JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III Year B.Tech. IT - I Sem　　　　　　**L**　　**T/P/D**　**C**

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(55049) AUTOMATA AND COMPILER DESIGN

UNIT-I

Formal Language and Regular Expressions : Languages, Definition Languages regular expressions, Finite Automata – DFA, NFA. Conversion of regular expression to NFA, NFA to DFA. Applications of Finite Automata to lexical analysis, lex tools.

UNIT-II

Context Free grammars and parsing : Context free grammars, derivation, parse trees, ambiguity LL(K) grammars and LL(1) parsing

UNIT-III

Bottom up parsing handle pruning LR Grammar Parsing, LALR parsing, parsing ambiguous grammars, YACC programming specification.

UNIT-IV

Semantics : Syntax directed translation, S-attributed and L-attributed grammars, Intermediate code – abstract syntax tree, translation of simple statements and control flow statements.

UNIT-V

Context Sensitive features – Chomsky hierarchy of languages and recognizers. Type checking, type conversions, equivalence of type expressions, overloading of functions and operations.

UNIT-VI

Run time storage : Storage organization, storage allocation strategies scope access to now local names, parameters, language facilities for dynamics storage allocation.

UNIT-VII

Code optimization : Principal sources of optimization, optimization of basic blocks, peephole optimization, flow graphs, Data flow analysis of flow graphs.

UNIT-VIII

Code generation : Machine dependent code generation, object code forms, generic code generation algorithm, Register allocation and assignment. Using DAG representation of Block.

TEXT BOOKS :

1. Introduction to Theory of computation.Sipser,2nd Edition,Thomson.
2. Compilers Principles, Techniques and Tools Aho, Ullman, Ravisethi, Pearson Education.

REFERENCES:

1. Modern Compiler Construction in C , Andrew W.Appel Cambridge University Press.
2. Compiler Construction, LOUDEN, Cengage Learning.
3. Elements of Compiler Design,A.Meduna,Auerbach Publications,Taylor and Francis Group.
4. - Principles of Compiler Design,V.Raghavan,TMH.
5. Engineering a Compiler,K.D.Cooper,L.Torczon,ELSEVIER.
6. Introduction to Formal Languages and Automata Theory and Computation – Kamala Krithivasan and Rama R, Pearson.
7. Modern Compiler Design,D.Grune and others,Wiley-India.
8. A Text book on Automata Theory,S.F.B.Nasir,P.K.Srimani,Cambridge Univ. Press.
9. Automata and Languages,A.Meduna,Springer.

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(55050) LINUX PROGRAMMING

UNIT - I

Linux Utilities-File handling utilities, Security by file permissions, Process utilities, Disk utilities, Networking commands, Filters, Text processing utilities and Backup utilities, sed – scripts, operation, addresses, commands, applications, awk – execution, fields and records, scripts, operation, patterns, actions, functions, using system commands in awk.

UNIT-II

Working with the Bourne again shell(bash): Introduction, shell responsibilities, pipes and input Redirection, output redirection, here documents, running a shell script, the shell as a programming language, shell meta characters, file name substitution, shell variables, command substitution, shell commands, the environment, quoting, test command, control structures, arithmetic in shell, shell script examples, interrupt processing, functions, debugging shell scripts.

UNIT - III

Files: File Concept, File System Structure, Inodes, File Attributes, File types, Library functions,the standard I/O and formatted I/O in C, stream errors, kernel support for files, System calls, file descriptors, low level file access – File structure related system calls(File APIs), file and record locking, file and directory management – Directory file APIs, Symbolic links & hard links.

UNIT - IV

Process – Process concept, Kernel support for process, process attributes, process control - process creation, waiting for a process, process termination, zombie process, orphan process, Process APIs.

Signals– Introduction to signals, Signal generation and handling, Kernel support for signals, Signal function, unreliable signals, reliable signals, kill, raise , alarm, pause, abort, sleep functions.

UNIT - V

Interprocess Communication : Introduction to IPC, Pipes, FIFOs, Introduction to three types of IPC-message queues, semaphores and shared memory.

Message Queues- Kernel support for messages, Unix system V APIs for messages, client/server example.

UNIT-VI

Semaphores-Kernel support for semaphores, Unix system V APIs for semaphores.

Shared Memory- Kernel support for shared memory, Unix system V APIs for shared memory, semaphore and shared memory example.

UNIT-VII

Multithreaded Programming: Differences between threads and processes, Thread structure and uses, Threads and Lightweight Processes, POSIX Thread APIs, Creating Threads, Thread Attributes, Thread Synchronization with semaphores and with Mutexes, Example programs.

