

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

**DEPARTMENT OF BIOMEDICAL ENGINEERING**

**REGULATION- 2019**

<b>Courses on Employability / ED / SD</b>					
S.NO	Sub code	Sem	Type of course	Credit	Course title
1.	191HS40A	IV	HSS	1	Reading and writing skill laboratory
2.	191BM62B	VI	PC	1	Innovation Practices Laboratory
3.	191HS60A	VI	PC	1	Communication skills lab
4.	191BM522	V	PC	3	Hospital Management
5.	191BM77A	VII	PROJ	2	Project work phase-I
6.	191BM87A	VIII	PROJ	10	Project work phase-II
7.	191BM833	VIII	PE	3	Principles of management

**COURSE OBJECTIVES**

1. It makes the students free of their inferiority complex regarding language
2. It amplifies the student's level of confidence in his/her personal career
3. It elevates the success rate of the students in their professional career
4. It improves the academic standards and the employability skills
5. It helps to overcome the cultural barriers

**LIST OF EXPERIMENTS****ACTIVE LISTENING AND RESPONDING**

Active listening - Asking questions – Responding to the questions - Listen to the Audio – visual components – Listening Comprehension

**PRESENTATION SKILLS**

Introduction to Presentation – Building up confidence - Effective Presentation – Body Language - Poster presentations – subject relevant seminars –

**SPEAKING SKILLS**

General Conversation – Short speech - Role play activities - Question and Answer sessions

**WRITING SKILLS**

Effective writing - Letter writing – E-mail writing – Paragraph writing – Story writing

**GROUP DISCUSSION**

Importance of Group Discussion – Understanding the dynamics of GD – Activities to improve the GD Skills – Mock GD – Video samples

**COURSE OUTCOMES**

Co1: Student will be an active listener so as to respond accurately and effectively

Co2: Students becomes confident enough to present anything successfully

Co3: Student becomes free for making queries and answer to queries without hesitation.

Co4: Student learns to write effectively and be able to draft letters, E-mails impressively.

Co5: Student understands the dynamics of GD and so participates in GDs confidently.

**REFERENCE BOOKS**

1. Butterfield, Jeff Soft Skills for Everyone. Cengage Learning: New Delhi, 2015
2. Interact English Lab Manual for Undergraduate Students,.OrientBalckSwan: Hyderabad, 2016.
3. E. Suresh Kumar et al. Communication for Professional Success. Orient Blackswan: Hyderabad, 2015
4. Raman, Meenakshi and Sangeeta Sharma. Professional Communication. Oxford University Press: Oxford, 2014
5. S. Hariharanetal. Soft Skills. MJP Publishers: Chennai, 2010.
6. Brooks,Margret. Skills for Success. Listening and Speaking. Level 4 Oxford University Press, Oxford: 2011.
7. Richards,C. Jack. & David Bholke. Speak Now Level 3. Oxford University Press, Oxford: 2010

**WEB SERIES**

1. <https://learnenglishteens.britishcouncil.org/skills/writing/upper-intermediate-b2-writing/report>
2. <https://www.ted.com/talks>

PO,CO,PSO MAPPING															
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	-	-	-	-	-	-	-	2	3	3	-	3	1	-	-
CO 2	-	-	-	-	-	-	-	2	3	3	-	3	1	-	-
CO 3	-	-	-	-	-	-	-	2	3	3	-	3	1	-	-
CO 4	-	-	-	-	-	-	-	2	3	3	-	3	1	-	-
CO 5	-	-	-	-	-	-	-	2	3	3	-	3	1	-	-
CO	-	-	-	-	-	-	-	2	3	3	-	3	1	-	-

**COURSE OBJECTIVES**

The student should be made to:

1. To equip students of engineering and technology with effective speaking and listening skills in English.
2. To help them develop their soft skills and interpersonal skills, which will make the transition from college to workplace smoother and help them excel in their job.
3. To enhance the performance of students at Placement Interviews, Group Discussions and other recruitment exercises

**I. PC based session (Weightage 40%)****A. English Language Lab****1. Listening Comprehension:**

6Listening and typing – Listening and sequencing of sentences – Filling in the blanks - Listening and answering questions.

**2. Reading Comprehension:****6**

Filling in the blanks - Close exercises – Vocabulary building - Reading and answering questions.

**3.Speaking:****6**

Phonetics: Intonation – Ear training - Correct Pronunciation – Sound recognition exercises – Common Errors in English. Conversations: Face to Face Conversation – Telephone conversation – Role play activities

**B. Viewing and discussing audio-visual materials**

(Samples are available to learn and practice)

**1. Resume / Report Preparation / Letter Writing****1**

Structuring the resume / report - Letter writing / Email Communication - Samples.

**2. Presentation skills:****1**

Elements of effective presentation – Structure of presentation - Presentation tools – Voice

Modulation – Audience analysis - Body language – Video samples

**3. Soft Skills:****2**

Time management – Articulateness – Assertiveness – Psychometrics – Innovation and Creativity - Stress Management & Poise - Video Samples

**4. Group Discussion:****1**

Why is GD part of selection process ? - Structure of GD – Moderator – led and other GDs - Strategies in GD – Team work - Body Language - Mock GD -Video samples

## **5. Interview Skills: 1**

Kinds of interviews – Required Key Skills – Corporate culture – Mock interviews-Video samples.

### **II. Practice Session (Weightage – 60%)**

1. Resume / Report Preparation / Letter writing: Students prepare their own resume and report.
2. Presentation Skills: Students make presentations on given topics. 8
3. Group Discussion: Students participate in group discussions. 6
4. Interview Skills: Students participate in Mock Interviews 8

### **COURSE OUTCOME**

At the end of the semester the students will be able to:

**CO1:** To be totally learner-centric with minimum teacher intervention as the course revolves around practice.

**CO2:** Suitable audio/video samples from Podcast/YouTube to be used for illustrative purposes.

**CO3:** Portfolio approach for writing to be followed. Learners are to be encouraged to blog, tweet, text and email employing appropriate language.

**CO4:** GD/Interview/Role Play/Debate could be conducted off the laboratory (in a regular classroom) but learners are to be exposed to telephonic interview and video conferencing.

**CO5:** Learners are to be assigned to read/write/listen/view materials outside the classroom as well for gaining proficiency and better participation in the class.

