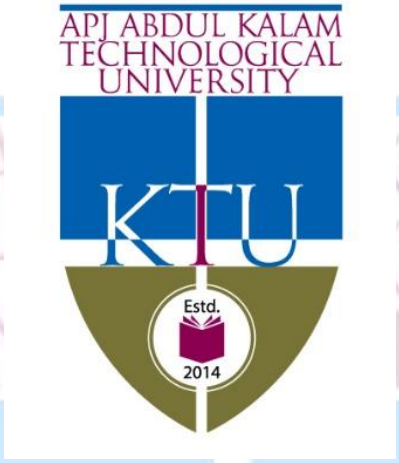

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SYLLABUS

MCA (INTEGRATED)

SEMESTERS I & II

	Master of Computer Applications (Integrated)	**Hours / week**			**IA Marks**	**ESE Marks**	**Total Marks**	**Credits**	**Exam Slot**
Course No	**Course (Semester 1)**	**L**	**T**	**P**					
INMCA101	English	3	1	-	40	60	100	4	A
INMCA103	Mathematical Foundations of Computer Science	3	1	-	40	60	100	4	B
INMCA105	Introduction to Digital Systems and Logic Design	3	1	-	40	60	100	4	C
INMCA107	Introduction to Computers and PC hardware	3	1	-	40	60	100	4	D
INMCA109	Fundamentals of Accountancy	3	1	-	40	60	100	4	E
INMCA131	Office Automation Lab	-	-	6	100		100	1	S
INMCA133	PC hardware Lab	-	-	4	100		100	1	T
		15	**5**	**10**	**400**	**300**	**700**	**22**	

	Master of Computer Applications(Integrated)	**Hours / week**			**IA Marks**	**ESE Marks**	**Total Marks**	**Credits**	**Exam Slot**
Course No	**Course (Semester 2)**	**L**	**T**	**P**					
INMCA102	Technical Communication	3	1	-	40	60	100	4	A
INMCA104	Introduction to Discrete Mathematics	3	1	-	40	60	100	4	B
INMCA106	Computer Organization	3	1	-	40	60	100	4	C
INMCA108	Problem Solving and Structured Programming	3	1	-	40	60	100	4	D
INMCA112	Personality Development and Soft Skills	3	1	-	40	60	100	4	E
INMCA132	Problem Solving and Structured Programming Lab	-	-	6	100		100	1	S
INMCA134	Technical Communication Lab	-	-	4	100		100	1	T
		15	**5**	**10**	**400**	**300**	**700**	**22**	

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA101	English	3-1-0-4	2016

Course Objective

- To develop students' competence in the language skills
- To help them communicate effectively in different situations for different purposes.

Syllabus

Importance of learning English Language, Listening Skills - Speaking Skills - Reading Skills.

Expected Outcome

At the end of the course, students will

i. be competent in the use of the learning, listening, speaking and reading skills;
ii. demonstrate the ability to think critically;
iii. demonstrate behavior and attitudes appropriate to a Professional environment

References:

1. Crystal David, "English as a Global Language", New Delhi, Cambridge University Press, (2012).
2. Glendinning, Eric and Beverly Holmstrom , "Study Reading: A Course in Reading Skills for Academic Purposes", Macmillan, New Delhi, (2008)
3. Joan Van Emden and Lucinda Becker, "Effective Communication for Arts and Humanities Students", Palgrave Macmillan, New Delhi , (2003)
4. Kumar Sanjay & Lata Pushp, "Communication Skills in English", Oxford University Press, (2015)
5. Sasikumar.V, Kiranmai Dutt. P, Geetha Rajeevan, "Communication Skills in English", Cambridge University Press, Chennai, (2014).

Web References

- https://alison.com/courses/Business-Communication-Developing-Effective-Business-Presentation-Skills

Course Plan

Module	Contents	Hours	End Sem. Exam. Marks
I	Importance of English as a Global language, Learning English as a Second and Foreign Language, Importance of the four skills in English, Listening - Listening is an art, Listening Vs Hearing; Speaking - Phonetics - Introduction to vowels and consonants; Reading-Definition, Purpose and Strategies of reading; Life Skills - Art of Small Talk - Initiating, Interrupting, Sustaining & amp; Closing conversations.	9	15%

II	Listening - Advantages of good listening, Barriers to Listening; Speaking -Transcribing words; Reading: Basic steps to effective reading, Surveying a text using an index; Life Skills- Participating in conversations.	9	15%
FIRST INTERNAL EXAM			
III	Listening - Academic Listening, Note taking; Speaking - Syllables, Word stress & Rhythm, Sentence stress, Pauses and Sense - groups; Reading: Reading with a purpose, Making predictions in reading; Life Skills - Describing People, Places Events & Things.	9	15%
1V	Listening - Listening to announcements; Speaking - Weak, Strong and Contracted forms, Intonation; Reading - Locating main points, Making inferences. Life Skills - Making Short Formal Speeches.	9	15%
V	Listening - Listening to News on the Radio and Television; Speaking - Fluency and pace of delivery, Formal and Informal styles of speaking; Reading - Reading Graphics, Reading Critically; Life Skills - Telephone Communication & Telephone Etiquette.	10	20%
SECOND INTERNAL EXAM			
VI	Listening - Listening for overall information; Speaking - Awareness of Accents, Mother Tongue influence, Remedying Defects; Reading - Reading for Research**; Life Skills** - Group Discussion - Definition, Importance, Types, Dos and Don'ts, Roles and Functions in a GD, Discussion Etiquette, Mock GD, GD practice.	10	20%
END SEMESTER EXAM			
QUESTION PAPER PATTERN			
There will be two parts in the Question paper - **Part A and Part B.** **Part A** will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions. **Part B** will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2. The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan in the syllabus.			

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA103	Mathematical Foundations of Computer Science	3-1-0-4	2016

Course Objectives

- To understand and use abstract mathematical concepts that are backbones of computer science.

Syllabus

Set theory and relations, partial orderings, Functions, mathematical induction, Combinatorics.