UNIT-VIII

Sockets: Introduction to Sockets, Socket Addresses, Socket system calls for connection oriented protocol and connectionless protocol, example-client/server programs.

TEXT BOOKS:

1. Unix System Programming using C++, T.Chan, PHI.(UNIT III to UNIT VIII)

2. Unix Concepts and Applications, 4th Edition, Sumitabha Das, TMH.

3. Beginning Linux Programming, 4th Edition, N.Matthew, R.Stones,Wrox, Wiley India Edition.

REFERENCE BOOKS:

1. Linux System Programming, Robert Love, O'Reilly, SPD.

2. Advanced Programming in the Unix environment, 2nd Edition, W.R.Stevens, Pearson Education.

3. Unix Network Programming ,W.R.Stevens,PHI.

4. Unix for programmers and users, 3rd Edition, Graham Glass, King Ables, Pearson Education.

5. Unix and Shell programming, B.A.Forouzan and R.F.Gilberg, Cengage Learning.

6. Unix The Text book,2nd edition, S.M.Sarwar, R.Koretsky, S.A.Sarwar, Pearson Education.

7. Unix Internals, U.Vahalia, Pearson Education.

8. Unix shell Programming, S.G.Kochan and P.Wood,3rd edition, Pearson Education.

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(55029) SOFTWARE ENGINEERING

UNIT I

Introduction to Software Engineering: The evolving role of software, Changing Nature of Software, legacy software, Software myths.

A Generic view of process: Software engineering- A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models.

UNIT II

Process models: The waterfall model, Incremental process models, Evolutionary process models, Specialized 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, pattern based software design.

Creating an architectural design: software architecture, Data design, Architectural styles and patterns, Architectural Design, assessing alternative architectural designs, mapping data flow into a software architecture.

UNIT V

Modeling component-level design: Designing class-based components, conducting component-level design,

Object constraint language, designing conventional components.

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, Frame work for Product metrics, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance.

UNIT VII

Metrics for Process and Products: Software Measurement, Metrics for software quality.

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

UNIT VIII

Quality Management: Quality concepts, Software quality assurance, Software Reviews, Formal technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

TEXT BOOKS:

1. Software Engineering :A practitioner's Approach, Roger S Pressman, sixth edition. McGrawHill International Edition, 2005

2. Software Engineering, Ian Sommerville, seventh edition, Pearson education,2004.

REFERENCE BOOKS:

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

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

3. Fundamentals of Software Engineering,Rajib Mall,PHI, 2005

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.

8. Software Engineering Principles and Practice,Hans Van Vliet,3rd edition,John Wiley &Sons Ltd.

9. Software Engineering 3:Domains,Requirements,and Software Design, D.Bjorner, Springer International Edition.

10. Introduction to Software Engineering,R.J.Leach,CRC Press.

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(55031) OPERATING SYSTEMS

UNIT - I

Operating Systems Overview- Operating systems functions, Overview of computer operating systems, protection and security, distributed systems, special purpose systems, operating systems structures-operating system services and systems calls, system programs, operating system structure,operating systems generation

UNIT - II

Process Management – Process concepts, threads, scheduling-criteria, algorithms, their evaluation,

Thread scheduling, case studies UNIX, Linux, Windows

UNIT - III

Concurrency - Process synchronization, the critical- section problem, Peterson's Solution, synchronization Hardware, semaphores, classic problems of synchronization, monitors, Synchronization examples, atomic transactions. Case studies UNIX, Linux, Windows

UNIT - IV

Memory Management - Swapping, contiguous memory allocation, paging, structure of the page table , segmentation, virtual memory, demand paging,page-replacement,algorithms,Allocation of frames,Thrashing case studies UNIX, Linux, Windows

UNIT - V

Principles of deadlock – system model, deadlock characterization, deadlock prevention, detection and avoidance, recovery form deadlock.

UNIT - VI

File system Interface- the concept of a file, Access Methods, Directory structure, File system mounting, file sharing, protection.

File System implementation- File system structure, file system implementation, directory implementation, allocation methods, free-space management, efficiency and performance, case studies. UNIX, Linux, Windows

UNIT - VII

Mass-storage structure- overview of Mass-storage structure, Disk structure, disk attachment, disk scheduling, swap-space management, RAID structure, stable-storage implementation, Tertiary storage structure.

