NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute)

Affiliated to

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW

Evaluation Scheme & Syllabus

For

MCA (Integrated)
First Year

(Effective from the Session: 2022-2023)

NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute)

MCA (Integrated)
Evaluation Scheme
SEMESTER I

S. No	Subject Codes	Subjects	Periods			Evaluation Schemes				End Semester		Total	Credit	Course Type
			L	T	P	CT	TA	Total	PS	TE	PE			
1	AMICA0105	Basic Mathematics-I	3	1	0	30	20	50		100		150	4	BSC
2	AMICA0102	Computer Fundamentals and Office Automation	3	0	0	30	20	50		100		150	3	PCC
3	AMICA0101	Proficiency in English Communication	2	1	0	30	20	50		100		150	3	HSMC
4	AMICA0104	Problem Solving and Algorithmic Thinking	3	1	0	30	20	50		100		150	4	PCC
5	AMICA0103	Digital Logic Design	3	1	0	30	20	50		100		150	4	ESC
6	AMICA0151	Proficiency in English Communication Lab	0	0	2				50		50	100	1	HSMC
7	AMICA0152	Office Automation Lab	0	0	2				50		50	100	1	PCC
8	AMICA0153	Digital Logic Design Lab	0	0	2				50		50	100	1	ESC
9		MOOCs												
		TOTAL						250	150	500	150	1050	21	

List of MOOCs (Coursera) Based Recommended Courses for First Year (Semester-I) MCA (Integrated) Students

S. No.	Subject Code	Course Name	University/ Industry Partner Name	Hours	Credit
1	AMC0133	Work Smarter with Microsoft Excel	Microsoft	20	
2	AMC0134	Technical Support Fundamentals	Google	20	

Abbreviation Used: -

L: Lecture, T: Tutorial, P: Practical, CT: Class Test, TA: Teacher Assessment, PS: Practical Sessional, TE: Theory End Semester Exam., PE: Practical End Semester Exam.

NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA
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MCA (Integrated)
Evaluation Scheme
SEMESTER II

S. No	Subject Codes	Subjects	Periods			Evaluation Schemes				End Semester		Total	Credit	Course Type
			L	T	P	CT	TA	Total	PS	TE	PE			
1	AMICA0205	Basic Mathematics-II	3	1	0	30	20	50		100		150	4	BSC
2	AMICA0201	Problem Solving Using Python	3	1	0	30	20	50		100		150	4	PCC
3	AMICA0204	Design Thinking-I	2	1	0	30	20	50		100		150	3	HSMC
4	AMICA0203	Soft Skills and Personality Development	2	1	0	30	20	50		100		150	3	HSMC
5	AMICA0202	Internet and Web Designing	3	1	0	30	20	50		100		150	4	PCC
6	AMICA0251	Problem Solving Using Python Lab	0	0	2				50		50	100	1	PCC
7	AMICA0253	Soft Skills and Personality Development Lab	0	0	2				50		50	100	1	HSMC
8	AMICA0252	Internet and Web Designing Lab	0	0	2				50		50	100	1	PCC
9		MOOCs												
		TOTAL						250	150	500	150	1050	21	

List of MOOCs (Coursera) Based Recommended Courses for First Year (Semester-II) MCA Students

S. No.	Subject Code	Course Name	University/ Industry Partner Name	Hours	Credit
1	AMC0135	Introduction to HTML5	University of Michigan	13	
2	AMC0136	Interpersonal Communication for Engineering Leaders	Rice University	22	

PLEASE NOTE: -

Internship (3-4 weeks) shall be conducted during summer break after II semester and will be assessed during III semester

Abbreviation Used: -

L: Lecture, T: Tutorial, P: Practical, CT: Class Test, TA: Teacher Assessment, PS: Practical Sessional, TE: Theory End Semester Exam., PE: Practical End Semester Exam.

Course Code	AMICA0105	L	T	P	Credit
Course Title	Basic Mathematics-I	3	1	0	4

Course Objective: Objective of this course is to: **Duration: 46 Hours**

1	Enable the students to understand the basic concept of matrix and determinants and their applications.	
2	Enable the students to understand the basic concept of sets relations and functions and their applications.	
3	Enable the students to understand the basic concept of limit and continuity of functions and their applications.	
4	Enable the students to understand the basic concept of differentiation and their applications.	
5	Enhance the basic aptitude skills of the students.	

Pre-requisites: Knowledge of Mathematics up to 10th standard

Course Contents / Syllabus

UNIT-I	MATRIX AND DETERMINANTS:	10 Hours

MATRICES: Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices, Determinants: Definition, Minors, Cofactors, Properties of Determinants. Ad joint, Inverse and solution of system of linear equations.

UNIT-II	SETS,RELATIONSANDFUNCTIONS:	10 Hours

Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications. Properties of Relations, Equivalence Relation, Partial Order and Relation Function: Domain and Range, Onto, Into and One to One Functions, Composite and Inverse Functions.

UNIT-III	LIMITS AND CONTINUITY:	8 Hours

Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Continuity at a Point, Continuity Over an Interval, Intermediate Value Theorem.

UNIT-IV	DIFFERENTIATION:	10 Hours

Derivative, Derivatives of Sum, Differences, Product & Quotients, Chain Rule, Derivatives of Composite Functions, Logarithmic Differentiation, Rolle's Theorem, Mean Value Theorem, Indeterminate Forms, L' Hospitals Rule, Maxima & Minima of Single Variable Function.

UNIT-V	Aptitude-I	8Hours

Simplification, Percentage, Profit, loss &discount, Average, Number& Series, Coding & decoding, Time and Work.

Course outcome: At the end of the course, the student will be able to:

CO 1	Apply the concept of matrix and determinants to find the solution of system of linear equation.	K_3
CO 2	Understand the concept of sets relations and functions to solve problems based on sets and functions.	K_2
CO 3	Evaluate the limit and continuity of various functions.	K_5
CO 4	Apply the concept of differentiation to find the derivative of different type functions, rate of change and maxima and minima.	K_3

CO 5	Solve the problems of Profit, Loss, Number & Series, Coding & decoding.	K_3

Textbooks

Mathematics - Textbook for Class XI, NCERT Publication
Mathematics Part I - Textbook for Class XII, NCERT Publication
Mathematics Part II - Textbook for Class XII, NCERT Publication

Reference Books

Referential Books:
B.S.Grewal,"ElementaryEngineeringMathematics",34thEd.,1998.
J.P.Chauhan"BCAMathematicsVolume -1&2",Krishna Publications.
Quantitative Aptitude by R.S. Aggrawal.