Expected Outcome

At the end of the course, students will be

i. Able to identify and apply basic concepts of set theory, arithmetic, logic, proof techniques, binary relations, graphs and trees;
ii. Aware of a class of relations and functions, which transform a finite set into another finite set, which relates to input output functions in computer science;
iii. Able to apply diverse counting strategies to solve varied problems involving strings, combinations, distributions, and partitions;
iv. Aware of the theory of lattices;

References

1. C. L. Liu and D. P. Mohapatra, "Elements of Discrete Mathematics", Tata McGraw-Hill, Third Edition (SiE).
2. J. P. Tremblay and R Manohar, “Discrete Mathematical Structures with Applications to Computer Science”, Tata McGraw-Hill Publications, (1997).
3. Kenneth H Rosen, “Discrete Mathematics and Its Applications”, Tata McGraw-Hill Publications.
4. Ralph. P. Grimaldi, “Discrete and Combinatorial Mathematics: An Applied Introduction”, Pearson Education Asia, Delhi, Fourth Edition (2002).
5. Seymour Lipschutz and Mark Lipson, ”Discrete Mathematics”, Schaum’s Outlines, Tata McGraw-Hill Pub. Co. Ltd., New Delhi, Second edition, (2007).
6. Thomas Koshy, ”Discrete Mathematics with Applications”, Elsevier Publications, (2006).

Web References

- http://nptel.ac.in/courses/111104026/2
- http://nptel.ac.in/courses/106106094/23

Course Plan			
Module	**Contents**	**Hours**	**End Sem. Exam Marks**
I	**Set Theory** Definition of Sets, Venn Diagrams, complements, Cartesian products, power sets, cardinality, Proofs of some general identities on sets. Principles of inclusion and exclusion.	9	15%
II	**Relations** Definition, types of relation, composition of relations, domain and range of a relation, pictorial representation of relation. Properties of relation, Equivalence relations and partitions.	9	15%
FIRST INTERNAL EXAM			
III	**Partially Ordered set** Partially ordered set, totally ordered set, Hasse diagrams, Maximal and minimal element, least and greatest elements, lower and upper bounds, supremum and infimum	9	15%
1V	**Functions** Definition and types of function, composition of functions, Inverse.	9	15%
V	**Pigeonhole Principle and Mathematical Induction** Mathematical induction, strong form of Mathematical induction, Pigeonhole Principles.	10	20%
SECOND INTERNAL EXAM			
VI	**Combinatorics** Introduction - Rules of sum and product, Permutations and Combinations. Generalized, Permutations and Combinations.	10	20%
END SEMESTER EXAM			

QUESTION PAPER PATTERN

There will be two parts in the Question paper - **Part A and Part B.**

Part A will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions.

Part B will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2.

The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan in the syllabus.

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA105	Introduction to Digital Systems & Logic Design	3-1-0-4	2016

Course Objectives

- To understand the basics of Boolean algebra
- To use minimization techniques to implement Boolean functions by logic gates
- To implement combinational circuits as adders, multiplexers, encoders and decoders

Syllabus

Number System , Error detection codes and error correction codes, Logic Gates, Boolean Algebra, K-Map, Boolean functions, Sequential circuits, Latches, Flip Flops, Combinational circuits, Design of comparators, encoders and decoders, Design of multiplexers, demultiplexers, Registers, Counters

Expected Outcome

- The students will be able to analyze and design digital combinational circuits like decoders, encoders, multiplexers, and de-multiplexers including arithmetic circuits (half adder, full adder, multiplier).

References

1. Anand Kumar, “Fundamentals of Digital Circuits”, PHI Learning Pvt. Ltd., (2003).
2. Floyd & Jain, “Digital Fundamentals”, Eighth Edition, Pearson Education, (2004).
3. Morris Mano, “Digital logic and Computer design”, First Edition, Prentice Hall of India, (2004).

Web References

- Digital Systems - http://nptel.ac.in/courses/106108099/
- Digital Systems Design - http://nptel.ac.in/courses/117105080/
- Introduction To Digital Circuits - http://nptel.ac.in/courses/117106086/1
- Digital Circuits https://courses.edx.org/courses/course1:MITx+6.004.1x_2+3T2015/courseware/c1/ c1s1/
- Build a Modern Computer from First Principles - https://www.coursera.org/learn/build-a-computer

Course Plan

Module	Contents	Hours	End Sem. Exam. Marks
I	Number System: Decimal Number System, Binary Number System, Octal Number System, Hexadecimal Number System, Conversion of one number system to other number system, number system addition, subtraction, multiplication and division, 1’s and 2’s complement addition and subtraction	9	15%

II	Logic Gates: Basic Logic gates, logic symbols, truth tables, timing diagrams, logic functions, Universal Gates	9	15%
FIRST INTERNAL EXAM			
III	Boolean Algebra: Postulates and Theorems, K-Map, Boolean functions, Minimization of Boolean functions using theorems and k-map, Realization of Boolean expressions using logic gates	9	15%
IV	Sequential circuits: Latches, Flip Flops: RS, JK, T, D, MS Combinational circuits: Realization of adders and subtractors	9	20%
V	Design of comparators, encoders and decoders, Design of multiplexers, demultiplexers	10	15%
SECOND INTERNAL EXAM			
VI	Registers: Serial in serial out, Serial in parallel out, Parallel in serial out, parallel in parallel out, Bidirectional shift register, Universal shift register Counters: Design of counters, Synchronous and asynchronous counters	10	20%
END SEMESTER EXAM			
QUESTION PAPER PATTERN			
There will be two parts in the Question paper - **Part A and Part B.** **Part A** will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions. **Part B** will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2. The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan in the syllabus.			

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA107	Introduction to Computers & PC Hardware	3-1-0-4	2016

Course Objectives

- To impart idea on the internal components of a computer, assemble a computer system, and troubleshoot using system tools.

Syllabus

Introduction to computers, CPU and memory, Mother board, Hard disk, secondary storage devices, trouble shooting.