I/O systems- Hardware, application I/o interface, kernel I/O subsystem, Transforming I/O requests to Hardware operations, STREAMS, performance.

UNIT - VIII

Protection - Protection, Goals of Protection, Principles of Protection, Domain of protection Access Matrix, Implementation of Access Matrix, Access control, Revocation of Access Rights, Capability- Based systems, Language – Based Protection,

Security- The Security problem, program threats, system and network threats cryptography as a security tool, user authentication, implementing security defenses, firewalling to protect systems and networks, computer –security classifications, case studies UNIX, Linux, Windows

TEXT BOOKS :

1. Operating System Concepts- Abraham Silberchatz, Peter B. Galvin, Greg Gagne,8th edition, John Wiley.

2. Operating systems- A Concept based Approach-D.M.Dhamdhere, 2rd Edition, TMH

REFERENCES :

1. Operating Systems – Internals and Design Principles, Stallings, sixth Edition–2009, Pearson education.

2. Modern Operating Systems, Andrew S Tanenbaum 2nd edition PHI.

4. Principles of Operating Systems , B.L.Stuart, Cengage learning, India Edition.

5. Operating Systems, A.S.Godbole,2nd Edition, TMH

6. An Introduction to Operating Systems, P.C.P. Bhatt, PHI.

7. Operating Systems,G.Nutt,N.Chaki and S.Neogy,3rd Edition,Pearson Education.

8. Operating Systems, R.Elmasri,A,G.Carrick and D.Levine,Mc Graw Hill.

9. Operating Systems,S.Haldar,A.A.Aravind,Pearson education.

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(55051) COMPUTER NETWORKS

UNIT I

Introduction to networks, internet, protocols and standards, the OSI model, layers in OSI model, TCP/IP suite, Addressing, Analog and digital signals.

UNIT II

Physical Layer: digital transmission, multiplexing, transmission media, circuit switched networks, Datagram networks, virtual circuit networks, switch and Telephone network.

UNIT III

Data link layer: Introduction, Block coding, cyclic codes, checksum, framing, flow and error control, Noiseless channels, noisy channels, HDLC, point to point protocols

UNIT IV

Medium Access sub layer: Random access, controlled access, channelization, IEEE standards, Ethernet, Fast Ethernet, Giga-Bit Ethernet, wireless LANs.

UNIT V

Connecting LANs, backbone networks and virtual LANs, Wireless WANs, SONET, frame relay and ATM.

UNIT VI

Network Layer: Logical addressing, internetworking, tunneling, address mapping, ICMP, IGMP, forwarding, uni-cast routing protocols, multicast routing protocols.

UNIT VII

Transport Layer: Process to process delivery, UDP and TCP protocols, SCTP, data traffic, congestion, congestion control, QoS, integrated services, differentiated services, QoS in switched networks.

UNIT VIII

Application Layer – Domain name space, DNS in internet, electronic mail, FTP, WWW, HTTP, SNMP, multi-media, network security

TEXT BOOKS:

1. Data Communications and Networking – Behrouz A. Forouzan, Fourth Edition TMH,2006.

2. Computer Networks — Andrew S Tanenbaum, 4th Edition, Pearson Education.

REFERENCE BOOKS:

1. An Engineering Approach to Computer Networks-S.Keshav,2nd Edition,Pearson Education

2. Understanding communications and Networks,3rd Edition, W.A.Shay,Cengage Learning.

3. Computer and Communication Networks ,Nader F. Mir, Pearson Education

4. Computer Networking:A Top-Down Approach Featuring the Internet,James F.Kurose,K.W.Ross,3rd Edition,Pearson Education.

5. Data and Computer Communications,G.S.Hura and M.Singhal,CRC Press,Taylor and Francis Group.

6. Data communications and computer Networks,P.C.Gupta,PHI.

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(55015) MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS

Unit I Introduction to Managerial Economics:

Definition, Nature and Scope of Managerial Economics–Demand Analysis: Demand Determinants, Law of Demand and its exceptions.

Unit II Elasticity of Demand:

Definition, Types, Measurement and Significance of Elasticity of Demand. Demand Forecasting, Factors governing demand forecasting, methods of demand forecasting (survey methods, statistical methods, expert opinion method, test marketing, controlled experiments, judgmental approach to demand forecasting)

Unit III Theory of Production and Cost Analysis:

Production Function – Isoquants and Isocosts, MRTS, Least Cost Combination of Inputs, Cobb-Douglas Production function, Laws of Returns, Internal and External Economies of Scale.