### **REFERENCE**

1. Anderson, P.V, Technical Communication, Thomson Wadsworth , Sixth Edition, New Delhi, 2007.
2. Prakash, P, Verbal and Non-Verbal Reasoning, Macmillan India Ltd., Second Edition, New Delhi, 2004.
3. John Seely, The Oxford Guide to Writing and Speaking, Oxford University Press, New Delhi, 2004.
4. Evans, D, Decisionmaker, Cambridge University Press, 1997.
5. Thorpe, E, and Thorpe, S, Objective English, Pearson Education, Second Edition, New Delhi, 2007.
6. Turton, N.D and Heaton, J.B, Dictionary of Common Errors, Addison Wesley Longman Ltd., Indian reprint 1998.

### **LAB REQUIREMENTS**

1. Teacher console and systems for students.
2. English Language Lab Software
3. Career Lab Software

### CO-PO and PSO Mapping

<b>Cos</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PO 7</b>	<b>PO 8</b>	<b>PO 9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>
<b>CO 1</b>	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
<b>CO 2</b>	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
<b>CO 3</b>	-	-	-	-	-	-	-	-	1	3	3	-	-	-	-
<b>CO 4</b>	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
<b>CO 5</b>	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
<b>CO</b>	-	-	-	-	-	-	-	-	1	3	3	-	-	-	-

**COURSE OBJECTIVES**

The student should be made to:

- To understand the fundamentals of hospital administration and management.
- To know the market related research process
- To explore various information management systems and relative supportive services.
- To learn the quality and safety aspects in hospital.

**UNIT I OVERVIEW OF HOSPITAL ADMINISTRATION 9**

Distinction between Hospital and Industry, Challenges in Hospital Administration – Hospital Planning- Equipment Planning – Functional Planning - Current Issues in Hospital Management – Telemedicine - Bio-Medical Waste Management.

**UNIT II HUMAN RESOURCE MANAGEMENT IN HOSPITAL 9**

Principles of HRM – Functions of HRM – Profile of HRD Manager – Tools of HRD –Human Resource Inventory – Manpower Planning. Different Departments of Hospital, Recruitment, Selection, Training Guidelines –Methods of Training – Evaluation of Training – Leadership grooming and Training, Promotion – Transfer, Communication – nature, scope, barriers, styles and modes of communication.

**UNIT III MARKETING RESEARCH PROCESS 9**

Marketing information systems - assessing information needs, developing & disseminating information - Market Research process - Other market research considerations – Consumer Markets & Consumer Buyer Behaviour - Model of consumer behaviour - The buyer decision process - Model of business buyer behavior – Major types of buying situations - WTO and its implications.

**UNIT IV HOSPITAL INFORMATION SYSTEMS & SUPPORTIVE SERVICES 9**

Management Decisions and Related Information Requirement - Clinical Information Systems - Administrative Information Systems - Support Service Technical Information Systems – Medical Transcription, Medical Records Department – Central Sterilization and Supply Department – Pharmacy– Food Services - Laundry Services.

**UNIT V QUALITY AND SAFETY ASPECTS IN HOSPITAL 9**

Quality system – Elements, implementation of quality system, Documentation, Quality auditing, International Standards ISO 9000 – 9004 – Features of ISO 9001 – ISO 14000 – Environment Management Systems. NABA, JCI, NABL. Security – Loss Prevention – Fire Safety – Alarm System – Safety Rules. Health Insurance & Managing Health Care – Medical Audit – Hazard and Safety in a hospital Setup.

**TOTAL: 45 PERIODS**

**COURSE OUTCOMES**

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

- Explain the principles of Hospital administration.
- Identify the importance of Human resource management.
- List various marketing research techniques

- Identify Information management systems and its uses
- Explain safety procedures followed in hospitals.

### TEXT BOOKS

1. R.C.Goyal, —Hospital Administration and Human Resource Managementl, PHI – Fourth Edition, 2006.
2. G.D.Kunders, —Hospitals – Facilities Planning and Management – TMH, New Delhi – Fifth Reprint 2007.

### REFERENCES

1. Cesar A.Caceres and Albert Zara, —The Practice of Clinical Engineering, Academic Press, New York, 1977.
2. Norman Metzger, —Handbook of Health Care Human Resources Managementl, 2nd edition Aspen Publication Inc. Rockville, Maryland, USA, 1990.
3. Peter Berman —Health Sector Reform in Developing Countriesl - Harvard University Press, 1995.
4. William A. Reinke —Health Planning For Effective Managementl - Oxford University Press.1988
5. Blane, David, Brunner, —Health and SOCIAL Organization: Towards a Health Policy for the 21st Centuryl, Eric Calrendon Press 2002.
6. Arnold D. Kalcizony& Stephen M. Shortell, —Health Care Managementl, 6th Edition Cengage Learning, 2011.

CO,PO, PSO MAPPING															
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	-	-	-	-	-	1	1	2	1	-	2	1	-	-	2
CO 2	-	-	-	-	-	1	1	1	2	-	3	1	-	-	2
CO 3	-	-	-	-	-	1	1	1	2	-	3	1	-	-	2
CO 4	-	-	-	-	-	1	1	3	2	-	3	1	-	-	2
CO 5	-	-	-	-	-	3	2	3	1	-	2	1	-	-	2



**COURSE OBJECTIVES**

- To enable the students to study the evolution of Management, to study the functions and principles of management and to learn the application of the principles in an organization.

**UNIT I INTRODUCTION TO MANAGEMENT AND ORGANIZATIONS****9**

Definition of Management – Science or Art – Manager Vs Entrepreneur - types of managers - managerial roles and skills – Evolution of Management – Scientific, human relations , system and contingency approaches – Types of Business organization - Sole proprietorship, partnership, company-public and private sector enterprises - Organization culture and Environment – Current trends and issues in Management.

**UNIT II PLANNING****9**

Nature and purpose of planning – planning process – types of planning – objectives – setting objectives – policies – Planning premises – Strategic Management – Planning Tools and Techniques – Decision making steps and process.

**UNIT III ORGANISING****9**

Nature and purpose – Formal and informal organization – organization chart – organization structure – types – Line and staff authority – departmentalization – delegation of authority – centralization and decentralization – Job Design - Human Resource Management – HR Planning, Recruitment, selection, Training and Development, Performance Management , Career planning and management.

**UNIT IV DIRECTING****9**

Foundations of individual and group behaviour – motivation – motivation theories – motivational techniques – job satisfaction – job enrichment – leadership – types and theories of leadership – communication – process of communication – barrier in communication – effective communication – communication and IT.