Expected Outcome

At the end of the course, students will be able to

i. identify computer hardware and peripheral devices;
ii. diagnose and troubleshoot computer systems hardware and software, and other peripheral equipment;
iii. explain the functions of a computer;
iv. explain the function of the system components, including CPU, motherboard and system unit;
v. identify types and characteristics of various peripherals, including storage and I/O;

References

1. Craig Zacker & John Rourke, "The Complete Reference – PC Hardware", Tata McGraw Hill, Edition (2001).
2. Manohar Lotia, "All About Hard Disk", BPB publications, (2003).
3. Manohar Lotia, "All About Motherboard", BPB publications, (2002).
4. P K Sinha & Priti Sinha, "Computer Fundamentals", Fourth Edition, BPB Publications, (2004).
5. V. Carl Hamacher, "Computer organization", Fifth Edition, Tata McGraw Hill, (2002).

Web References

- https://class.coursera.org/cs101-selfservice/lecture

Course Plan

Module	Contents	Hours	End Sem. Exam Marks
I	**Introduction of PC** - PC hardware, Specifications of Desktop and Laptop. Different types of computers, Characteristics of computers, Computer Languages - Machine, Assembly Language and Higher Level languages, Expansion cards, Ports, connectors, cables and jumper details, formatting and managing hard disk drive	11	20%

II	**Interacting with Computers:- Input Devices** - Keyboard, Mouse, Hand held devices, Optical Input devices. **Output devices:** Printers, Display Devices, Scanners **Motherboard:** CPU socket, Memory sockets or chips	8	15%
FIRST INTERNAL EXAM			
III	**Data Processing:** Representation of data, processing of data - The CPU, Registers, Memory-different types of RAM and ROM **Physical Memory organization:** DIP, SIMM, DIMM, SIPP, ROM BIOS& CMOS – Boot Up Process, POST Specifications of typical RAM Modules for Desktop and Laptop	11	15%
IV	**Hard Disk** Hard disk drive components, **Hard Disk Formatting:** Low level and high level. **Other Secondary Storage devices:** CD/DVD Family, Blue ray Disc, Flash Drive, Memory stick, smart cards. Specifications of typical HDDs - SATA, SSD, SCSI.	11	20%
V	**Understanding PC Peripheral** - Networking components - Switch, Routers, Modems. Wireless Components (Study of typical specifications).	8	15%
SECOND INTERNAL EXAM			
VI	**General troubleshooting and Maintenance**- Installation of processor, SMPS, HDD, RAM, Drives, cards, devices and cables. CMOS - Setup Troubleshooting. Startup problems, problem of keyboard, displays, HDD's, motherboard, their identification and remedy.	7	15%
END SEMESTER EXAM			

QUESTION PAPER PATTERN

There will be two parts in the Question paper - **Part A and Part B.**

Part A will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions.

Part B will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2.

The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan in the syllabus.

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA109	Fundamentals of Accountancy	3-1-0-4	2016

Course Objectives

- To give a basic understanding of accounting practices along with various accounting theories in practice.

Syllabus

Definition, functions of accounting and bookkeeping, concepts, accounting standards, basic terms of accounting. Accounting process-journal, ledger and trial balance and preparation and analysis of final accounts form the core content of this course.

Expected Outcome

At the end of the course, students will be able to

i. understand accounting process;
ii. critically analyze and evaluate accounting theories and practices;
iii. prepare final accounts

References

1. S.N Maheshwari, Maheshwari S K, "Introduction to Accountancy", Eleventh Edition, Vikas Publication, New Delhi, (2013).
2. S.P.Jain and K.L.Narang, "Fundamentals of Accounting", Eighth Edition, Kalyani Publishers (2014).
3. Srinivasan & Murugan, "Accounting for Management", First Edition, S.Chand & Company Ltd, (2006).
4. T.S. Grewal, "Double Entry Book Keeping", Sultan Chand, (2016).

Web References

- Fundamentals of Managerial Accounting- http://nptel.ac.in/courses/110101003/2

Course Plan

Module	Contents	Hours	End Sem. Exam Marks
I	**Introduction to Accountancy** Accounting and its Functions, Scope of Accounting, Book Keeping and accounting, Basic terminologies in accounting. Internal and external users of accounting information Forms of organization - sole proprietorship, partnership and company. Double entry and single entry Accounting Equation, Classification of Accounts, Traditional and Modern classifications.	9	15%

II	Recording of transitions- Definition of Journal, Journalizing Process, Subsidiary books, Ledger Posting, Balancing an Account, Trial Balance. Objectives of Preparing Trial Balance.	9	15%
FIRST INTERNAL EXAM			
III	Preparation and Analysis of Final Accounts: Trading Account Profit And Loss Account, Preparation of Balance Sheet, horizontal and vertical forma	10	20%
1V	**Depreciation:** Meaning and Need for charging depreciation Methods of depreciation- straight line method, diminishing value method, sum of the digits method, sinking fund method, Insurance premium method	10	20%
V	**Balance Sheet with Adjustment:** Adjustment with respect to Closing stock, Outstanding expenses, Prepaid expenses, Accrued income, Income received in advance, Depreciation, Bad debts, Provision for doubtful debts, Provision for discount on debtors.	10	20%
SECOND INTERNAL EXAM			
VI	Analysis of financial statements (basics) Common Size Statement Comparative Balance Sheet	8	10%
END SEMESTER EXAM			

QUESTION PAPER PATTERN

There will be two parts in the Question paper - **Part A and Part B.**

Part A will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions.

Part B will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2.

The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan in the syllabus.

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA131	Office Automation Lab	0-0-6-1	2016

Course Objectives

- To impart hands on experience on various application software used for office automation.