Cost Analysis: Cost concepts, Opportunity cost, Fixed vs. Variable costs, Explicit costs Vs. Implicit costs, Out of pocket costs vs. Imputed costs. Break-even Analysis (BEA)-Determination of Break-Even Point (simple problems)- Managerial Significance and limitations of BEA.

Unit IV Introduction to Markets & Pricing Policies:

Market structures: Types of competition, Features of Perfect competition, Monopoly and Monopolistic Competition. Price-Output Determination in case of Perfect Competition and Monopoly.

Objectives and Policies of Pricing- Methods of Pricing: Cost Plus Pricing, Marginal Cost Pricing, Sealed Bid Pricing, Going Rate Pricing, Limit Pricing, Market Skimming Pricing, Penetration Pricing, Two-Part Pricing, Block Pricing, Bundling Pricing, Peak Load Pricing, Cross Subsidization.

Unit V Business & New Economic Environment:

Characteristic features of Business, Features and evaluation of Sole Proprietorship, Partnership, Joint Stock Company, Public Enterprises and their types, Changing Business Environment in Post-liberalization scenario.

Unit VI Capital and Capital Budgeting:

Capital and its significance, Types of Capital, Estimation of Fixed and Working capital requirements, Methods and sources of raising finance.

Nature and scope of capital budgeting, features of capital budgeting proposals, Methods of Capital Budgeting: Payback Method, Accounting Rate of Return (ARR) and Net Present Value Method (simple problems)

Unit VII Introduction to Financial Accounting:

Double-Entry Book Keeping, Journal, Ledger, Trial Balance- Final Accounts (Trading Account, Profit and Loss Account and Balance Sheet with simple adjustments).

Unit VIII Financial Analysis through ratios:

Computation, Analysis and Interpretation of Liquidity Ratios (Current Ratio and quick ratio), Activity Ratios (Inventory turnover ratio and Debtor Turnover ratio), Capital structure Ratios (Debt- Equity ratio, Interest Coverage ratio), and Profitability ratios (Gross Profit Ratio, Net Profit ratio, Operating Profit Ratio, P/E Ratio and EPS).

TEXT BOOKS:

1. Aryasri: Managerial Economics and Financial Analysis, TMH, 2009.
2. Varshney & Maheswari: Managerial Economics, Sultan Chand, 2009.

REFERENCES:

1. Raghunatha Reddy & Narasimhachary: Managerial Economics& Financial Analysis, Scitech, 2009.
2. V.Rajasekarn & R.Lalitha, Financial Accounting, Pearson Education, New Delhi, 2010.
3. Suma Damodaran, Managerial Economics, Oxford University Press, 2009.
4. Domnick Salvatore: Managerial Economics in a Global Economy, 4th Edition, Cengage, 2009.
5. Subhash Sharma & M P Vittal, Financial Accounting for Management, Text & Cases, Machmillan, 2008.
6. S.N.Maheswari & S.K. Maheswari, Financial Accounting, Vikas, 2008.
7. Truet and Truet: Managerial Economics:Analysis, Problems and Cases, Wiley, 2009.
8. Dwivedi:Managerial Economics, Vikas, 2009.
9. M.Kasi Reddy, S.Saraswathi: Managerial Economics and Financial Accounting, PHI, 2007.
10. Erich A. Helfert: Techniques of Financial Analysis, Jaico, 2007.

Prerequisites: Nil

Objective: To explain the basic principles of managerial economics, accounting and current business environment underlying business decision making.

Codes/Tables: Present Value Tables need to be permitted into the examinations Hall.

Question Paper Pattern: 5 Questions to be answered out of 8 questions .Out of eight questions 4 questions will be theory questions and 4 questions should be problems.

Each question should not have more than 3 bits.

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(55617) OPERATING SYSTEMS & COMPUTER NETWORKS LAB (THROUGH LINUX)

Objective:

- To Understand the functionalities of various layers of OSI model
- To understand the operating System functionalities System/ Software Requirement
- Intel based desktop PCs LAN CONNECTED with minimum of 166 MHZ or faster processor with atleast 64 MB RAM and 100 MB free disk space

Computer Networks Lab:

PART - A

1. Implement the data link layer framing methods such as character, character stuffing and bit stuffing.
2. Implement on a data set of characters the three CRC polynomials – CRC 12, CRC 16 and CRC CCIP .
3. Implement Dijkstra 's algorithm to compute the Shortest path thru a graph.
4. Take an example subnet graph with weights indicating delay between nodes. Now obtain Routing table art each node using distance vector routing algorithm
5. Take an example subnet of hosts. Obtain broadcast tree for it.
6. Take a 64 bit playing text and encrypt the same using DES algorithm .
7. Write a program to break the above DES coding
8. Using RSA algorithm Encrypt a text data and Decrypt the same .