**UNIT V CONTROLLING****9**

System and process of controlling – budgetary and non-budgetary control techniques – use of computers and IT in Management control – Productivity problems and management – control and performance – direct and preventive control – reporting.

**TOTAL: 45 PERIODS****COURSE OUTCOMES**

Students would be able to

- Elucidate basics of organization and management
- Gain knowledge on managerial function planning
- Gain basic knowledge on organizing skills
- Acquire knowledge on leadership qualities
- Gain knowledge on managerial function controlling

## TEXTBOOKS

1. Stephen P. Robbins & Mary Coulter, —Management, Prentice Hall (India) Pvt. Ltd., 10th Edition, 2009.
2. JAF Stoner, Freeman R.E and Daniel R Gilbert —Management, Pearson Education, 6th Edition, 2004.

## REFERENCES

1. Stephen A. Robbins & David A. Decenzo & Mary Coulter, —Fundamentals of Management, Pearson Education, 7th Edition, 2011.
2. Robert Kreitner & Mamata Mohapatra, — Management, Biztantra, 2008.
3. Harold Koontz & Heinz Weihrich —Essentials of management, Tata McGraw Hill, 1998.
4. Tripathy PC & Reddy PN, —Principles of Management, Tata McGraw Hill, 1999.

### CO, PO, PSO MAPPING

Cos	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO 1	3	-	-	-	-	3	3	3	3	2	2	2	-	-	-
CO 2	3	-	-	-	-	3	3	3	3	2	2	2	-	-	-
CO 3	3	-	-	-	-	3	3	3	3	2	2	2	-	-	-
CO 4	3	-	-	-	-	3	3	3	3	2	2	2	-	-	-
CO 5	3	-	-	-	-	3	3	3	3	2	2	2	-	-	-
CO	3	-	-	-	-	3	3	3	3	2	2	2	-	-	-

# Vel Tech Multi Tech

Dr.Rangarajan Dr.Sakunthala Engineering College

**An Autonomous Institution**

## Department of Electronics and Communication Engineering

### Courses Employability

Courses on Employability/ED/SD			Regulation
Name of the Course	Course Code	Semester	
English for Engineering Students	191HS101	I	2019
Management Science	191HS301	III	
Inter Personal Skills Listening and Speaking	191HS30B	III	
Internship / Training-I	191MC46A	IV	
Technical Seminar	191MC56A	V	
Internship - II	191MC66A	VI	
Project Phase-I	191EC77A	VII	
Naalaiya Thiran	EEC	VII	
Project Work	191EC87A	VIII	

Semester	I	L	T	P	C
Course Code/ Title	191HS101 / ENGLISH FOR ENGINEERING STUDENTS	3	0	0	3
Objectives	<ul style="list-style-type: none"><li>Equip students with the English language skills required for the successful undertaking of academic studies.</li><li>Improve general and academic listening skills</li><li>Provide guidance and practice in basic geranial and classroom conversation and to engage in specific academic speaking activities</li><li>Strengthen the reading and writing skills of students of engineering</li></ul>				
Unit-I	VOCABULARY BUILDING				9
Word formation - Prefixes and Suffixes – Root words from foreign languages – Synonyms – Antonyms– Compound Nouns – Standard Abbreviations					
Unit-II	GRAMMATICAL COMPETENCY				9
Noun, Verb, Adjective – Subject-Verb Agreement – Articles – Prepositions – Purpose expressions – Model Verbs					
Unit-III	BASIC WRITING SKILLS				9
Sentence structure – Phrases – Clauses – Coherence – Cohesion (using linking words) – Paragraph Writing (Descriptive and Narrative)					
Unit-IV	READING SKILLS				9
Reading Strategies – Skimming and Scanning – Reading Comprehension exercises with multiple choice and open ended questions – Transforming Information in the form of charts – Note Making					
Unit-V	ORAL COMMUNICATION				9
(This unit involves interactive practice sessions in Language Lab) <ul style="list-style-type: none"><li>Listing Comprehension</li><li>Pronunciation, Syllable and Stress, Rhythm and Intonation</li><li>General conversations and dialogues, common in everyday situations</li><li>Short Speech</li></ul>					
Outcomes	On completion of the course, students will be able to <ul style="list-style-type: none"><li>1. Listen, understand and respond to other in different situations</li><li>2. Speak correctly and fluently in various situations using appropriate communication strategies</li><li>3. Read and comprehend a variety of texts adopting different reading strategies</li><li>4. Write with clarity in simple, apt and flawless language with coherence and cohesion</li><li>5. Use their communicative competency with precision and clarity in social contexts</li></ul>				
TOTAL PERIODS 45					
Text Books					
<ul style="list-style-type: none"><li>1. Department of English, Anna University, Mindscapes: English for Technologists and Engineers, OrientBlackswan, Chennai – 2012.</li><li>2. Dhanavel, S. P. English and Communication Skills for Students of Science and Engineering, OrientBlackswan, Chennai – 2011.</li></ul>					

3. Communication Skills. Sanjay Kumar and Pushp Lata. Oxford University Press. 2011..
<b>References</b>
1. Practical English Usage. Michael Swan. OUP. 1995. 2. Remedial English Grammar. F.T. Wood. Macmillan.2007. 3. Study Writing. Liz Hamp-Lyons and Ben Heasley. Cambridge University Press. 2006. 4. Exercises in Spoken English. Parts. I-III. CIEFL, Hyderabad. Oxford University Press. 5. Practical English Usage. Michael Swan. OUP. 1995.

Semester	III	L	T	P	C
Course Code/ Title	191HS301/MANAGEMENT SCIENCE	3	0	0	3
Objectives	<ul style="list-style-type: none"><li>• It makes the students aware of what is management</li><li>• Students learn how to overcome unexpected problems themselves</li><li>• It makes them active listeners by which they can be effective speakers</li><li>• Students become expertise in their written communication particularly</li><li>• It improves the academic standards and the employability skills</li></ul>				
Unit-I	Managerial Skills				9
Management Introduction - Time Management – Stress Management - employability and career Skills—grooming as a professional with values - General awareness of Current Affairs.					
Unit-II	Listening Skills				9
Importance of listening – Active listening - Asking questions – Responding to the questions - Listen to the Audio – visual components – Listening Comprehension					
Unit-III	Speaking Skills				9
General Conversation – Question and Answer sessions - Role play activities - Telephone skills - Public Speaking					
Unit-IV	Writign Skills				9
Effective writing - Letter writing – E-mail writing – Paragraph writing – Report writing					
Unit-V	Presentation Skills				9
Introduction to Presentation –Building up confidence - Effective Presentation – Body Language - Poster presentations – seminars relevant to Management					
Outcomes	On completion of the course, students will be able to <ol style="list-style-type: none"><li>1. Students learn how to overcome the stress in their respective field</li><li>2. Student will be an active listener so as to respond accurately and effectively</li><li>3. Student becomes free for making queries and responding to queries without hesitation.</li></ol>				