Syllabus

Documentation Software – Spreadsheets -Presentation Software

Expected outcome

The students will be able to

i. perform documentation, to perform accounting operations, to perform presentations;
ii. organize a large volume of data across multiple worksheets or pages of information in the file;
iii. analyze a name to a section of data on a worksheet and apply formula and number format;
iv. translate data into a meaningful image by creating a chart from spreadsheets;
v. manage and sort lists that combine text and numerical values

References

1. Christopher N. Cain and Riley W. Walker, "OpenOffice 3.4 Volume I: Writer", Quantum Scientific Publishing, (2012).
2. Christopher N. Cain and Riley W. Walker, "OpenOffice 3.4 Volume II: Calc", Quantum Scientific Publishing, (2012).
3. Koch, Michael, "Special Edition Using Star Office 6.0", Que Corporation.
4. Prof. James Steinberg, "Open Office Basic: An Introduction", Gold Turtle Publishing, December (2012).
5. Stewart Melart, "Microsoft Office 2016: The Complete Guide", Conceptual Kings, (2015).
6. Wells, Nicholas D. & Taylor, Dean, "Sams Teach Yourself StarOffice 5 for Linux in 24 Hours", publishers: Sams Publishing.

Web References

- http://www.myonlinetraininghub.com/
- https://www.microsoft.com/en-us/learning/office-training.aspx
- https://support.office.com/en-us/article/Word-2010-videos-and-tutorials-cfa75118-e522-4ea5-963e-2b56d25fb9a5

Course Plan		
Ex. No	**Experiments/Exercises**	**Hours**
I	**Working with Documents:** Opening & Saving files, editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Using Tool bars, Ruler, Using Icons, using help **Formatting Documents:** Setting Font styles, Font selection- style, size, color etc., Type face - Bold, Italic, Underline, Case settings, Highlighting, Special symbols, Setting Paragraph style, Alignments, Indents, Line Space, Bullets & Numbering	80
II	**Setting Page style:** Formatting Page, Page tab, Margins, Layout settings, Paper tray, Border & Shading, Columns, Header & footer, Shortcut Keys; Inserting manual page break, Column break and line break, Creating sections & frames, Anchoring & Wrapping, Setting Document styles, Table of Contents, Index, Page Numbering, date & Time, Author etc., Creating Master Documents. **Creating Tables:** Table settings, Borders, Alignments, Insertion, Deletion, Merging, Splitting, Sorting **Familiarizing Drawing:** Inserting Clip Arts, Pictures/Files etc. **Familiarizing Tools:** Word Completion, Spell Checks, Mail merge	
III	**Spreadsheets:** Entering data, Cut, Copy, Paste, Undo, Redo, Filling Continuous rows, columns, Highlighting values, Find, Search & replace, Inserting Data, Insert Cells, Column, rows & sheets, Symbols, Data from external files, Frames, Clipart, Pictures, Files etc. **Setting Formula:** Finding total in a column or row, Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation).	
IV	**Formatting Spreadsheets:** Labelling columns & rows, Formatting- Cell, row, column & Sheet, Category - Alignment, Font, Border & Shading, Hiding/ Locking Cells, Worksheet Row & Column Headers, Sheet Name, Row height & Column width, Visibility - Row, Column, Sheet, Security, Sheet Formatting & style, Sheet background, Color. etc, Borders & Shading – Shortcut keys.	
V	**Working with sheets:** Sorting, Filtering, Validation, Consolidation, and Subtotal. **Creating Charts:** Drawing. **Using Tools :** Error checking, Spell Checks, Formula Auditing, Pivot Tables.	
VI	**Working with Presentation Software:** Introduction to presentation – Opening new presentation, Different presentation templates, Setting backgrounds, Selecting presentation layouts. **Creating a presentation** Setting Presentation style, Adding text to the Presentation. **Formatting a Presentation** – Adding style, Color, gradient fills, Arranging objects, Adding Header & Footer, Slide Background, Slide layout. Adding Graphics to the Presentation- Inserting pictures, movies, tables etc into presentation. **Adding Effects to the Presentation-** Setting Animation & transition effect. Printing Handouts	

Course code	Course Name	L-T-P-Credits	Year of Introduction
INMCA133	PC hardware Lab	0-0-4-1	2016

Course Objectives

- To identify the internal components of a computer, assemble a computer system and troubleshoot it.

Syllabus

PC Components identification, Assembling, OS Installation, Driver Installation, Partitioning, Basic troubleshooting.

Expected Outcome

The students will be able to

i. explain how a PC works, and understand the relationship between hardware and software;
ii. classify and explain the function of different computer hardware components;
iii. understand purpose and functions of an operating system (OS);
iv. understand the purpose and functions of the computer peripherals;
v. understand diagnostic procedures and troubleshooting techniques to personal computers, portable devices, operating systems and computer peripherals.
vi. install, configure, optimize and upgrade desktops & laptops;
vii. install, configure, optimize and upgrade the operating system;
viii. to perform diagnostic procedures and troubleshooting techniques to personal computers, portable devices, operating systems and computer peripherals

Reference

- Craig Zacker & John rourke, "The Complete Reference – PC Hardware", Tata McGraw Hill, Edition (2001).

Web References

- Computer Science 101 by Nick Parlante
  https://class.coursera.org/cs101-selfservice/lecture

Course Plan		
Ex. No	**Experiments/Exercises**	**Hours**
I	Identification of PC Components Understanding BIOS set up Connecting & disconnecting computer peripherals and components & driver installation Internal component assembling and dissembling	50
II	OS installation like Windows and Linux Study of file systems FAT, NTFS, ext4 Installation of Software Packages in windows and Linux	
III	Replacing and fitting of Motherboard, Processor, Hard Disk and expansion cards in PC	
IV	Disc Managers and it's use, Hard disk partitioning and formatting	
V	Virus removal and disc scan Backup and Restoration utility Connecting input/output devices and installation of their driver software. Trouble shooting of the PC- basic beep sounds	
VI	Identification of Basic and Special Components of Mobile Phone. Checking the Basic Component of Mobile Phone and its Faults.	