PART -B

Operating Systems Lab:

1. Simulate the following CPU scheduling algorithms
   a) Round Robin b) SJF c) FCFS d) Priority
2. Simulate all file allocation strategies
   a) Sequentialb) Indexed c) Linked
3. Simulate MVT and MFT
4. Simulate all File Organization Techniques

a) Single level directory b) Two level c) Hierarchical d) DAG

5. Simulate Bankers Algorithm for Dead Lock Avoidance
6. Simulate Bankers Algorithm for Dead Lock Prevention
7. Simulate all page replacement algorithms

   a) FIFO b) LRU c) LFU Etc. ....

8. Simulate Paging Technique of memory management.

Problems on Linux Programming:

Note: Use Bash for Shell scripts.

1. Write a shell script that accepts a file name, starting and ending line numbers as arguments and displays all the lines between the given line numbers.

2. Write a shell script that deletes all lines containing a specified word in one or more files supplied as arguments to it.

3. Write a shell script that displays a list of all the files in the current directory to which the user has read, write and execute permissions.

4. Write a shell script that receives any number of file names as arguments checks if every argument supplied is a file or a directory and reports accordingly. Whenever the argument is a file, the number of lines on it is also reported.

5. Write a shell script that accepts a list of file names as its arguments, counts and reports the occurrence of each word that is present in the first argument file on other argument files.

6. Write a shell script to list all of the directory files in a directory.

7. Write a shell script to find factorial of a given integer.

8. Write an awk script to count the number of lines in a file that do not contain vowels.

9. Write an awk script to find the number of characters, words and lines in a file.

10. Write a C program that makes a copy of a file using standard I/O and system calls.

11. Implement in C the following Unix commands using System calls

    a). cat   b) mv

12. Write a C program to list directory files in a directory.

13. Write a C program to emulate the Unix ls –l command.

14. Write a C program to list for every file in a directory, its inode number and file name.

15. Write a C program that redirects standard output to a file.Ex: ls > f1.

16. Write a C program to create a child process and allow the parent to display "parent" and the child to display "child" on the screen.

17. Write a C program to create a Zombie process.

18. Write a C program that illustrates how an orphan is created.

19. Write a C program that illustrates how to execute two commands concurrently with a command pipe. Ex:- ls –l | sort

20. Write C programs that illustrate communication between two unrelated processes using named pipe.

21. Write a C program in which a parent writes a message to a pipe and the child reads the message.

22. Write a C program (sender.c) to create a message queue with read and write permissions to write 3 messages to it with different priority numbers.

23. Write a C program (receiver.c) that receives the messages (from the above message queue as specified in (22)) and displays them.

24. Write C programs to transfer a large amount of data between processes, using

    a) a pipe b)a FIFO c)a message queue.

REFERENCE BOOKS:

1. Advanced Unix Programming, N.B.Venkateswarulu, BS Publications.
2. Unix and Shell programming, B.A.Forouzan and R.F.Gilberg, Cengage Learning.
3. Unix and Shell Programming, M.G. Venkatesh Murthy, Pearson Education, 2005.
4. Unix Shells by Example, 4th Edition, Elllie Quigley, Pearson Education.
5. Sed and Awk, O.Dougherty&A.Robbins, 2nd edition, SPD.

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(55618) ADVANCED ENGLISH COMMUNICATION SKILLS LAB

1. Introduction

The introduction of the English Language Lab is considered essential at 3rd year level. At this stage the students need to prepare themselves for their careers which may require them to listen to, read, speak and write in English both for their professional and interpersonal communication in the globalised context.

The proposed course should be an integrated theory and lab course to enable students to use 'good' English and perform the following:

- Gather ideas and information, to organise ideas relevantly and coherently.
- Engage in debates.
- Participate in group discussions.
- Face interviews.
- Write project/research reports/technical reports.
- Make oral presentations.
- Write formal letters.
- Transfer information from non-verbal to verbal texts and vice versa.
- To take part in social and professional communication.

2. Objectives:

This Lab focuses on using computer-aided multimedia instruction for language development to meet the following targets:

- To improve the students' fluency in English, through a well-developed vocabulary and enable them to listen to English spoken at normal conversational speed by educated English speakers and respond appropriately in different socio-cultural and professional contexts.
- Further, they would be required to communicate their ideas relevantly and coherently in writing.