Link:

Unit 1 •
https://www.youtube.com/watch?v=rS9AwyRbB7g
https://www.youtube.com/watch?v=7SQbz96xUyg
https://www.youtube.com/watch?v=AMLUikdDQGk
https://www.youtube.com/watch?v=hagIIYC1JiM

Unit 2 •
https://www.youtube.com/watch?v=DzWwkvGrmFk
https://www.youtube.com/watch?v=NaHMl8avG04
https://www.youtube.com/watch?v=WSX2hOtkqrM
https://www.youtube.com/watch?v=PjVCenWEfv4
https://www.youtube.com/watch?v=9bSQd5asTOw
https://www.youtube.com/watch?v=cpq8t1LN27E
https://www.youtube.com/watch?v=h5Lv5ZeNl0g
https://www.youtube.com/watch?v=AI2Y-RpxDC4
https://www.youtube.com/watch?v=e2UcF_Xh3w4
https://www.youtube.com/watch?v=EGlTGECIk10&t=72s
https://www.youtube.com/watch?v=-jiUNRJ8t4g
https://www.youtube.com/watch?v=e2UcF_Xh3w4&t=48s
https://www.youtube.com/watch?v=fEFkKOl4Q0Y&t=68s
https://www.youtube.com/watch?v=Otj-0xdM62Q

Unit 3 •
https://youtu.be/7WxUaH-50Vw
https://youtu.be/tQxk5IX9S_8
https://youtu.be/BGZ1L6JHX34

Unit 4 •
https://youtu.be/hswdwcNhQ0g
https://youtu.be/EkkATH3W1Mo
https://youtu.be/r031pzhBP5c
https://youtu.be/lTtsFrkBsOI
https://youtu.be/_9MVn-Jw2G4
https://youtu.be/ZqHPcKq6VNI

Unit 5
https://www.GovernmentAdda.com

Course Code	AMICA0102	L	T	P	Credit
Course Title	Computer Fundamentals and Office Automation	3	0	0	3

Course objective: To develop understanding of windows, provide an in-depth training in use of office automation, internet and internet tools, To familiarize the students to develop documents, spreadsheets, make effective presentations with the help of MS-PowerPoint.

Pre-requisites: Basic knowledge of computer terminology and input output devices.

Course Contents / Syllabus

UNIT-I	Introduction to Computer System	8 hours

Characteristics of Computer System, Block diagram of computer system. Types of computer system and their features- Minicomputer, Micro Computer, Mainframe Computer, Supercomputer. Types of Programming Languages (Machine Language, Assembly Language, High Level Language). Data Organization, Drives, Files, Directories. Types of Memory- (Primary and Secondary) RAM, ROM, PROM, EPROM and EEPROM. Secondary Storage Devices (Floppy disk, Compact disk, Hard Disk, Pen drive) I/O Devices (Scanners, Plotters, LCD, Plasma Display).

UNIT-II	Windows	8 hours

Installation of Windows, Starting and Shutdown windows, Basic Elements of Windows, Working with Menus Dialogue Boxes, Window Applications, Program Manager, File Manager, Print Manager, Control Panel, Write, Paint Brush, Accessories including Calculator, Calendar, Clock, Notepad, Recorder.

UNIT-III	Word Processor and Spreadsheet Tool	8 hours

Salient features of Word Processing, File, Edit, View, Insert, Format, Tools, Tables, Window, help options and all their features, Options and Sub Options, Spreadsheet Tool-Excel Worksheet, Data Entry, Editing, Cell Addressing ranges, Commands, Menus, Copying & Moving Cell Content.

UNIT-IV	Microsoft Power point	8 hours

Starting MS-Power Point, different Bars, Different Types of Views and Exiting MS-Power Point Creating a New Presentation, working with Slides, Applying Design templates, Applying Custom Animations, and Applying Slide Transitions. Saving a Presentation, running a Presentation, closing a Presentation and Opening an Existing Presentation.

UNIT-V	MS-Access, Internet and E-mail	8 hours

Introduction to Ms.-Access, uses and components of MS Access, Benefits and Limitations of using MS Access, Creating tables, Evolution of Internet, Internet Applications, E-mail.

Course outcome: At the end of course, the student will be able to

CO 1	Understand windows and its functionality.	K1
CO 2	Understand the word processing skills.	K2
CO 3	Understand excel work sheet and analyzing the data.	K2
CO 4	Demonstrate power point presentation and present data in an effective manner.	K6
CO 5	Understand basic working of internet and email.	K2

Text books :

(1) V. Raja Raman ,'Fundamentals of Computers',5th Edition, PHI, 2010.

(2) Perry G.., 'Teach Yourself Microsoft Office 2000',Techmedia, 1999.

(3) Turban, Mclean and Wetherbe,' Information Technology for Management ',4th Edition, John Wiley & Sons, 2006.

(4) G.Courter, 'Mastering MS Office 2000 Professional', 3rd Edition, BPB Publication, 2006.

Link: NPTEL/ YouTube/ Faculty Video Link:	
Unit 1	https://www.youtube.com/watch?v=-AP1nNK3bRs&list=PLWPirh4EWFpF_2T13UeEgZWZHc8nHBuXp&index=1
Unit 2	https://www.youtube.com/watch?v=JVwO6ZnXVg0&list=PLWPirh4EWFpF_2T13UeEgZWZHc8nHBuXp&index=2
Unit 3	https://www.youtube.com/watch?v=kRPE2T1cuOo&list=PLWPirh4EWFpF_2T13UeEgZWZHc8nHBuXp&index=9
Unit 4	https://www.youtube.com/watch?v=KzS2ivdiSS8&list=PLWPirh4EWFpF_2T13UeEgZWZHc8nHBuXp&index=26
Unit 5	https://www.youtube.com/watch?v=dQngpAF8pJs

Course code	AMICA0101	L T P	Credit
Course title	Proficiency in English Communication	2 1 0	3

Course objective:

1	• The objective of the course is to ensure that the students can communicate effectively, in clear and correct English, in a style appropriate to the occasion.	
2	• The course provides a foundation in the four basic skills LSRW (Listening, Speaking, Reading, Writing) of language learning, aligned to an International Business English Certification.	

Pre-requisites:

- The student should be able to communicate in basic English and have control over simple grammatical structures of English.
- All the students must take an assessment exam to ascertain their level of skill in English and undergo a brief induction course in it.

Course Content / Syllabus

UNIT-I Introduction & Reading Skills — 7 Hours

- Introduction to ESP
- Reading basics (skimming, scanning, churning, & assimilation)
- Reading comprehension
- Reading texts for paraphrasing & note making, diagram, chart, picture reading

Critical reading of texts through suggested list.