Course code	Course Name	L-T-P - Credits	Year of Introduction
INMCA102	Technical Communication	3-1-0-4	2016

Course Objectives

- To help students in using language appropriately in a professional environment.
- To make aware of technical vocabulary & features of formal language

Syllabus

Importance of Technical Communication; Listening - Comprehensive, Judgmental, Discriminative, Active Listening, Speaking - Role plays, Describing Pictures, Discussions, Speeches, Telephone Skills & Presentation Skills, Writing : Descriptive, Narrative & Technical Writing, Grammar – Imperatives, Tenses, Verbs, Compare & Contrast, Active & Passive voice, Framing Questions, Cause & Effect, Conditionals & Connectives, Vocabulary-Compound Nouns, Prefixes & Suffixes, Acronyms, Homophones & Homonyms, One Word Substitutes, Idioms & Phrasal Verbs.

Expected outcome .

The students will

i. Become effective listeners and will carry out their tasks well.
ii. Be able to present a concept effectively.
iii. Be able to write formal & informal messages.
iv. Be able to use a wide range of vocabulary for effective communication

References:

1. Anna University Department of English, "Mindscapes: English for Technologists and Engineers", 7th Edition, Orient Blackswan Pvt. Ltd, New Delhi (2012)
2. Bailey, Stephen, "Academic Writing: A practical guide for students", 7th Edition, Rutledge New York (2011)
3. Barun K Mitra, "Effective Technical Communication" Oxford university Press, 1st Edition.
4. David Morgan and Nicholas Regan, "Take-Off: Technical English for Engineering", Garnet Education (2008)
5. Pickett, Nell Ann, Ann A.Laster and Katherine E.Staples, " Technical English: Writing, Reading and Speaking", 8th Edition, Longman, New York (2001)
6. Raman Meenakshi & Sharma Sangeeta, "Technical Communication", 3rd Edition, Oxford University Press, New Delhi (2015)
7. Rizvi, M.Ashraf, "Effective Technical Communication", 1st Edition, Tata McGraw-Hill, New Delhi (2007)

Suggested MOOC

Business Communication - Fundamentals of Business Writing: https://alison.com/courses/Business-Communication-Fundamentals-of-Business-Writing

Course Plan

Module	Contents	Hours	Sem. Exam Marks
I	Importance of Technical Communication; Listening - Listening & Note Taking; Speaking - Importance of Role Plays, Describing Pictures. Reading - Comprehension Passages; Writing – Biographical and Autobiographical Account; Grammar – Imperatives; Vocabulary –Compound	9	15%

	Nouns, Prefixes; E-materials – Speed Reading for Comprehension.		
II	Listening-Listening to Debates ; Speaking : Discussion Etiquette, Participating in GD ; Reading –Predicting and Problem Solving; Writing –Book & Film Reviews; Grammar - Subject – Tenses - Past, Present, Future (Simple, Progressive & Perfect);Vocabulary-One Word Substitutes, Acronyms, Suffixes; E-materials –Video Clipping on Film Reviews.	9	15%
FIRST INTERNAL EXAMINATION			
III	Listening – Comprehensive Listening - Listening to Speeches & Talks; Speaking - Formal Presentations – Modes of Delivery, Guidelines for Effective delivery; Reading – Critical Reading – Reading and Interpreting a Poem. Writing – SMS Writing, E mail Writing; Grammar – Regular and Irregular verbs; Vocabulary - Homonyms & Homophones, Meaning from Contexts; E-materials- Listening to Audio Clippings and Answering Questions	9	15%
IV	Listening - Discriminative Listening - Listening to Documentaries; Speaking – Impromptu speeches; Reading – Reading to Locate Main Points, Reading for Making Inferences; Writing - Paragraph Writing, Letter Writing; Grammar – Compare and Contrast , Active and Passive Voice; Vocabulary - Phrasal Word, Idioms; E-materials – Listening to Ted Talks	9	15%
V	Listening - Listening to Different Accents; Speaking - Telephone Skills, Reading - Interpreting Charts and Tables; Writing-Poster Writing and Blog Writing; Grammar - Framing Questions, Cause and Effect; Vocabulary - Fixed Expressions, Collocation; E-materials – Practicing Interactive Grammar Exercises.	10	20%
SECOND INTERNAL EXAMINATION			
VI	Listening – Listening to Interviews; Speaking – Presentation Skills Reading – Reading and Note Making; Writing - Types of Essays and Report Writing, Grammar - If Conditionals & Connectives; Vocabulary - Unscrambling Words and Phrasal Words; E materials –Practicing Online Vocabulary.	10	20%
END SEMESTER EXAM			

QUESTION PAPER PATTERN

There will be two parts in the Question paper - **Part A and Part B.**

Part A will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions.

Part B will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2.

The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan.

Course code	Course Name	L-T-P - Credits	Year of Introduction
INMCA104	Introduction to Discrete Mathematics	3-1-0-4	2016

Course Objectives

- To extend student's Logical and Mathematical maturity and ability to deal with abstraction
- To introduce most of the basic terminologies used in computer science courses and application of ideas to solve practical problems
- To introduce logic and proofs including those using quantifiers, number theory and formal Languages, and graphs, with an emphasis on applications in computer science.

Syllabus

Logic and Inference theory, Predicate Calculus, Number theory and Formal Languages, Graphs, Euler and Hamiltonian Graphs and Trees

Expected Outcome

The students will

i. Have knowledge of the concepts needed to test the logic of a program using propositions and predicates.
ii. Know how to solve recurrences.
iii. Be able to use a combination of theoretical knowledge and independent mathematical thinking in creative investigation of questions in graph theory.