3. Syllabus:

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

- Functional English - starting a conversation – responding appropriately and relevantly – using the right body language – role play in different situations.
- Vocabulary Building – synonyms and antonyms, word roots, one-word substitutes, prefixes and suffixes, study of word origin, analogy, idioms and phrases.
- Reading Comprehension – reading for facts, guessing meanings from context, scanning, skimming, inferring meaning, Critical reading.
- Writing Skills – structure and presentation of different types of writing – Resume writing / e-correspondence/Technical report writing/Portfolio writing – planning for writing – research abilities/data collection/organizing data/tools/analysis – improving one's writing.
- Group Discussion – dynamics of group discussion, intervention, summarizing, modulation of voice, body language, relevance, fluency and coherence.
- Presentation Skills – Oral presentations (individual and group) through JAM sessions/seminars and written presentations through posters/projects/reports/PPTs/e-mails/assignments etc.
- Interview Skills – concept and process, pre-interview planning, opening strategies, answering strategies, interview through tele and video-conferencing.

4. Minimum Requirement:

The English Language Lab shall have two parts:

i)   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.

ii)   The Communication Skills Lab with movable chairs and audio-visual aids with a P.A System, a T. V., a digital stereo –audio & video system and camcorder etc.

System Requirement (Hardware component):

Computer network with Lan with minimum 60 multimedia systems with the following specifications:

i)   P – IV Processor

     a)   Speed – 2.8 GHZ

     b)   RAM – 512 MB Minimum

     c)   Hard Disk – 80 GB

ii)   Headphones of High quality

5. Suggested Software:

The software consisting of the prescribed topics elaborated above should be procured and used.

Suggested Software:

- Clarity Pronunciation Power – part II
- Oxford Advanced Learner's Compass, 7th Edition
- DELTA's key to the Next Generation TOEFL Test: Advanced Skill Practice.
- Lingua TOEFL CBT Insider, by Dreamtech
- TOEFL & GRE(KAPLAN, AARCO & BARRONS, USA, Cracking GRE by CLIFFS)
- The following software from 'train2success.com'
  - ➢ Preparing for being Interviewed,
  - ➢ Positive Thinking,
  - ➢ Interviewing Skills,
  - ➢ Telephone Skills,
  - ➢ Time Management
  - ➢ Team Building,
  - ➢ Decision making
- English in Mind, Herbert Puchta and Jeff Stranks with Meredith Levy, Cambridge

6. Books Recommended:

1. Technical Communication by Meenakshi Raman & Sangeeta Sharma, Oxford University Press 2009.
2. Advanced Communication Skills Laboratory Manual by Sudha Rani, D, Pearson Education 2011.
3. English Language Communication : A Reader cum Lab Manual Dr A Ramakrishna Rao, Dr G Natanam & Prof SA Sankaranarayanan, Anuradha Publications, Chennai 2008.
4. English Vocabulary in Use series, Cambridge University Press 2008.
5. Management Shapers Series by Universities Press(India)Pvt Ltd., Himayatnagar, Hyderabad 2008.
6. Communication Skills by Leena Sen, PHI Learning Pvt Ltd., New Delhi, 2009.
7. Handbook for Technical Writing by David A McMurrey & Joanne Buckely CENGAGE Learning 2008.
8. Job Hunting by Colm Downes, Cambridge University Press 2008.

9. Master Public Speaking by Anne Nicholls, JAICO Publishing House, 2006.
10. English for Technical Communication for Engineering Students, Aysha Vishwamohan, Tata Mc Graw-Hil 2009.
11. Books on TOEFL/GRE/GMAT/CAT/ IELTS by Barron's/DELTA/ Cambridge University Press.
12. International English for Call Centres by Barry Tomalin and Suhashini Thomas, Macmillan Publishers, 2009.

DISTRIBUTION AND WEIGHTAGE OF MARKS:

Advanced Communication Skills Lab Practicals:

1. The practical examinations for the English Language Laboratory practice shall be conducted as per the University norms prescribed for the core engineering practical sessions.

2. For the English Language lab sessions, there shall be a continuous evaluation during the year for 25 sessional marks and 50 End Examination marks. Of the 25 marks, 15 marks shall be awarded for day-to-day work and 10 marks to be awarded by conducting Internal Lab Test(s). The End Examination shall be conducted by the teacher concerned with the help of another member of the staff of the same department of the same institution.