UNIT-II Writing Skills — 10 Hours

- Vocabulary building – Exposure to words from General Service List (GSL) by West & Academic Word List (AWL). Word formation. Root words, prefixes & suffixes; synonyms; antonyms; homophones; abbreviations; one-word substitutes
- Requisites of a good sentence
- Common errors - subject-verb agreement (concord), tenses, articles, preposition; punctuation
- Paragraph writing

Basics of letter & email writing; notice & memo writing

UNIT-III Listening Skills — 5 Hours

- Process of listening
- Types of listening
- Overcoming barriers to listening
- Tips for effective listening

Exercises on listening skills

UNIT-IV Speaking Skills — 8 Hours

- Skills of effective speaking
- Applied phonetics – phoneme, syllable, word accent
- Stress, rhythm & intonation in English
- Neutral accent – difficulties of non-native speakers of English

Speaking with confidence

UNIT-V Public Speaking — 10 Hours

- Components of effective speaking in the workplace
- Public speaking – Kinesics, Chronemics, Proxemics
- Voice dynamics

- Basics of Presentation, PPT support
- Online Presentations & etiquette

Facing an Interview

Course outcome:

At the end of the course students will be able to

CO 1	Understand the basic objective of the course and comprehend texts for professional reading tasks in preparation for an International Certification in Business English.	L1, L3
CO 2	Write professionally in simple and correct English.	L5
CO 3	Interpret listening tasks for better professional competence.	L3
CO 4	Demonstrate active listening with comprehension, and the ability to write clear and well-structured emails and proposals.	L1
CO 5	Understand and apply some important aspects of core skills.	L3

Textbooks

1. Cambridge English Business Benchmark (Pre-intermediate to Intermediate), 2nd edition, Norman Whitby, Cambridge University Press, 2006, UK.

2. Improve Your Writing ed. V.N. Arora and Laxmi Chandra, Oxford Univ. Press, 2001, New Delhi.

Reference Books

Talbot, Fiona. *Improve Your Global Business English* Kogan Page, 2012.

1. Leech Geoffrey. *Communicative Grammar of English* Pearson Education Harlow, United Kingdom, 1994.

Sethi. J. Course in Phonetics and Spoken English Prentice Hall India Learning Private Limited; 2 edition (1999)

2. Rebecca Corfield. *Preparing The Perfect CV*. Kogan Page Publishers, 2009.

3. Anderson, Paul V. *Technical communication*. 8th ed. Cengage Learning, 2011.

IELTS 11: General Training with answers. Cambridge English

Online reference books and other reference materials:

1. http://promeng.eu/downloads/training-materials/ebooks/soft-skills/effective-communication-skills.pdf
2. http://ncert.nic.in/textbook/pdf/iees101.pdf
3. http://www.infocobuild.com/education/audio-video-courses/literature/CommunicationSkills-IIT-Kanpur/lecture-09.html
4. https://www.youtube.com/watch?v=JIKU_WT0Bls
5. https://www.youtube.com/watch?v=6Ql5mQdxeWk
6. https://www.youtube.com/watch?v=fE_cS75Lcvc
7. https://www.youtube.com/watch?v=1vUcxeuq7sg
8. https://www.youtube.com/watch?v=n4NVPg2kHv4
9. https://www.youtube.com/watch?v=Vu6UVwkUgzc

Course Code	AMICA0104	L	T	P	Credit
Course Title	Problem Solving and Algorithmic Thinking	3	1	0	4

Course objective: This course provides role of computation in solving the problems, concepts of algorithm, pseudo code and flow chart so that students can prepare the small projects and excel in subjects with programming components with the help of both procedural and object-oriented approaches.

Pre-requisites: Basic knowledge of computer terminologies.

Course Contents / Syllabus

UNIT-I	**Basics of Programming**	**8 hours**

Introduction of an algorithm and comparison of performance of algorithms, pseudo code, flow chart, Control Statements- if, if-else and nested if-else statements, switch statements, while, for, do-while statements, Loop examples, Information and data, encoding.

UNIT-II	**Problem Solving Approach**	**8 hours**

Problem Solving and Algorithmic Thinking: Problem definition, Logical reasoning, Problem decomposition, Abstraction. Name binding, Modularization. Data organization: List and Arrays. Logic: Boolean logic, Data Applications of propositional logic.

UNIT-III	**Recursion, Searching and Sorting**	**8 hours**

Factoring and Recursion Techniques, Searching- Linear Search and Binary Search, Sorting algorithm- Selection Sort, Insertion Sort, Bubble Sort, Merge Sort, Text processing and Pattern matching.

UNIT-IV	**Asymptotic Notations**	**8 hours**

Asymptotic notations-Big-O notation, Omega notation, and Theta notation and their significance, complexity analysis of algorithms-worst case, average case and best case, Introduction to RAM model of computation.

UNIT-V	**Introduction to OOPs**	**8 hours**

Classes and Objects, Object Oriented Methodology: Basic Concepts and Characteristics of OOPs, Advantages and Application of OOPs, Procedural Programming Vs OOPs.

Course outcome: At the end of course, the student will be able to

CO 1	Understand basics of programming	K1
CO 2	Understand the problem-solving process and apply concepts to real-life situations and data-oriented problem analysis.	K2
CO 3	Use of recursion, searching and sorting algorithm to arrange the data.	K2
CO 4	Understand to evaluate performance of algorithm.	K2
CO 5	Understand the concept of Object-Oriented Programming.	K2

Textbooks:

(1) David Riley and Kenny Hunt, Computational Thinking for Modern Solver, Chapman & Hall/CRC,2014

(2) R.G. Dromey ," How to solve it by Computer", PHI,2008

(3) Hanly J.R. and Koffman E.B.,' Problem Solving and Program Design in C', Pearson Education, 2015

Link: NPTEL/ YouTube/ Faculty Video Link:

Unit 1	https://nptel.ac.in/courses/106105171
Unit 2	https://www.youtube.com/watch?v=6Zc2bnwW0hQ

Unit 3	https://www.youtube.com/watch?v=bj911tDlrSE
Unit 4	https://www.youtube.com/watch?v=7dz8Iaf_weM
Unit 5	https://www.youtube.com/watch?v=t9WKOcRB63Q&list=PLJ5C_6qdAvBFzL9su5J-FX8x80BMhkPy1

Course Code	AMICA0103	L	T	P	Credit
Course Title	Digital Logic Design	3	1	0	4

Course objective: This course is intended to provide the students with a comprehensive understanding of the fundamental of digital logic circuit, Design at the circuit level is usually done with truth table and state tables, Students will be able to analyze design and implement combinational and sequential circuits.

Pre-requisites: Basics knowledge of Computer system components.

Course Contents / Syllabus

UNIT-I	Introduction to Number System and Codes	8 hours

Number systems: Decimal numbers, Binary numbers: Counting in binary, The weighted structure of binary numbers, Octal numbers, hexa decimal numbers and their mutual conversions.
Binary arithmetic: Addition, subtraction, multiplication and division of binary numbers, 1‘s and 2‘s complement, signed numbers, floating point representation, Arithmetic operations: addition, subtraction with signed numbers, 9‘s and 10‘s complement, BCD numbers, BCD addition, BCD subtraction, gray code: Binary to Gray code conversion, Gray to Binary conversion, Weighted code: 8421 code and non weighted codes: ASCII and EBCDIC.

UNIT-II	Logic Gates And Boolean Algebra	8 hours

Gates (OR, AND, NOR, NAND, XOR & XNOR) De Morgan’s laws; Boolean laws, Circuit designing techniques (SOP, POS, K-Map).

