphical primitives on the screen
5. Develop an application that makes use of database.
6. Develop an application that makes use of RSS Feed.

7. Implement an application that implements Multi threading
8. Develop a native application that uses GPS location information.
9. Implement an application that writes data to the SD card.
10. Implement an application that creates an alert upon receiving a message.
11. Write a mobile application that creates alarm clock

## **CS6612 COMPILER LABORATORY**

### **LIST OF EXPERIMENTS:**

1. Implementation of Symbol Table
2. Develop a lexical analyzer to recognize a few patterns in C. (Ex. identifiers, constants, comments, operators etc)
3. Implementation of Lexical Analyzer using Lex Tool
4. Generate YACC specification for a few syntactic categories.
  - a) Program to recognize a valid arithmetic expression that uses operator +, -, \*, and /.
  - b) Program to recognize a valid variable which starts with a letter followed by any number of letters or digits.
  - c) Implementation of Calculator using LEX and YACC
5. Convert the BNF rules into Yacc form and write code to generate Abstract Syntax Tree.
6. Implement type checking
7. Implement control flow analysis and Data flow Analysis
8. Implement any one storage allocation strategies(Heap,Stack,Static)
9. Construction of DAG
10. Implement the back end of the compiler which takes the three address code and produces the 8086 assembly language instructions that can be assembled and run using a 8086 assembler. The target assemblies instructions can be simple move, add, sub, and jump. Also simple addressing modes are used.
11. Implementation of Simple Code Optimization Techniques (Constant Folding, etc.)

## **GE6674 COMMUNICATION SKILLS – LABORATORY BASED**

### **UNIT I LISTENING AND SPEAKING SKILLS 12**

Conversational skills (formal and informal) – group discussion and interview skills – making presentations. Listening to lectures, discussions, talk shows, news programmes, dialogues from TV/radio/Ted talk/Podcast – watching videos on interesting events on Youtube

### **UNIT II READING AND WRITING SKILLS 12**

Reading different genres of texts ranging from newspapers to philosophical treatises – reading strategies such as graphic organizers, summarizing and interpretation Writing job applications – cover letter – resume – emails – letters – memos – reports – blogs – writing for publications.

### **UNIT III ENGLISH FOR NATIONAL AND INTERNATIONAL EXAMINATIONS AND PLACEMENTS 12**

International English Language Testing System (IELTS) – Test of English as a Foreign Language (TOEFL) – Graduate Record Examination (GRE) – Civil Service (Language related) – Verbal ability.

### **UNIT IV SOFT SKILLS (1) 12**

Motivation – self image – goal setting – managing changes – time management – stress management – leadership traits – team work – career and life planning.

### **UNIT V SOFT SKILLS (2) 12**

Multiple intelligences – emotional intelligence – spiritual quotient (ethics) – intercultural communication – creative and critical thinking – learning styles and strategies

### **REFERENCES:**

1. Business English Certificate Materials, Cambridge University Press.
2. Graded Examinations in Spoken English and Spoken English for Work downloadable materials from Trinity College, London.
3. International English Language Testing System Practice Tests, Cambridge University Press.
4. Interactive Multimedia Programs on Managing Time and Stress.

5. Personality Development (CD-ROM), Times Multimedia, Mumbai.
6. Robert M Sherfield and et al. “Developing Soft Skills” 4th edition, New Delhi: Pearson Education, 2009.

**WEB SOURCES:**

<http://www.slideshare.net/rohitjsh/presentation-on-group-discussion>

[http://www.washington.edu/doit/TeamN/present\\_tips.html](http://www.washington.edu/doit/TeamN/present_tips.html)

<http://www.oxforddictionaries.com/words/writing-job-applications>

<http://www.kent.ac.uk/careers/cv/coveringletters.htm>

[http://www.mindtools.com/pages/article/newCDV\\_34.htm](http://www.mindtools.com/pages/article/newCDV_34.htm)

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