	4. Student learns to write effectively and be able to draft letters, E-mails impressively. 5. Students becomes confident enough to present anything successfully
<b>TOTAL PERIODS 45</b>	
<b>Text Books</b>	
1. Dhanavel, S. P. English and Communication Skills for Students of Science and Engineering, Orient Blackswan, Chennai – 2011. 2. Communication Skills. Sanjay Kumar and Pushp Lata. Oxford University Press. 2011. 3. Raman, Meenakshi and Sangeeta Sharma. Professional Communication. Oxford University Press: Oxford, 2014 4. S. Hariharanetal. Soft Skills. MJP Publishers: Chennai, 2010.	
<b>References</b>	
1. Mark Allen Weiss, —Data Structures and Algorithm Analysis in C, Second Edition, Pearson Education, 1996 2. Alfred V. Aho, John E. Hopcroft and Jeffrey D. Ullman, —Data Structures and Algorithms, Pearson Education, 1983. 3. Robert Kruse, C.L.Tondo, Bruce Leung, ShashiMogalla , — Data Structures and Program Design in C, Second Edition, Pearson Education, 2007 4. Jean-Paul Tremblay and Paul G. Sorenson, —An Introduction to Data Structures with Applications, Second Edition, Tata McGraw-Hill, 1991.	

Semester	III	L	T	P	C
Course Code/ Title	191HS30B / INTERPERSONAL SKILLS / LISTENING&SPEAKING	0	0	2	1
Objectives	<ul style="list-style-type: none"><li>Equip students with the English language skills required for the successful undertaking of academic studies with primary emphasis on academic speaking and listening skills.</li><li>Provide guidance and practice in basic general and classroom conversation and to engage in specific academic speaking activities.</li><li>Improve general and academic listening skills</li><li>Make effective presentations.</li></ul>				
Unit-I				6	
Listening as a key skill- its importance- speaking - give personal information - ask for personal information - express ability - enquire about ability - ask for clarification Improving pronunciation - pronunciation basics taking lecture notes - preparing to listen to a lecture - articulate a complete idea as opposed to producing fragmented utterances.					
Unit-II				6	
Listen to a process information- give information, as part of a simple explanation - conversation starters: small talk - stressing syllables and speaking clearly - intonation patterns - compare and contrast information and ideas from multiple sources- converse with reasonable accuracy over a wide range of everyday topics.					

Unit-III		6
Lexical chunking for accuracy and fluency- factors influence fluency, deliver a five-minute informal talk - greet - respond to greetings - describe health and symptoms - invite and offer - accept - decline - take leave - listen for and follow the gist- listen for detail		
Unit-IV		6
Being an active listener: giving verbal and non-verbal feedback - participating in a group discussion - summarizing academic readings and lectures conversational speech listening to and participating in conversations - persuade.		
Unit-V		6
Formal and informal talk - listen to follow and respond to explanations, directions and instructions in academic and business contexts - strategies for presentations and interactive communication - group/pair presentations - negotiate disagreement in group work.		
Outcomes	Upon completion of the course, the student should be able to: Listen and respond appropriately. Participate in group discussions Make effective presentations Participate confidently and appropriately in conversations both formal and informal	
TOTAL PERIODS 30		

Semester	IV	L	T	P	C
Course Code/ Title	191MC56A / Technical Seminar	0	0	2	1
Objectives	<ul style="list-style-type: none"><li>• To encourage the students to study advanced engineering developments</li><li>• To prepare and present technical reports.</li><li>• To encourage the students to use various teaching aids such as overhead projectors, power point presentation and demonstrative models.</li></ul>				
<p><b>METHOD OF EVALUATION:</b></p> <p>During the seminar session each student is expected to prepare and present a topic on engineering/ technology, for a duration of about 8 to 10 minutes. In a session of three periods per week, 15 students are expected to present the seminar. Each student is expected to present at least twice during the semester and the student is evaluated based on that. At the end of the semester, he / she can submit a report on his / her topic of seminar and marks are given based on the report. A Faculty guide is to be allotted and he / she will guide and monitor the progress of the student and maintain attendance also. Evaluation is 100% internal.</p> <p><b>TOTAL: 30 PERIODS</b></p>					
Outcomes					
<ul style="list-style-type: none"><li>• Ability to review, prepare and present technological developments</li><li>• Ability to face the placement interviews</li></ul>					

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

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**AUTONOMOUS - 2019**

Courses on Employability / ED / CD					
SNo	Sub Code	Sem	Type of Course	Credit	Course Title
1	191HS30A	III	HSS	1	Advanced Reading and Writing Laboratory
2	191MC46A	IV	MC	0	Internship / Training - I
3	191HS50A	V	HSS	1	Professional Communication
4	191MC56A	V	MC	0	Technical Seminar
5	191MC261	V	OE	3	Fundamental Course on Entrepreneurship
6	191CS62C	VI	PROJ	2	Miniproject
7	191MC66A	VI	MC	0	Internship / Training - II



YEAR	II	SEMESTER	III	L	T	P	C
COURSE CODE / COURSE TITLE	191HS30A / ADVANCED READING AND WRITING SKILL LABORATORY			0	0	2	1

COURSE OBJECTIVES
<ul style="list-style-type: none"> <li>✓ Develop their communicative competence in English with specific reference to</li> <li>✓ speaking and listening</li> <li>✓ Enhance their ability to communicate effectively in interviews.</li> <li>✓ Strengthen their prospects of success in competitive examinations.</li> </ul>