UNIT-III	Combinational Circuit	8 hours

Combinational Building Blocks**,** Multiplexes, Decoder, Encoder; Adder and Subtractor.

UNIT-IV	Sequential Building Blocks	8 hours

Latches and Flip-Flop: RS, D, JK, T flip-flops & Master-slave, Registers & Shift registers, Counters, Synchronous and Asynchronous Designing method.

UNIT-V	Memory	8 hours

Memories: ROMs, PROMs, EPROMs, EEPROM, RAMs, memory cells & its types, Hard Disk, Floppy Disk, CD-ROM, Cache memory,

Course outcome: At the end of course, the student will be able to

CO 1	Understand the concepts of Digital Binary System.	K2
CO 2	Apply concepts of implementation of Gates.	K3
CO 3	Analyze and design of Combinational logic circuits.	K4
CO 4	Analyze and design of Sequential logic circuits with their applications.	K4
CO 5	Understand the difference of various memory	K2

Text books :

(1) Digital Logic and Computer design (PHI) 1998:M.M.Mano.
(2) Digital Electronics (TMH) 1998: Malvino and Leach.
(3) Digital fundamentals (Universal Book Stall) 1998: Floyd, L.Thomas.

Link: NPTEL/ YouTube/ Faculty Video Link:

Unit 1	https://www.youtube.com/watch?v=pLTDDsvMnFQ&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=4

	https://www.youtube.com/watch?v=eZhbUZ35aic&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=5 https://www.youtube.com/watch?v=eZhbUZ35aic&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=6 https://www.youtube.com/watch?v=eZhbUZ35aic&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=7
Unit 2	https://www.youtube.com/watch?v=KergVtV3SxU&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=9 https://www.youtube.com/watch?v=9kBog5wYVKM&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=15 https://www.youtube.com/watch?v=8U7M3jS0ArE&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=16
Unit 3	https://www.youtube.com/watch?v=3LHNvx9PMQg&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=24 https://www.youtube.com/watch?v=cV9Du9YQ_YA&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=25 https://www.youtube.com/watch?v=cV9Du9YQ_YA&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=26 https://www.youtube.com/watch?v=cV9Du9YQ_YA&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=27
Unit 4	https://www.youtube.com/watch?v=tas2eUavhRE
Unit 5	https://www.youtube.com/watch?v=HZHag7I-hBg&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=29 https://www.youtube.com/watch?v=HZHag7I-hBg&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=30 https://www.youtube.com/watch?v=HZHag7I-hBg&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=31 https://www.youtube.com/watch?v=HZHag7I-hBg&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=32 https://www.youtube.com/watch?v=HZHag7I-hBg&list=PLbRMhDVUMngePP5JcezxImF-FzOC9wstz&index=33

Course Code	AMICA0151	L	T	P	Credit
Course Title	Proficiency in English Communication Lab	0	0	2	1

Suggested list of Experiment

Sr No	Name of Experiment
1	Extempore speech & Jam Session (4 hrs)
2	Group Discussion (4 hrs)
3	Presentations (Individual and group) (4 hrs)
4	Listening Practice (2 hrs)
5	News/ Book Review (Presentation based) (4 hrs)

Lab Course Outcome:

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

CO 1	Use English language for communicating ideas.	L5
CO 2	Develop interpersonal skills and leadership abilities.	L4
CO 3	Practice their public speaking skills and gain confidence in it.	L3
CO 4	Realize the importance of analytical listening during communication.	L2
CO 5	Apply critical thinking skills in interpreting texts and discourses.	L3

Links:

Unit 1	• https://www.youtube.com/watch?v=3eCj7iulp4A • https://www.youtube.com/watch?v=NYrp49dPLIY • https://www.youtube.com/watch?v=qut2uepkLbU • https://www.youtube.com/watch?v=xiTK523Ot5U • https://www.youtube.com/watch?v=knj0LR3uSvo • **https://www.youtube.com/watch?v=oiM0x0ApVL8** • **https://www.youtube.com/watch?v=62Ljzx-ik50** • **https://www.skillsyouneed.com/write/notes-reading.html** • **https://www.youtube.com/watch?v=H2znt-udk1A** • **https://www.youtube.com/watch?v=5Hc3hmwnymw**
Unit 2	• https://youtu.be/Vj640hLzANI • https://youtu.be/8sm1xxRZdDQ • https://youtu.be/WWvzHiif7H0 • https://youtu.be/YheSHxx0kpE • https://youtu.be/9X06MQrqusE • https://youtu.be/lAnM5BxM1zA • https://youtu.be/monKm7ITups • https://youtu.be/NcARmsFmVuU • https://youtu.be/DIVQhh6nKHw • https://youtu.be/_zhw3BUysUA • https://youtu.be/1cmF_VT_NV8 • https://youtu.be/zoBuQgefNZg • https://youtu.be/L1J9ZPVydrc • https://youtu.be/4trpJavR7_M • https://youtu.be/W6NiSLlzyr0 • https://www.youtube.com/watch?v=QOgTntxfvnk&feature=emb_rel_pause • https://youtu.be/B-4-rn9Waek

Unit 3	https://engfluent.com/english-listening-practice/ • https://agendaweb.org/listening/english_audio_activities.html • https://www.fluentu.com/blog/educator-english/esl-listening-exercises/ • https://engfluent.com/english-listening-practice/ • https://agendaweb.org/listening-exercises.html • https://learnenglishteens.britishcouncil.org/skills/listening • https://www.forbes.com/sites/womensmedia/2012/11/09/10-steps-to-effective-listening/amp/ • https://m.youtube.com/watch?v=i0oZ4PWxnsU • https://www.google.com/search?q=active+listening+test&sa=X&ved=2ahUKEwjZyYfM4qPpAhUL8XMBHRl-Br8Q1QIwH3oECBQQEg&biw=360&bih=566&dpr=2#kpvalbx=_aw61XpfVNq3Wz7sP1NaLgAQ46 • https://www.youtube.com/watch?v=KVVFEXMBHrw
Unit 4	1. https://www.youtube.com/watch?v=6pYSbdGiDYw 2. https://www.youtube.com/watch?v=CAU2zx2Ri_M 3. https://www.youtube.com/watch?v=P4TiIAO59ec 4. https://www.youtube.com/watch?v=8f5xtFf60Qk 5. https://www.youtube.com/watch?v=JwTDPu2TE6k&t=3s 6. https://www.youtube.com/watch?v=JYgHgM9dB1E 7. https://www.youtube.com/watch?v=FhKgxZmJpV8 8. https://www.youtube.com/watch?v=UbcEiFTmkQo 9. https://www.youtube.com/watch?v=afnoXgKt9Xw&t=25s 10. https://www.youtube.com/watch?v=CAU2zx2Ri_M&t=78s 11. https://www.youtube.com/watch?v=tShavGuo0_E 12. https://www.youtube.com/watch?v=Q5WT2vweFRY
Unit 5	1. https://www.youtube.com/watch?v=QcvYDpwgXyY 2. https://www.youtube.com/watch?v=twOLBbVvesU 3. https://www.youtube.com/watch?v=3wyJF5UXRzg 4. https://www.youtube.com/watch?v=QfZK3N6FPdghttps://www.youtube.com/watch?v=4TrjN31CveI 5. https://www.youtube.com/watch?v=4TrjN31CveI 6. https://www.youtube.com/watch?v=962eYqe--Yc 7. https://www.youtube.com/watch?v=dHAbmoFHqgA 8. https://www.youtube.com/watch?v=Sk7cwNb85MQ 9. https://www.youtube.com/watch?v=eAnxx-2Leuw 10. https://www.youtube.com/watch?v=lasPphe9Tuohttps://www.youtube.com/watch?v=4TrjN31CveI 11. https://www.youtube.com/watch?v=hWL6nkDck5o 12. https://www.youtube.com/watch?v=xZDWAu0aWc0 13. https://www.youtube.com/watch?v=i2of4_ZnqS8https://www.youtube.com/watch?v=4TrjN31CveI 14. https://www.youtube.com/watch?v=MnIPpUiTcRc 15. https://www.youtube.com/watch?v=Xwa4c6xVpMg