References

1. C. L. Liu and D. P. Mohapatra, "Elements of Discrete Mathematics", 4th Edition, Tata McGraw-Hill
2. J. P. Tremblay and R Manohar, "Discrete Mathematical Structures with Applications to Computer Science", 1997 Edition, Tata McGraw-Hill Publications (1997)
3. Kenneth H. Rosen, "Discrete Mathematics and Its Applications", 7th Edition, Tata McGraw Hill.
4. Narsingh Deo, "Graph Theory", 2nd Edition, Prentice-Hall of India.
5. Ralph. P. Grimaldi, "Discrete and Combinatorial Mathematics: An Applied Introduction", 4th Edition, Pearson Education Asia, Delhi (2002)
6. Seymour Lipschutz and Mark Lipson, "Discrete Mathematics Schaum's Outlines", 2nd Edition, Tata McGraw-Hill, New Delhi (2007)
7. Thomas Koshy, "Discrete Mathematics with Applications", 2nd Edition, Elsevier Publications (2006)

Suggested MOOC

1. Graph Theory: http://www.nptel.ac.in/courses/106108054/2#
2. Chinese Reminder Theorem: http://nptel.ac.in/courses/106103015/11

Course Plan

Module	Contents	Hours	Sem. Exam Marks
I	Logic: Logical operators – Conjunction, Disjunction, Negation, Conditional and biconditional, Truth tables, Equivalence and Implication, Tautology and Contradiction, Inference Theory, Validity by Truth Table, Rules of Inference, Methods of Proof-Direct and Indirect	9	15%
II	Predicate Calculus : Predicates, Quantifiers, Bound and Free	9	15%

	Variables, Universe of Discourse, Inference Theory of Predicate Calculus		
FIRST INTERNAL EXAMINATION			
III	Number Theory : Introduction, Division, Primes Division Algorithm, LCM and GCF, Modulo Arithmetic, Euclidean Algorithm, Linear Congruences, Chinese Remainder Theorem	9	15%
IV	Graph Theory: Basic terminology: Different Types of Graphs – Directed and Undirected, Simple, Pseudo, Complete, Regular, Bipartite, Incidence and Degree, Pendant and Isolated Vertex and Null graph (Book 1: Section 10.2-excluding matchings and colorings), Isomorphism, Sub Graphs. Operations on Graphs, Matrix Representation of Graphs (Book 1:Section 10.3), Walk, Path and Circuit, Connected and Disconnected Graphs and Components(Book 1:Section 10.4)	9	15%
V	Euler & Hamiltonian Graph: Euler Graphs, Necessary and Sufficient Conditions, Hamiltonian Circuits and Paths. (Book 1: Section 10.5), Traveling Salesman Problem. Shortest Path Problem, Dijkstra's Algorithm(Book 1:Section 10.6)	10	20%
SECOND INTERNAL EXAMINATION			
VI	Trees: Introduction, Properties, Rooted Trees, Binary and m-ary Trees, Tree Traversal (Book 1:Section 11.1,11.3), Spanning Trees, Kruskal's and Prim's Algorithm(Book 1:Section 11.4)	10	20%
END SEMESTER EXAM			
QUESTION PAPER PATTERN			
There will be two parts in the Question paper - **Part A and Part B.** **Part A** will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions. **Part B** will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2. The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan.			

Course code	Course Name	L-T-P - Credits	Year of Introduction
INMCA106	Computer Organization	3-1-0-4	2016

Course Objectives

- To impart an understanding of the internal organization and operations of a computer
- To introduce the concepts of processor logic design and control logic design.

Syllabus

Fundamental building blocks and functional units of a computer. Execution phases of an instruction. Arithmetic Algorithms. Design of the processing unit – how arithmetic and logic operations are performed. Design of the control unit – hardwired and microprogrammed control. I/O organization – interrupts, DMA, different interface standards. Memory Subsystem – different types.

Expected Outcome

The students will be able to

i. Identify the basic structure and functional units of a digital computer.
ii. Analyze the effect of addressing modes on the execution time of a program.
iii. Design processing unit using the concepts of ALU and control logic design.
iv. Identify the pros and cons of different types of control logic design in processors.
v. Categorize different types of memories.
vi. Select appropriate interfacing standards for I/O devices.
vii. Identify various techniques in computer design.

References

1. Chaudhuri P., "Computer Organization and Design", 2nd Edition, Prentice Hall (2008)
2. Hamacher C., Z. Vranesic and S. Zaky, "Computer Organization", 5th Edition, McGraw Hill (2011)
3. Mano M. M., "Digital Logic & Computer Design", 4th Edition, Pearson Education (2013)
4. Messmer H. P., "The Indispensable PC Hardware Book", 4th Edition, Addison-Wesley (2001)
5. Patterson D.A. and J. L. Hennessey, "Computer Organization and Design", 5th Edition, Morgan Kauffmann Publishers (2013)
6. Rajaraman V. and T. Radhakrishnan, "Computer Organization and Architecture", PHI, (2011)
7. William Stallings, "Computer Organization and Architecture: Designing for Performance", 9th Edition, Pearson Education (2013)

Suggested MOOC

1. Computer Organization and Architecture: http://nptel.ac.in/courses/106103068/

Module	Course Plan	Hours	Sem. Exam Marks
I	Basic Structure of Computers–Functional Units –Basic Operational Concepts –Bus Structures –Software. Memory Locations and Addresses – Memory Operations – Instructions and Instruction Sequencing – Addressing Modes –Basic I/O Operations	10	20%
II	Basic Processing Unit – Fundamental Concepts –Execution of	8	15%

	a Complete Instruction –Single Bus Organization, Multiple-Bus Organization		
FIRST INTERNAL EXAMINATION			
III	Arithmetic & Logic Unit: Number Representation – Addition of Positive Numbers ,Signed Addition and Subtraction, Design of Fast Adders, Carry Look Ahead Addition, Multiplication of Positive Numbers Signed Operand Multiplication(Booth's algorithm)	10	20%
IV	I/O Organization: Accessing of I/O Devices –Interrupts –Direct Memory Access –Buses –Interface Circuits –Standard I/O Interfaces (PCI, SCSI, USB)	9	15%
V	Memory System: Basic Concepts, Semiconductor RAMs, Read Only Memories, Cache Memory, Mapping Functions, Replacement Algorithms.	9	15%
SECOND INTERNAL EXAMINATION			
VI	Basic Parallel Processing Architecture - Flynn's Classification - SISD, MISD, SIMD, MIMD Structures, Pipelining, Basic Concepts of Pipelining, Instruction Pipelining.	10	15%
END SEMESTER EXAM			
QUESTION PAPER PATTERN			
There will be two parts in the Question paper - **Part A and Part B.** **Part A** will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions. **Part B** will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2. The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan.			