SYLLABUS		
UNIT-I		9
<b>Reading</b> – Strategies for effective reading-Use glosses and footnotes to aid reading comprehension- Read and recognize different text types-Predicting content using photos and title <b>Writing</b> -Plan before writing- Develop a paragraph: topic sentence, supporting sentences, concluding sentence –Write a descriptive paragraph		
UNIT-II		9
<b>Reading</b> -Read for details-Use of graphic organizers to review and aid comprehension <b>Writing</b> -State reasons and examples to support ideas in <b>writing</b> – Write a paragraph with reasons and examples- Write an opinion paragraph		
UNIT-III		9
<b>Reading</b> – Understanding pronoun reference and use of connectors in a passage- speed reading techniques- <b>Writing</b> – Elements of good essay-Types of essays- descriptive-narrative- issue-based- argumentative-analytical.		
UNIT-IV		9
<b>Reading</b> – Genre and Organization of Ideas- <b>Writing</b> – Email writing- visumes – Job application- project writing-writing convincing proposals.		
UNIT-V		12
<b>Reading</b> – Critical reading and thinking- understanding how the text positions the reader- identify <b>Writing</b> – Statement of Purpose- letter of recommendation- Vision statement		

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	Demonstrate understanding of elements of writing such as brainstorming for generating topic sentence, central ideas, supporting ideas, organization patterns, editing and drafting different types of paragraphs and essays.
<b>CO2</b>	Understand the strategies of skimming and scanning to read a text analytically and critically respond to it.
<b>CO3</b>	Apply critical thinking skills and infer a text logically in relation to various professional concerns.

**TEXT BOOKS**

1. Gramer F. Margot and Colin S. Ward Reading and Writing (Level 3) Oxford University Press: Oxford, 2011.
2. Debra Daise, CharlNorloff, and Paul Carne Reading and Writing (Level 4) Oxford University Press: Oxford, 2011.

**REFERENCES**

1. Davis, Jason and Rhonda LIss. Effective Academic Writing (Level 3) Oxford University Press: Oxford, 2006.
2. E. Suresh Kumar and et al. Enriching Speaking and Writing Skills. Second Edition. Orient Black swan: Hyderabad, 2012.
3. Withrow, Jeans and et al. Inspired to Write. Readings and Tasks to develop writing skills. Cambridge University Press: Cambridge, 2004.
4. Goatly, Andrew. Critical Reading and Writing. Routledge: United States of America, 2000.
5. Petelin, Roslyn and Marsh Durham. The Professional Writing Guide: Knowing Well and Knowing Why. Business & Professional Publishing: Australia, 2004.

**CO-PO & PSO Mapping**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
<b>CO1</b>	3	3	-	-	-	-	-	-	1	2	1	-	3	2	2
<b>CO2</b>	3	3	3	3	-	-	-	-	2	1	1	1	3	2	2
<b>CO3</b>	3	3	3	3	3	2	2	1	1	1	1	1	3	2	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>

YEAR	III	SEMESTER	V	L	T	P	C
COURSE CODE / COURSE TITLE	PROFESSIONAL COMMUNICATION			3	0	0	3

### COURSE OBJECTIVES

- Develop their communicative competence in English with specific reference to Speaking and listening.
- Enhance their ability to communicate effectively in interviews.
- Strengthen their prospects of success in competitive examinations.

### LIST OF EXPERIMENTS

1	Letter Writing i. Formal letter ii. Informal letter
2	Report Writing i. Event report ii. Project report
3	Resume Writing
4	Non-Technical Presentation
5	Technical Presentation
6	Interview Skills
7	Group Discussion
8	Listening Comprehension
9	Reading Comprehension
10	Common Errors in English
Beyond the Syllabus	
1	Familiarize different Genres of texts.
2	Different types of speeches, debates and Model UN.

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	➤ Equip students with technology driven language skills required for successful undertaking of academic studies with primary emphasis on academic speaking and listening and to prepare students for competitive exams.
<b>CO2</b>	➤ Identify different genres of reading and writing, and be able to reflect and respond critically on formal communication such as letters, reports and memos.
<b>CO3</b>	➤ Learn to understand the role of multiple intelligences and incorporate them in communication in a diverse team.

**CO-PO & PSO Mapping**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
<b>CO1</b>	3	-	-	-	-	-	-	-	3	3	2	2	3	-	-
<b>CO2</b>	3	-	-	-	-	-	-	-	3	3	2	2	3	-	-
<b>CO3</b>	3	-	-	-	-	-	-	-	3	3	2	2	3	-	-
<b>CO</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>-</b>	<b>-</b>

YEAR: III	SEM: V	191MC261 Fundamental Course on Entrepreneurship	L	T	P	C
CATEGORY: HSS			1	2	0	1
COURSE OBJECTIVES						
<ul style="list-style-type: none"> <li>Empower students with entrepreneurial mindset and business skills leading to superior job prospects, intrapreneurship and long term entrepreneurship.</li> <li>Support aspiring entrepreneurs with validated ideas to start meaningful ventures by connecting them to entrepreneurial ecosystems and customized learning programs.</li> <li>Develop an entrepreneurial outlook and mindset, critical skills and knowledge.</li> </ul>						
UNIT: I		SELF-DISCOVERY	9			
Find your flow-Effectuation Principles -Case Study-Identify your Entrepreneurial Style-Venture and Team formation Strategy-Shared Leadership-Hiring & Fitment-Team Role and Responsibilities.						
UNIT: II		OPPORTUNITY DISCOVERY	9			
Identifying problems worth solving-Design Thinking-Look for Solutions-Identify personalized Idea for startup - Venture start up Strategy.						
UNIT: III		CUSTOMER AND SOLUTION	9			
Customers and Markets-Identify your customer segment and Niche- Identify jobs, pains, gains and early adopters-Value Proposition-Outcome driven innovation-Basics of business regulation						
UNIT: IV		BUSINESS MODEL AND SALES MARKETING	9			
Basis of business model and lean approach-Lean Canvas-Risks and Assumptions-strategic pitching of business model-Positioning and Branding-Channels-Sales Planning-Selling Skills						
UNIT: V		VALIDATION AND MONEY	9			
Blue ocean strategy-Problem and Solution fit-Product & Market fit-Revenue and Pricing-Profitability checks-Bootstrapping and Initial Financing-Practice pitching- Case Study						
TOTAL: 45 Periods						
TEXT BOOKS						
<ol style="list-style-type: none"> <li>Khanka S.S. "Entrepreneurial Development" S.Chand &amp; Co.Ltd.New Delhi 2013.</li> <li>Donald F Kuratko, "Entrepreneurship -Theory, Process and practice", 9th Edition, Cengage Learning, 2014</li> </ol>						
REFERENCE BOOKS						
<ol style="list-style-type: none"> <li>www.learnwisefglobal.org</li> <li>Hisrich R D, Peters M.P., 'Entrepreneurship' 8th Edition, tata McGraw-Hill, 2013.</li> <li>Rajeev Roy, 'Entrepreneurship', II Edition, Oxford University Press, 2011.</li> </ol>						