Course Code	AMICA0152	L T P	Credit
Course Title	Office Automation Lab	0 0 2	1

List of Experiments:

S. No.	Name of Experiment	CO
	WORD TASK	
1	Using Word to create project certificate. Features to be covered: -Formatting Fonts in Word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in Word.	CO2
2	Creating project abstract Features to be covered: -Formatting Styles, inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.	CO2
3	Creating a Newsletter: Features to be covered: -Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Text boxes and Paragraphs.	CO2
	MS EXCEL Task	
4	Creating Scheduler-Features to be covered: Gridlines, Format Cells, Summation, auto fill, Formatting Text.	CO3
5	Calculations- Features to be covered: -Cell Referencing, Formulae in excel –average, std. deviation, Charts, Renaming and Inserting work sheets, Hyper linking, Count function, LOOKUP/VLOOKUP	CO3
6	Performance Analysis- Features to be covered: -Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting.	CO3
	MS Power Point Task	
7	Students will be working on basic power point utilities and tools which help them create basic power point presentations. Topic covered includes: - PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows.	CO4
8	This session helps students in making their presentations interactive. Topics covered include Hyperlinks, Inserting–Images, Clip Art, Audio, Video, Objects, Tables and Charts.	CO4
9	Concentrating on the in and out of Microsoft power point. Helps them learn best practices in designing and preparing power point presentation. Topics covered includes: -Master Layouts (slide, template, and notes), Types of views (basic, presentation, notes etc.), Inserting-Background, textures, Design Templates, Hidden slides. Auto content wizard, Slide Transition, Custom Animation, Auto Rehearsing.	CO4
	MS Access Task	
10	Create table in MS Access, enter data in table, create primary key, defining a relationship, record entry, modification of cells (rows and columns)	CO5
	Lab Course Outcome: After completion of this course students will be able to	
CO1	Understand Windows Operating systems and its functionality.	K 2
CO2	Demonstrate the word processing skills.	K 4
CO3	Implement the functionalities of MS Excel.	K3

Course Code	AMICA0153	L T P	Credit
Course Title	Digital Logic Design Lab	0 0 2	1

S. No.	Name of Experiment	CO
1	Introduction to digital electronics lab- nomenclature of digital ICs, specifications, study of the data sheet, Concept of V_{cc} and ground, verification of the truth tables of logic gates using TTL ICs.	CO1
2	To realize why NAND & NOR gate is known as the universal gate by implementation of: i. NOT using NAND & NOR ii. AND using NAND & NOR iii. OR using NAND & NOR iv. XOR using NAND & NOR	CO1
3	Implementation of half adder and full adder using TTL logic gates and verify its truth table.	CO2
4	To design and realize the following using IC 7483. i. BCD to Excess- 3 Code. ii. Excess-3 to BCD Code.	CO2
5	To design and realize the following code conversion operations: i. Binary to Gray code ii. Gray to Binary code	CO2
6	Implementation of 2:4 Decoder &4:2 Encoder using logic gates and verify its truth table.	CO2
7	Implementation of 4:1 multiplexer and verify their truth table.	CO2
8	Implementation of 1:4 de-multiplexer and verify their truth table.	CO2
9	Verification of truth tables of RS & JK flip-flops using NAND gate & NOR gates.	CO3
10	Verification of truth tables of T & D flip-flops using NAND gate & NOR gates.	CO3

Lab Course Outcome: Upon the completion of the course, the student will be able to

CO1	Understand of Digital Binary System and implementation of Gates.	K1, K2, K3
CO2	Design various combinational circuits using logic gates.	K2, K3
CO3	Design the Sequential circuits with the help of combinational circuits and feedback element.	K1, K3
CO4	Demonstrate effective Power-point presentation.	K4
CO5	Create table using MS Access.	K5

Course Code	AMICA0205	L	T	P	Credit
Course Title	Basic Mathematics-II	3	1	0	4
Course Objective: Objective of this course is to:		Duration: 46 Hours			
1	Enable the students to understand the basic concept of Integration.				
2	Enable the students to understand the basic concept of differential equations and their solutions.				
3	Enable the students to understand the basic concept ofpartial order relations and lattices.				
4	Enable the students to understand the basic concept of partial differentiation and their applications.				
5	Enhance the basic aptitude skills of the students.				

Pre-requisites: Knowledge of Mathematics up to MCA Integrated Ist Semester.

Course Contents / Syllabus

UNIT-I	INTEGRATION:	10 Hours

Basic concept of Integral, Indefinite Integrals, Methods of Integration Substitution, By Parts, Partial Fractions, definite Integral, Fundamental Theorem of Calculus (without proof), Basic properties of definite integral.

UNIT-II	DIFFERENTIAL EQUATION:	10 Hours

Definition, order and degree, general and solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

dydx+py=q$dydx+py=q$

, where p and q are functions of x, Introduction of Second order Linear differential equation and C.F., P.I. for exponential and trigonometric functions.

UNIT-III	PARTIAL ORDER RELATIONS AND LATTICES:	8 Hours

Partial Order Sets, Representation of POSETS using Hasse diagram, Chains, Maximal and Minimal Point, Glb, lub, and lattices Lattices & Algebraic Systems, Principle of Duality, Basic Properties, Sublattices, Distributed & Complemented Lattices.

UNIT-IV	FUNCTIONS OF SEVERAL VARIABLES:	10 Hours

Partial Differentiation, Change of Variables, Chain Rule, Extrema of Functions of two variables, Euler's Theorem for homogeneous functions.

UNIT-V	Aptitude-II:	8Hours

Ratio, Proportion & Partnership, Problem of ages, Allegation & Mixture, Direction, Blood relation, Simple & Compound interest, Permutation & Combination.