Course code	Course Name	L-T-P – Credits	Year of Introduction
INMCA108	Problem Solving and Structured Programming	3-1-0-4	2016

Course Objectives

- To understand and use basic problem solving in C language
- To introduce operators, control statements, arrays, functions, pointers, structures, unions, files etc.

Syllabus

Computing basics, Data input and output, operators and expressions, Control statement, Arrays, Functions, Program structure, pointers, structures and unions, files, additional features of C.

Expected Outcome

The students will be able to

i. Identify the use of algorithm, flowchart and pseudo code in program developing.
ii. Identify and apply basic concepts of data input and output, operators and expressions and control statements.
iii. Use data structures such as arrays, functions, pointers, structures, unions and files
iv. Implement structured programming using various programming constructs.

References

1. Brian W. Kernighan and Dennis M. Ritchie, "The C Programming Language", 2nd Edition, Prentice Hall of India (2015)
2. Byron Gottfried, "Schaum's Outline of Programming with C", 2nd Edition, McGraw-Hill
3. Deitel&Deitel, "C – How to Program", 6th Edition, Pearson Education Asia (2009)
4. E. Balaguruswamy, "Programming in ANSI C", 5th Edition, Tata McGraw-Hill (2011)
5. Forouzan , "Computer Science: A Structured Programming Approach Using C", 3rd Edition, Cengage Learning (2007)
6. PradipDey, Manas Ghosh, "Programming in C", 2nd Edition, Oxford Higher Education (2012)
7. Yashavant Kanetkar, "Understanding pointers in C", 4th Edition, BPB Publication (2009)

Suggested MOOC

Programming Basics: https://www.edx.org/course/programming-basics-iitbombayx-cs101-1x-0#

Module	Course Plan	Hours	Sem. Exam Marks
I	Computing Basics: Algorithm, Flowcharts & Pseudo Codes, Steps in Building up a Computer Program Introduction to C Language: The C Character Set, Identifiers and Keywords, Data Types, Constants, Variables, Declarations, Expressions, Statements, Type Conversion	6	10%
II	Data Input and Output: Single Character Input, Single Character Output, scanf, printf, puts, gets function Operators and Expressions: Arithmetic Operators, Unary Operator, Relational and Logical Operator, Assignment Operators, the Conditional Operator, Type Conversion Control Statement: Decision Making and Branching: if else	9	15%

	statement, switch statement, break statement, continue statement, looping		
FIRST INTERNAL EXAMINATION			
III	Arrays: Defining an Array, Passing Array to Functions, Multidimensional Arrays, Strings: One Dimensional Character Array, Array of Strings, Functions: Function Prototypes, Passing Arguments to a Function, Recursion, Program Structure, Storage Classes: Automatic Variables, External Variables, Static Variables, Register Variable	9	15%
IV	Pointers: Fundamentals, Void Pointer, Null Pointer, Passing Pointers to a Function, Pointers and One Dimensional Arrays, Operation on Pointers, Array of Pointers, Pointer to an Array, Pointers and Strings, Structure Pointer, Dynamic Memory Allocation (malloc, calloc, realloc, free).	11	20%
V	Structures and Unions: Defining a Structure, Processing a Structure, User Defined Data Types, Structure and Pointers, Passing Structure to Function, Self-referential Structures, and Union	11	20%
SECOND INTERNAL EXAMINATION			
VI	Data files: Opening and Closing a Data File, Reading and Writing a data File, Processing a data file, Concept of Binary File Additional Features of C: Enumeration, Command Line Parameters, Macros, C Preprocessor, typedef	10	20%
END SEMESTER EXAM			
QUESTION PAPER PATTERN			
There will be two parts in the Question paper - **Part A and Part B.** **Part A** will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions. **Part B** will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2. The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan.			

Course code	Course Name	L-T-P - Credits	Year of Introduction
INMCA112	Personality Development and Soft Skills	3-1-0-4	2016

Course Objectives

- To help students to understand the need to develop their personality by focusing on their soft skills in order to meet the needs of the present day corporate world.

Syllabus

Personality Development, Soft Skills, Communication Skills, Enhancing Writing Skills Interview skills, Group Discussions, Body Language, E-learning Concepts and Techniques.

Expected Outcome

The students will

i. Acquire qualities of a leader.
ii. Have the soft skills as required by employers.
iii. Have communication skills to communicate effectively.
iv. Feel comfortable at interviews & Group discussions.
v. Communicate effectively within and outside an organization.

References

1. Albert Mehrabian, "Nonverbal communication", 3rd Edition, Transaction Publishers (1972)
2. Bandler Richard & Alessio Robertio, "The ultimate introduction to Neuro-linguistic Programming", Harpercollins (2013)
3. Barun K. Mitra, "Personality Development & Soft Skills", 1st Edition, Oxford Publishers (2011)
4. Maxwell John, "The 5 Levels of Leadership", Centre Street, A Hachette Book Group Inc, New York (2015)
5. Mishra B K, "Psychology the study of human behavior", PHI Learning Pvt Ltd, New Delhi (2008)
6. Shalini Verma, "Development of Life Skills and Professional Practice", 1st Edition, Vikas Publishing House, New Delhi (2014)
7. Subramaniam R., "Professional Ethics", Oxford University Press (2013)

Suggested MOOC

Introduction to Time Management: https://alison.com/courses/Introduction-to-Time-Management

Module	Course Plan	Hours	Sem. Exam Marks
I	Personality Development: Definition Personality, Interpersonal Skills Personality Types and Leadership Qualities, Personality Tests; Soft Skills -Time Management, Attitude, Ethics & Team Work	9	15%
II	Communication Skills Code and content, Stimulus and Response, Intonation. Enhancing Writing Skills: principles to enhance clarity of communication	9	15%
	FIRST INTERNAL EXAMINATION		
III	Job Interviews: Curriculum Vitae, Types of Interviews, Probable Interview Questions	9	15%

IV	Group Discussions: Active Listening ,Innovation Creativity and Lateral thinking, Types of GD, Case Studies	9	15%
V	Body Language: Emotions displayed through Body Language, Handshakes, Eyes, Personal Zones Body Language at Professional Interactions: Interviews, Group Discussions & Video-conference.	10	20%
SECOND INTERNAL EXAMINATION			
VI	E-learning Concepts and Techniques: E learning, Benefits, Disadvantages, Types of E-learning, E-learning Technologies, Career Growth Benefits and Future of e-learning	10	20%
END SEMESTER EXAM			
QUESTION PAPER PATTERN			
There will be two parts in the Question paper - **Part A and Part B.** **Part A** will have 8 short answer questions of 3 marks each (8 X 3 M = 24 M). There will be no choice questions. **Part B** will have 6 essay questions one from each module of 6 marks each, with an alternative choice question from the same module (6 x 6M=36M). The maximum number of sub part questions in **Part B** to be limited to 2. The total marks assigned to questions in Part A (Short answer) and Part B (Essay) together from a single module will not exceed the marks assigned to that module specified in the course plan.			