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

DEPARTMENT OF EEE

Courses on Employability/ED/SD

S.No	Subject Code	Sem	Type of Course	Credit	Subject Name
1	191HS101	I	HSS	3	English for Engineering Students
2	191MC46A	IV	MC	0	Internship 1
3	191MC66A	VI	MC	0	Internship 2
4	191HS60A	VI	HSS	1	Professional Communication
5	191EE77A	VII	PROJ	2	Project Work Phase I
6	191CE544	VII	OE	3	Foundational Course in Entrepreneurship
7	191EE87A	VIII	PROJ	10	Project Work Phase II

## SEMESTER – I

YEAR	I	SEMESTER	I	L	T	P	C
COURSE CODE / COURSE TITLE	191HS101 / ENGLISH FOR ENGINEERING STUDENTS			3	0	0	3
COURSE OBJECTIVES							
<ul style="list-style-type: none"> <li>✓ Equip students with the English language skills required for the successful undertaking of academic studies.</li> <li>✓ Improve general and academic listening skills</li> <li>✓ Provide guidance and practice in basic geranial and classroom conversation and to engage in specific academic speaking activities</li> <li>✓ Strengthen the reading and writing skills of students of engineering</li> </ul>							
SYLLABUS							
UNIT - I	VOCABULARY BUILDING						9
Word formation, Prefixes and Suffixes, Root words from foreign languages, Synonyms, Antonyms, Compound Nouns, Standard Abbreviations.							
UNIT - II	GRAMMATICAL COMPETENCY						9
Noun, Verb, Adjective, Subject-Verb Agreement, Articles, Prepositions, Purpose expressions, Model Verbs.							
UNIT - III	BASIC WRITING SKILLS						9
Sentence structure, Phrases, Clauses, Coherence, Cohesion (using linking words), Paragraph Writing (Descriptive and Narrative)							
UNIT - IV	READING SKILLS						9
Reading Strategies, Skimming and Scanning, Reading Comprehension exercises with multiple choice and open ended questions, Transforming Information in the form of charts, Note Making.							
UNIT - V	ORAL COMMUNICATION						9
(This unit involves interactive practice sessions in Language Lab) <ul style="list-style-type: none"> <li>• Listing Comprehension.</li> <li>• Pronunciation, Syllable and Stress, Rhythm and Intonation.</li> <li>• General conversations and dialogues, common in everyday situations.</li> <li>• Short Speech.</li> </ul>							
COURSE OUTCOMES							
On completion of the course, students will be able to							
CO1	Infer meanings of unfamiliar words from context						
CO2	Enable to achieve linguistic competence and be able to use grammar as a tool or resource in the comprehension and creation of oral and written discourse efficiently according to the situation.						
CO3	Write cohesively, coherently and flawlessly with a wide range of vocabulary and organizing their ideas logically on a topic.						
CO4	Activate and reinforce the habit of reading and writing effectively in their discipline.						
CO5	Collaborate with multicultural environment.						
TEXT BOOKS							
1. Department of English, Anna University, “Mindscapes: English for Technologists and Engineers”, Orient Blackswan, Chennai - 2012. 2. Dhanavel S. P, “English and Communication Skills for Students of Science and Engineering”, Orient Blackswan, Chennai - 2011. 3. “Communication Skills”, Sanjay Kumar and Pushp Lata, Oxford University Press, 2011.							
REFERENCES							
1. “Study Writing”, Liz Hamp-Lyons and Ben Heasly, Cambridge University Press, 2006. 2. “Remedial English Grammar”, F.T. Wood. Macmillan. 2007. 3. “Practical English Usage”, Michael Swan. OUP. 1995. 4. “Exercises in Spoken English”, Parts. I-II, CIEFL, Hyderabad. Oxford University Press.							

YEAR	II	SEMESTER	IV	L	T	P	C
COURSE CODE / COURSE TITLE	191MC46A / INTERNSHIP1			0	0	2	1
<b>COURSE OBJECTIVES</b>							
<ul style="list-style-type: none"> <li>✓ To develop the skills in cutting edge technologies in the industry</li> <li>✓ To acquire knowledge to work smooth in industry environment</li> <li>✓ To get through the placement interviews</li> </ul>							
<b>DEMONSTRATION</b>							
<p>The students may undergo Internship at Research organization / University (after due approval from the Department Consultative Committee) for the period prescribed in the curriculum during summer / winter vacation, in lieu of Industrial training.</p> <p>The Internship is evaluated based on a minimum of two reviews. The review committee may be constituted by the Head of the Department. An Internship report is required at the end of the semester. The Internship training is evaluated based on oral presentation and the Internship report jointly by external and internal examiners constituted by the Head of the Department.</p>							
<b>COURSE OUTCOMES</b>							
On completion of the course, students will be able to							
<b>CO1</b>	Acquire knowledge about the Industry environment.						
<b>CO2</b>	Apply the skills to the carriers.						
<b>CO3</b>	Develop skills in teamwork.						



YEAR	IV	SEMESTER	VII	L	T	P	C
COURSE CODE / COURSE TITLE	191EE77A / PROJECT WORK PHASE I			0	0	2	1
COURSE OBJECTIVES							
<ul style="list-style-type: none"> <li>✓ To develop their own innovative prototype of ideas.</li> <li>✓ To train the students in preparing project reports and examination.</li> </ul>							
LIST OF EXPERIMENT							
1	<p>Project work may be allotted to a single student or to a group of students not exceeding 4 per group.</p> <p>The Head of the Institutions shall constitute a review committee for project work for each branch of study. There shall be three reviews during the semester by the review committee. The student shall make presentation on the progress made by him / her before the committee. The total marks obtained in the three reviews shall be reduced for 30 marks and rounded to the nearest integer.</p> <p>The project report shall carry a maximum 20 marks. The project report shall be submitted as per the approved guidelines as given by the Controller of Examinations. Same mark shall be awarded to every student within the project group for the project report.</p> <p>The viva-voce examination shall carry 50 marks. Marks are awarded to each student of the project group based on the individual performance in the viva-voce examination.</p>						
COURSE OUTCOMES							
On completion of the course, students will be able to							
CO1	On Completion of the project work phase I students will be in a position to take up their final year project work phaseII.						