Course outcome:	**At the end of the course, the student will be able to:**	
CO 1	Apply concept of integration to evaluate definite integrals.	K_3
CO 2	Apply the concept of differentiation and integration to find the solution of differential equations.	K_3
CO 3	Understand the concept of partial order relations and lattices to solve various problems based on it.	K_2
CO 4	Apply the concept of partial differentiation of functions of two variables to find the derivative of different type functions, and maxima and minima.	K_3
CO 5	Solve the problems of Ratio, Proportion & Partnership, Problem of ages, Allegation & Mixture, Direction, Blood relation, Simple & Compound interest, Permutation & Combination..	K_3

Textbooks

Mathematics - Textbook for Class XI, NCERT Publication
Mathematics Part I - Textbook for Class XII, NCERT Publication
Mathematics Part II - Textbook for Class XII, NCERT Publication

1.

Reference Books

Referential Books:

B.S.Grewal,"ElementaryEngineeringMathematics",34thEd.,1998.
J.P.Chauhan"BCA Mathematics Volume -1&2",Krishn aPublications.
G.F. Simmons, "Differential Equations"
R.S. Aggrawal, "Quantitative Aptitude"

Link:

Unit 1 •

https://www.youtube.com/playlist?list=PLbu_fGT0MPstBzAW5gGWLltksM_yAs3si
https://youtu.be/z0ajJjA3_Ns

Unit 2 •

https://youtu.be/f-4tMNFUqyU
https://youtu.be/AX_0jNDIi9I
https://youtu.be/BHdXOPD4cvo
https://youtu.be/OET0qwat15o

Unit 3 •

https://www.youtube.com/watch?v=LUjb0tgE_uo
https://www.youtube.com/watch?v=DZEG3YgJbL0&list=PLEjRWorvdxL5-D6xREVQ7a-EZMJLO7N8j
https://www.youtube.com/watch?v=9edipEsWjNM
https://www.youtube.com/watch?v=XXkZC-LYJoM

Unit 4 •

https://www.youtube.com/watch?v=-LdChGbNbP4
https://www.youtube.com/watch?v=n2wyqq-K7_A
https://www.youtube.com/watch?v=79Z1SQXfE-k

Unit 5

https://www.GovernmentAdda.com

Course Code	AMICA0201	L	T	P	Credit
Course Title	Problem Solving Using Python	3	1	0	4

Course objective: Objective of this course is to impart knowledge of basic building blocks of Python programming, provide skills to design algorithms for problem solving, implementation and debugging of programs in Python using modules & packages, disseminate the knowledge of basic data structures.

Pre-requisites: Students are expected to be able to open command prompt window or terminal window, edit a text file, download and install software, and understand basic programming concepts.

Course Contents / Syllabus

UNIT-I	**Basics of Python Programming**	**8 hours**

Introduction: Introduction to computer system, algorithms, Ethics and IT policy in company, Feature of object-oriented programming, A Brief History of Python, Applications areas of python, The Programming Cycle for Python, Python IDE, Interacting with Python Programs. Elements of Python: keywords and identifiers, variables, data types and type conversion, operators in python, expressions in python, strings.

UNIT-II	**Decision Control Statements**	**8 hours**

Conditionals: Conditional statement in Python (if-else statement, its working and execution), Nested-if statement and elif statement in Python, Expression Evaluation & Float Representation.

UNIT-III	**Loops and Function**	**8 hours**

Loops: Purpose and working of loops, while loop, For Loop, Nested Loops, Break and Continue, pass statement. Introduction of Function, calling a function, Function arguments, built in function, scope rules, Passing function to a function, recursion, Lambda functions

UNIT-IV	**Modules and Packages**	**8 hours**

Modules and Packages: Importing Modules, writing own modules, Standard library modules, dir() Function, Packages in Python.

UNIT-V	**Basic Data structures in Python**	**8 hours**

Strings: Basic operations, Indexing and Slicing of Strings, Comparing strings, Regular expressions. Python Basic Data Structure: Sequence, Unpacking Sequences, Mutable Sequences, Lists, List Comprehension, Looping in Array, Lists, Tuples, Sets, Dictionaries.

Course outcome: At the end of course, the student will be able to

CO 1	Write, interpret and execute python programs.	K2
CO 2	Develop python programs using decision control statements	K3
CO 3	Develop python programs using loops and function.	K3
CO 4	Implement modules and packages in python.	K5
CO 5	Implement python data structures- list, tuples, array, set, dictionaries.	K5

Text books :

(1) John V Guttag,—Introduction to Computation and Programming Using Python‘‘ , Revised and expanded Edition,MITPress,2013.

(2) Charles Dierbach, — Introduction to Computer Science using Python: A Computational Problem Solving Focus, Wiley India Edition, 2013.

(3)Robert Sedgewick, Kevin Wayne, Robert Dondero: Introduction to Programming in Python: An Inter-disciplinary Approach, Pearson India Education Services Pvt. Ltd, 2016.

Link: NPTEL/ YouTube/ Faculty Video Link:	
Unit 1	https://www.youtube.com/watch?v=kqtD5dpn9C8
Unit 2	https://www.youtube.com/watch?v=4m7saub4zmY
Unit 3	https://www.youtube.com/watch?v=94UHCEmprCY
Unit 4	https://www.youtube.com/watch?v=W4HSsPPQLtk
Unit 5	https://www.youtube.com/watch?v=R-HLU9Fl5ug

Course Code	AMICA0204	L	T	P	Credit
Course Title	Design Thinking-I	2	1	0	3

Course objective: To introduce students with the design process as a tool for breakthrough innovation, help students develop into professionals with good interpersonal and presentation skills, help students becoming efficient team players with potent leadership skills, participate and lead teams in order to collaborate and create innovative ideas and solutions, apply design thinking skills for understanding the assumptions and claims that frame the idea.

Pre-requisites: None

Course Contents / Syllabus

UNIT-I	Introduction	8 hours

Introduction to design thinking, traditional problem solving versus design thinking, history of design thinking, wicked problems. Innovation and creativity, the role of innovation and creativity in organizations, creativity in teams and their environments, creativity to innovation, design mindset. Introduction to elements and principles of design. Arcturus IV case study, individual activity on identifying an opportunity in different scenarios.

UNIT-II	Ethical Values and Empathy	8 hours

Understanding humans as a combination of I (self) and body, basic physical needs up to actualization, prosperity, the gap between desires and actualization. Understanding culture in family, society, institution, startup, socialization process. Ethical behavior: effects on self, society, understanding core values and feelings, negative sentiments and how to overcome them, definite human conduct: universal human goal, developing human consciousness in values, policy, and character. Understand stakeholders, techniques to empathize, identify key user problems. Empathy tools- Interviews, empathy maps, emotional mapping, immersion and observations, customer journey maps, and brainstorming. Individual activity- 'Moccasin walk', scenario-based role-play activities using empathy mapping.