Course code	Course Name	L-T-P - Credits	Year of Introduction
INMCA132	Problem Solving and Structured Programming Lab	0-0-6-1	2016

Course Objectives

- To explore various programming constructs and data structures for basic problem solving in C language.
- To experiment on control statements, arrays, functions, pointers, structures, unions, files including its application level problem area.

Syllabus

Computing basics, Data input and output, operators and expressions, Control statement, Arrays, Functions, Program structure, pointers, structures and unions, files, additional features of C.

Expected Outcome

The students will be able to

i. Identify the use of algorithm in program developing.
ii. Identify and apply basic concepts of data input and output, operators and expression and control statements.
iii. Implement structured programming using various programming constructs.
iv. Illustrate the use of various data types with demonstration programs.
v. Implement lab experiments in Linux and Windows platforms.

References

1. Brian W. Kernighan and Dennis M. Ritchie, "The C Programming Language", 2nd Edition, Prentice Hall of India (2015)
2. Byron Gottfried, "Schaum's Outline of Programming with C", 2nd Edition, McGraw-Hill
3. Deitel & Deitel, "C – How to Program", 6th Edition, Pearson Education Asia (2009)
4. E. Balaguruswamy, "Programming in ANSI C", 5th Edition, Tata McGraw-Hill (2011)
5. Forouzan , "Computer Science: A Structured Programming Approach Using C", 3rd Edition, Cengage Learning (2007)
6. PradipDey, Manas Ghosh, "Programming in C", 2nd Edition, Oxford Higher Education (2012)
7. Yashavant Kanetkar, "Understanding pointers in C", 4th Edition, BPB Publication (2009)

Suggested MOOC

Programming Basics : https://www.edx.org/course/subject/computer-science

Module	Course Plan	Hours	Sem. Exam Marks
I	Application of Various Data Types in C. Demonstration of Data type conversion (Hint: Usage of type casting).	9	10%
II	Demonstration of nested if (Hint: Use logical operators). Demonstration of switch case structure. Demonstration of loops.	10	10%
	FIRST INTERNAL EXAMINATION		
III	Arrays Implementation of arrays(Single, dimensional) Implementation of functions (Hint: Demonstrate call by value,	18	25%

	call by reference, passing of arrays). Demonstration of recursion (Hint: GCD, factorial, Fibonacci series). Demonstration of various string operations Demonstration of sorting & searching techniques (selection sort, linear search)		
IV	Pointers Demonstration of pointer operations. Implementation of pointer to array and array of pointers	15	10%
V	Structures and unions Implementation of structures (Hint: simple structure operations, array of structures). Implementation of structures variable as an array Implementation of pointers to structures and unions. Implementation of pointer to array of structures	18	25%
SECOND INTERNAL EXAMINATION			
VI	Data files Demonstration of bitwise operations. Demonstration of various file operations. (Hint: Text file) Implementation of Command line argument Demonstration of copy one file to another using command line argument	14	20%
END SEMESTER EXAM			

Course code	Course Name	L-T-P - Credits	Year of Introduction
INMCA134	Technical Communication Lab	0-0-4-1	2016

Course Objectives

- The course is designed to help students to use their Listening Reading ,Speaking ,and Writing skills as per the requirements of their profession

Syllabus

Listening Skills, Speaking Skills, Reading Skills, Arranging to meet, Official Meetings, Interview skills and Group Discussions

Expected Outcome

The students will be able to

i. Listen to specific information and comprehend information.
ii. Speak convincingly over telephone and during interviews.
iii. Comprehend and record contents of a talk or conversation, prepare write up for presentations, prepare Minutes of the meeting.

References

1. Kumar Sanjay & Pushp Lata, "Communication Skills", 2nd Edition, Oxford University Press (2015)
2. Rivers Dennis MA, "The Seven Challenges Workbook A guide to cooperative communication skills for success at home and at work", 2nd Edition, Trafford Publishing (2012)
3. Sasikumar V, Dutt Kiranmai & Rajeevan Geetha, "Communiation Skills in English", Cambridge University Press (2014)

Suggested MOOC

1. Speak English with confidence: http://deepenglish.com/courses/method/day-one/

Module	Course Plan	Hours	Sem. Exam Marks
I	Listening Skills: Making Inferences - Listening to stories, Specific Details -News Broadcast, Comprehension-Speeches &Talks, Main ideas -Note taking	9	15%
II	Speaking Skills: Short Conversations, Telephone Skills, Publics Speeches, Presentations	9	15%
	FIRST INTERNAL EXAMINATION		
III	Reading Skills: Speed reading, Skimming, Scanning, Intensive reading, Extensive reading	8	15%
IV	Writing Skills: Precis writing, Expanding outlines, Poster writing, Preparing Advertisements Preparing Flow charts & PPT slides	10	15%

V	Vocabulary: Solving Crosswords on One Word Substitutions and Confusing words, Grammar - Common errors in Tenses, Active Passive, and Reported Speech	10	20%
SECOND INTERNAL EXAMINATION			
VI	Practising Self Introductions, JAM sessions, Participating in Mock HR Interviews, Discussing Case based topic 1	10	20%
END SEMESTER EXAM			

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