<b>YEAR: III</b>	<b>SEM:</b>	<b>191CE544 Foundational Course in Entrepreneurship</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>CATEGORY: OE</b>			<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>

<b>COURSE OBJECTIVES</b>	
<ul style="list-style-type: none"> <li>• Empower students with entrepreneurial mindset and business skills leading to superior job prospects, intrapreneurship and long term entrepreneurship.</li> <li>• Support aspiring entrepreneurs with validated ideas to start meaningful ventures by connecting them to entrepreneurial ecosystems and customized learning programs.</li> <li>• Develop an entrepreneurial outlook and mindset, critical skills and knowledge.</li> </ul>	
<b>UNIT: I SELF-DISCOVERY</b>	<b>9</b>
Find your flow-Effectuation Principles -Case Study-Identify your Entrepreneurial Style-Venture and Team formation Strategy-Shared Leadership-Hiring& Fitment-Team Role and Responsibilities.	
<b>UNIT: II OPPORTUNITY DISCOVERY</b>	<b>9</b>
Identifying problems worth solving-Design Thinking-Look for Solutions-Identify personalized Idea for startup - Venture start up Strategy.	
<b>UNIT: III CUSTOMER AND SOLUTION</b>	<b>9</b>
Customers and Markets-Identify your customer segment and Niche-Identify jobs, pains, gains and early adopters-Value Proposition-Outcome driven innovation-Basics of business regulation	
<b>UNIT: IV BUSINESS MODEL AND SALES MARKETING</b>	<b>9</b>
Basis of business model and lean approach-Lean Canvas-Risks and Assumptions-strategic pitching of business model-Positioning and Branding-Channels-Sales Planning-Selling Skills	
<b>UNIT: V VALIDATION AND MONEY</b>	<b>9</b>
Blue ocean strategy-Problem and Solution fit-Product& Market fit-Revenue and Pricing-Profitability checks-Bootstrapping and Initial Financing-Practice pitching-Case Study	
<b>TOTAL</b>	<b>45 Periods</b>
<b>Text Books</b>	
1. Khanka S.S.”Entrepreneurial Development’ S.Chand & Co.Ltd.New Delhi 2013. 2. Donald F Kuratko,”Entrepreneurship -Theory,Process and practice”, 9 <sup>th</sup> Edition,Cengage Learning, 2014	
<b>Reference Books</b>	
1. www.learnwisefglobal.org 2. Hisrich R D,Peters M.P.,’Entrepreneurship’ 8 <sup>th</sup> Edition, tata McGraw-Hill,2013. 3. Rajeev Roy,’Entrepreneurship’, II Edition, Oxford University Press,2011.	

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

**DEPARTMENT OF INFORMATION TECHNOLOGY**

<b>Courses on Employability / ED / SD</b>					
<b>S.NO</b>	<b>SUBJECT CODE</b>	<b>SEMESTER</b>	<b>TYPE OF COURSE</b>	<b>CREDIT</b>	<b>COURSE TITLE</b>
1	191HS101	I	HSS	3	English for Engineering Students
2	191HS30B	III	HSS	1	Inter Personal Skills Listening & Speaking
3	191HS40C	IV	HSS	1	Professional Communication
4	191MC45A	IV	MC	*	Internship /Training - I
5	191CE544	V	OE	3	Foundational Course in Entrepreneurship
6	191MC56A	V	MC	*	Technical Seminar
7	191IT67A	VI	PROJ	1	Mini Project
8	191MC66A	VI	MC	*	Internship - II
9	191IT77A	VII	PROJ	2	Project Work - Phase I
10	191IT87A	VIII	PROJ	10	Project Work - Phase II

YEAR	I	SEMESTER	I	L	T	P	C
COURSE CODE / COURSE TITLE	191HS101/ENGLISH FOR ENGINEERING STUDENTS			3	0	0	3

COURSE OBJECTIVES
<input type="checkbox"/> Equip students with the English language skills required for the successful undertaking of academic studies. <input type="checkbox"/> Improve general and academic listening skills <input type="checkbox"/> Provide guidance and practice in basic geranial and classroom conversation and to engage in specific academic speaking activities <input type="checkbox"/> Strengthen the reading and writing skills of students of engineering

SYLLABUS		
UNIT-I	VOCABULARY BUILDING	9
Word formation, Prefixes and Suffixes, Root words from foreign languages, Synonyms, Antonyms, Compound Nouns, Standard Abbreviations.		
UNIT-II	GRAMMATICAL COMPETENCY	9
Noun, Verb, Adjective, Subject-Verb Agreement, Articles, Prepositions, Purpose expressions, Model Verbs.		
UNIT-III	BASIC WRITING SKILLS	9
Sentence structure, Phrases, Clauses, Coherence, Cohesion (using linking words), Paragraph Writing (Descriptive and Narrative)		
UNIT-IV	READING SKILLS	9
Reading Strategies, Skimming and Scanning, Reading Comprehension exercises with multiple choice and open ended questions, Transforming Information in the form of charts, Note Making.		
UNIT-V	ORAL COMMUNICATION	9
(This unit involves interactive practice sessions in Language Lab) <ul style="list-style-type: none"> <li>• Listing Comprehension.</li> <li>• Pronunciation, Syllable and Stress, Rhythm and Intonation.</li> <li>• General conversations and dialogues, common in everyday situations.</li> <li>• Short Speech.</li> </ul>		

## COURSE OUTCOMES

On completion of the course, students will be able to

<b>CO1</b>	Infer meanings of unfamiliar words from context
<b>CO2</b>	Enable to achieve linguistic competence and be able to use grammar as a tool or resource in the comprehension and creation of oral and written discourse efficiently according to the situation.
<b>CO3</b>	Write cohesively, coherently and flawlessly with a wide range of vocabulary and organizing their ideas logically on a topic.
<b>CO4</b>	Activate and reinforce the habit of reading and writing effectively in their discipline.
<b>CO5</b>	Collaborate with multicultural environment.

## TEXT BOOKS

1. Department of English, Anna University, “Mindscapes: English for Technologists and Engineers”, Orient Blackswan, Chennai - 2012.
2. Dhanavel S. P, “English and Communication Skills for Students of Science and Engineering”, Orient Blackswan, Chennai - 2011.
3. “Communication Skills”, Sanjay Kumar and PushpLata, Oxford University Press, 2011.