UNIT-III	Problem Statement and Ideation	10 hours

Defining the problem statement, synthesis frameworks, creating personas, Point of View (POV) statements. Research- identifying drivers, information gathering, target groups, samples, and feedbacks. Idea Generation- basic design directions, Themes of Thinking, inspirations and references, brainstorming, value, inclusion, sketching and presenting ideas, idea evaluation, double diamond approach, analyze – four W's, 5 why's, "How Might We", Conflict of Interest and Six Thinking Hats. Case study /Group activities - making right personas and defining the key problem, ideation activity games - six thinking hats, million-dollar idea

UNIT-IV	Critical Thinking	6 hours

Fundamental concepts of critical thinking, the difference between critical and ordinary thinking, characteristics of critical thinkers, critical thinking skills- linking ideas, structuring arguments, recognizing in congruence's, five pillars of critical thinking, argumentation versus rhetoric, cognitive bias, tribalism, and politics. Case study on applying critical thinking on different scenarios.

UNIT-V	Logic and Argumentation	8 hours

The argument, claim, and statement, identifying premises and conclusion, truth and logic conditions, valid/invalid arguments, strong/weak arguments, deductive argument, argument diagrams, logical reasoning, scientific reasoning, logical fallacies, propositional logic, probability, and judgment, obstacles to critical thinking. Group activity/role plays on evaluating arguments.

Course outcome: At the end of course, the student will be able to

CO 1	Develop a strong understanding of the design process and how it can be applied in a variety of business settings	K1
CO 2	Understand and analyze self, culture and exhibit ethical behavior	K1, K2
CO 3	Use empathy tools for target segment from different cultures by understanding their unique needs	K2

CO 4	Generate innovative ideas and define specific problem statement to lead nurturing	K1, K2
CO 5	Demonstrate an enhanced ability to apply design thinking skills for evaluation of claims and arguments	K2, K3

Text books :

(1) 101 Design Methods: A Structured Approach for Driving Innovation in Your Organization by Vijay Kumar

(2) Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation by Tim Brown

(3) R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

Link: NPTEL/ YouTube/ Faculty Video Link:

Unit 1	https://nptel.ac.in/courses/110106124
Unit 2	https://nptel.ac.in/courses/110106124
Unit 3	https://www.youtube.com/watch?v=GNvLpfXCge8
Unit 4	https://www.criticalthinking.org/pages/defining-critical-thinking/766
Unit 5	https://onlinecourses.swayam2.ac.in/aic19_ma06/preview

Course code	AMICA0203	L	T	P	Credit
Course title	Soft-Skills and Personality Development	2	1	0	3

Course objectives:

1. To develop oral communication skills for professional interactions
2. To learn the effective use of nonverbal communication
3. To acquire interview skills
4. To write effectual emails and proposals
5. To learn to listen actively
6. To develop essential corporate soft skills

Pre-requisite:

1. The students must have completed all units from Semester 1.

Course Content / Syllabus

UNIT-I **Speaking in Public** **10 Hours**

- Ways to communicate effectively
- Major barriers in communication
- Important aspects of oral presentations – defining objective, audience & locale analysis, preparation, rehearsal, delivery
- Group discussion tips

UNIT-II **Effective use of Non-Verbal Communication Skills** **5 Hours**

- Key principles of non-verbal communication – culture, age, gender, and geographic location; context; signals; incongruence; intuition.
- Mehrabian's formula of communication.
- Types of non-verbal communication:
- Kinesics: appearance, facial expression, posture, gesture, eye contact; proxemics; chronemics; haptics.
- Paralanguage: Intonation, Voice-Modulation, Pacing & Pausing

UNIT-III **Facing Interviews** **10 Hours**

- Job Interviews
  - Tips to speaking confidently
  - Answering FAQ's
  - Do's & Don'ts
- Realizing strengths and limitations

UNIT-IV **Correspondence & Listening Comprehension** **10 Hours**

- Writing effective e-mails
- Writing Business/Start-up Proposals
- Developing Active Listening Skills
- Listening for different purposes

UNIT-V **Introduction to Soft-Skills** **5 Hours**

- General etiquette
- Important aspects of personality
  - Developing a positive attitude

- Time management
- Creative thinking

	Course outcome: At the end of the course students will be able to:	
CO 1	Acquire the skills necessary to communicate effectively and deliver presentations with clarity and impact.	L3
CO 2	Learn the use of correct body language and tone of voice to enhance communication.	L3
CO 3	Apply interview skills to improve performance during job interviews.	L3
CO 4	Demonstrate active listening with comprehension, and the ability to write clear and well-structured emails and proposals.	L4, L5
CO 5	Understand and apply some important aspects of core skills.	L2, L3

Textbook(s)

1. **Personality Development and Soft Skills** by Barun K Mitra, Oxford Univ. Press, 2012, New Delhi.

2. **Technical Communication** – Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press, 2016, New Delhi.

Reference Books

1. Rizvi, M. Ashraf. *Resumes and Interviews: The Art of Winning.* Tata McGraw Hill. New Delhi. 2008

2. Lesikar and Flatley. *Basic Business Communication: Skills for Empowering the Internet Generation.* 10th Edition. Tata McGraw-Hill.2005.

3. **Practical Communication: Process and Practice** by L U B Pandey; A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2014, Delhi.

4. **Modern Technical Writing** by Sherman, Theodore A (et.al); Apprentice Hall; New Jersey; USA

5. A Complete Guide to Write Right by Agarwal, Deepa. Scholastic, 1st edition

6. **Technical writing and communication**, R S Sharma, V.P. Publication, 1st edition

7. Business Communication for Managers by Payal Mehra, Pearson Publication, Delhi.

Course Code	AMICA0202	L	T	P	Credit
Course Title	Internet and Web Designing	3	1	0	4

Course objective: This course is intended to teach the basics of internet and familiarize students to publish the content over the web by using access technologies and web protocols. It explores the principles of creating an effective webpage using 'language of the web'- HTML and the security issues of browsers.

Pre-requisites: Basic knowledge of Computer System.

Course Contents / Syllabus

UNIT-I	Introduction to Internet	8 hours

World Wide Web, Web page, Home page, Web site, Static, Dynamic and Active web page, Overview of Protocols – Simple Mail Transfer Protocol, Gopher, Telnet, FTP, Simple Network Management Protocol, Hyper Text Transfer Protocol, Client server computing concepts.

UNIT-II	Working of Internet/ Websites	8 hours

Access Network Architectures: Access network characteristics. Differences between Access Networks, Voice grade modems, ADSL, Cable Modems, and Frame Relay. DNS: Domain Names. Resolving Domain Names to IP addresses (DNS operation). Registering Domain Names and solving Domain name disputes. Function of IP routing protocols (OSPF and BGP4). Implications of future Internet growth on routing protocol performance.

UNIT-III	Electronic mail & Servers	8 hours

Introduction of Email, Structure of an E-mail, Starting, Setting up a Mail Account, Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration; Instant Messaging; Netiquettes, Web Based Emails, E-mail Protocols, Mailing List.

Web Servers, HTTP request types, System Architecture, Client Side Scripting and Server side Scripting, Accessing Web servers, IIS, Apache web server

UNIT-IV	Web Security	8 hours

Security Issues on web, Importance of Firewall, components of Firewall, Transaction security, Emerging client server, Security Threats, Network Security, Factors to consider in Firewall design, Limitation of Firewalls.

UNIT-V	Basics of HTML	8 hours

Introduction to HTML, Essential Tags, Tags and Attributes, Text Styles and Text Arrangements, Text, Effects, Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG), Color and Background of Web Pages, Lists and their Types, Attributes of Image Tag, Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents, Different Section of a Page and Graphics, Footnote and E-Mailing, Creating Table, Frame, Form and Style Sheet.

Course outcome: At the end of course, the student will be able to

CO 1	Understand the basic working scheme of the Internet and World Wide Web, and the requirements of effective web design.	K1, K2
CO 2	Apply the web and Internet technologies.	K4
CO 3	Demonstrate the basic concepts of network.	K4
CO 4	Understand the security issues.	K3, K4

CO 5	Develop web pages using the basic HTML features with different layouts as per need of applications.	K3,K5,K6

Text books :

(1)Achyut Godbole, Atul Kahate "Web Technologies: TCP/IP, Web/ Java Programming, and Cloud Computing", Third Edition, McGraw Hill Education, 2013

(2) Ralph Moseley and M. T. Savaliya, Developing Web Applications, Wiley-India Private Limited, 2011.

(3) T.A. Powell, Complete Reference HTML , TMH, 2002

Link: NPTEL/ YouTube/ Faculty Video Link:

Unit 1	https://www.youtube.com/watch?v=fzuZZHFv3_E
Unit 2	https://www.youtube.com/playlist?list=PLbRMhDVUMngf-peFloB7kyiA40EptH1up
Unit 3	https://www.youtube.com/watch?v=7_LPdttKXPc
Unit 4	https://www.youtube.com/watch?v=M7LBvsdhCuI
Unit 5	https://www.youtube.com/watch?v=MDLn5-zSQQI

Lab Code	AMICA0251	L	T	P	Credit
Lab Title	Problem Solving using Python Lab	0	0	2	1

Course outcome: At the end of the course, the student will be able to

CO1	Write simple python programs.	K_2, K_3
CO2	Implement python programs using decision control statements	K_3, K_6
CO3	Writing python programs using user defined functions and modules	K_2
CO4	Implement programs using python data structures–lists, tuples, set, dictionaries	K_3
CO5	Write programs to perform input/ output operations on files	K_3,K_4

List of Experiment:

List of Fundamental Programs

S.N.	Program Title	Category
1.	Python Program to print "Hello Python"	Basic
2.	Python Program to read and print values of variables of different data types.	Basic
3.	Python Program to perform arithmetic operations on two integer numbers	Basic
4.	Python Program to convert degree Fahrenheit into degree Celsius	Operators
5.	Python Program to calculate roots of a quadratic equation.	Conditional
s6.	Python Program to check whether a year is leap year or not.	Conditional
7.	Python Program to find GCD and LCM of two numbers.	Loop
8.	Python Program to find the factorial of an integer number.	Loop
9.	Python Program to find the reverse of an integer number.	Loop
10.	Python Program to check using function whether a passed string is Palindrome or not	Function
11.	Python Program using function that takes a number as a parameter, check whether the number is prime or not.	Function
12.	Python Program to Display Fibonacci Sequence using Recursion	Recursion
13.	Python Program to Find Factorial of Number using Recursion	Recursion
14.	Python Program that implements string methods such as –count(), islower(), isupper(), upper(), lower()	String
15.	Python Program that validates given mobile number. Number should start with 7, 8 or 9 followed by 9 digits.	String
16.	Python Program to implement various methods of a list.	List
17.	Python Program that has a nested list to store toppers details. Edit the details and reprint them.	List
18.	Python Program to swap two values using tuple assignment.	Tuple

Lab Code	AMICA0253	L	T	P	Credit
Lab Title	Soft Skills and Personality Development Lab	0	0	2	1

Suggested List of Experiments

S. No.	Name of Experiment
1	Situation Specific Role Plays with stress on Kinesics* (8 hrs)
2	Group Discussions with stress on etiquette* (6 hrs)
3	Mock Interviews with stress on paralanguage* (8 hrs)
4	Listening Comprehension Practice (2 Hrs)
5	Presentations (Individual/group) * (8 Hrs)
6	Time Management Simulation Exercises (2 Hrs)
7	Stress Management Exercises (2 Hrs)
	***To be recorded**

Course outcome:

At the end of the course students will be able to

CO 1	Acquire the skills necessary for communicating professionally with correct body language.	L3
CO 2	Learn to use correct etiquette during a group discussion.	L3
CO 3	Apply interview skills with the essential voice dynamics to improve performance during job interviews.	L3
CO 4	Demonstrate active listening with comprehension and deliver effective presentations.	L3, L4
CO 5	Understand and apply some important aspects of core skills, like time and stress management.	L2, L3

Course Code	AMICA0252	L T P	Credit
Course Title	Internet and Web Designing Lab	0 0 2	1

List of Experiments:

S. No.	Name of Experiment	CO
1	Browsing the world wide web, Explore Web browsers, Search engines, Familiarize with web portals, E-commerce sites, blogs, to familiarize various search engines-google, yahoo, bing. Problem Statement: 1. Search the same keywords in at least three different search engines and compare their results 2. Search the same image in at least three different search engines and compare their results	CO1
2	Running and using services like ping, trace route to familiarize with IPv4 and IPv6, registration of website and its domain.	CO2
3	To create an email id for receive and send pictures, documents. Problem Statement: 1. Create an email account on 2. Add a contact 3. Send an email to multiple people 4. Delete an email 5. Email a picture 6. Email a document 7. Advance email settings 8. Mail recovery 9. Add signatures	CO3
4	Understanding basic security and copyright issues involving Computers, HTTP and HTTPS, start and stop the firewall option in operating system	CO4
5	To create a simple html file to demonstrate the use of different tags. Problem Statement: - Create an html page named as ": Basic_Html_Tags.html" Add the following tags detail. 1. Set the title of the page as "Basic Html Tags" 2. Within the body perform the following: a) Moving text = "Basic HTML Tags" b) Different heading tags (h1 to h6) c) Paragraph d) Horizontal line e) Line Break	CO5

Lab Course Outcome: After completion of this course students will be able to

CO1	Understand the basic working scheme of the Internet and World Wide Web, and the requirements of effective web design.	K1
CO2	Understand the process of domain registration and web hosting.	K2
CO3	Demonstrate the management of electronic mails using internet protocols.	K4
CO4	Understand the basics of web security, HTTP and HTTPs.	K2
CO5	Develop web pages using the basic HTML features with different layouts as per the requirements.	K3,K5