## REFERENCES

1. “Practical English Usage”, Michael Swan. OUP. 1995.
2. “Remedial English Grammar”, F.T. Wood. Macmillan. 2007.
3. “Study Writing”, Liz Hamp-Lyons and Ben Heasley, Cambridge University Press, 2006.
4. “Exercises in Spoken English”, Parts. I-II, CIEFL, Hyderabad. Oxford University Press.
5. “Practical English Usage”, Michael Swan. OUP. 1995.

YEAR	I	SEMESTER	I	L	T	P	C
COURSE CODE / COURSE TITLE	191HS30B –INTERPERSONAL SKILLS LABORATORY			0	0	2	1

COURSE OBJECTIVES
<ul style="list-style-type: none"> <li>• To equip students with the English language skills required for the successful undertaking of academic studies with a primary emphasis on academic speaking and listening skills.</li> <li>• Provide guidance and practice in basic general and classroom conversation and engage in specific academic speaking activities.</li> <li>• Improve general and academic listening skills</li> <li>• Make effective presentations</li> </ul>

SYLLABUS		
UNIT-I	Listening as a key skill	6
Listening as a key skill- its importance- speaking - giving personal information - asking for personal information - expressing ability - enquire about ability - asking for clarification Improving pronunciation - pronunciation basics taking lecture notes - preparing to listen to a lecture - articulate a complete idea as opposed to producing fragmented utterances.		
UNIT-II	Listen to process information	6
Listen to process information- give information, as part of a simple explanation – conversation starters: small talk - stressing syllables and speaking clearly - intonation patterns - compare and contrast information and ideas from multiple sources- converse with reasonable accuracy over a wide range of everyday topics.		
UNIT-III	Lexical chunking for accuracy and fluency	6
factors influence fluency, deliver a five-minute informal talk - greet - respond to greetings - describe health and symptoms - invite and offer - accept – decline - take leave- listen for and follow the gist- listen for detail.		
UNIT-IV	Being an active listener: giving verbal and non-verbal feedback	6
participating in a group discussion - summarizing academic readings and lectures conversational speech listening to and participating in conversations - persuading.		
UNIT-V	Formal and informal talk	6
listen to follow and respond to explanations, directions, and instructions in academic and business contexts - strategies for presentations and interactive communication - group/pair presentations - negotiate disagreement in group work.		

## COURSE OUTCOMES

On completion of the course, students will be able to

<b>CO1</b>	Listen and respond appropriately.
<b>CO2</b>	Converse in an efficient manner following accurate stress and intonation.
<b>CO3</b>	Participate in formal as well as informal conversations confidently.
<b>CO4</b>	Participate in group discussions
<b>CO5</b>	Make effective presentations

## TEXT BOOKS

1. Brooks, Margret. Skills for Success. Listening and speaking. Level 4 Oxford University Press, Oxford: 2011.
2. Richards. Jack. & David Bholke. Speak Now Level 3. Oxford University Press, Oxford: 2010
3. Bhatnagar, Nitin and Mamta Bhatnagar. Communicative English for Engineers and Professionals. Pearson:New Delhi, 2010.
4. Hughes, Glyn and Josephine Moate. Practical English Classroom. Oxford University Press: Oxford, 2014.
5. Ladousse, Gillian Porter. Role Play. Oxford University Press: Oxford, 2014
6. Richards C. Jack. Person to Person (Starter). Oxford University Press: Oxford, 2006.
7. Vargo, Mari. Speak Now Level 4. Oxford University Press: Oxford, 2013

YEAR	II	SEMESTER	IV	L	T	P	C
<b>COURSE CODE / COURSE TITLE</b>	<b>191HS40C / PROFESSIONAL COMMUNICATION</b>			<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>

<b>COURSE OBJECTIVES:</b>
<ul style="list-style-type: none"> <li>• Enhance the Employability and Career Skills of students</li> <li>• Orient the students towards grooming as a professional</li> <li>• Make them Employable Graduates</li> <li>• Develop their confidence and help them attend interviews successfully.</li> </ul>

<b>SYLLABUS</b>
<b>UNIT I (6 Hours)</b> Introduction to Soft Skills– Hard skills & soft skills – employability and career Skills—Grooming as a professional with values—Time Management—General awareness of Current Affairs
<b>UNIT II (6 Hours)</b> Self-Introduction-organizing the material – Introducing oneself to the audience – introducing the topic – answering questions – individual presentation practice— presenting the visuals effectively – 5 minute presentations
<b>UNIT III (6 Hours)</b> Introduction to Group Discussion— Participating in group discussions – understanding group dynamics – brainstorming the topic — questioning and clarifying –GD strategies- activities to improve GD skills
<b>UNIT IV (6 Hours)</b> Interview etiquette – dress code – body language – attending job interviews– telephone/skype interview -one to one interview &panel interview – FAQs related to job interviews
<b>UNIT V (6 Hours)</b> Recognizing differences between groups and teams- managing time-managing stress-networking professionally- respecting social protocols-understanding career management-developing a long-term career plan-making career change
<b>TOTAL : 30 PERIODS</b>



### **COURSE OUTCOMES**

At the end of the course Learners will be able to:

<b>CO1</b>	Develop hard skills, soft skills and career skills for grooming as a professional.
<b>CO2</b>	Make effective presentations
<b>CO3</b>	Participate confidently in Group Discussions
<b>CO4</b>	Attend job interviews and be successful in them.
<b>CO5</b>	Develop adequate Soft Skills required for the workplace

Recommended Software 1. Globearena 2. Win English

### **REFERENCES:**

1. Butterfield, Jeff Soft Skills for Everyone. Cengage Learning: New Delhi, 2015
2. E. Suresh Kumar et al. Communication for Professional Success. Orient Blackswan: Hyderabad, 2015
3. Interact English Lab Manual for Undergraduate Students,. OrientBalckSwan: Hyderabad, 2016.
4. Raman, Meenakshi and Sangeeta Sharma. Professional Communication. Oxford University Press: Oxford, 2014
5. S. Hariharanetal. Soft Skills. MJP Publishers: Chennai, 2010.

YEAR	III	SEMESTER	V	L	T	P	C
COURSE CODE / COURSE TITLE	191CE544/ Foundational Course in Entrepreneurship			3	0	0	3
COURSE OBJECTIVES							
<ul style="list-style-type: none"> <li>Empower students with entrepreneurial mindset and business skills leading to superior job prospects, entrepreneurship and long term entrepreneurship.</li> <li>Support aspiring entrepreneurs with validated ideas to start meaningful ventures by connecting them to entrepreneurial ecosystems and customized learning programs.</li> <li>Develop an entrepreneurial outlook and mindset, critical skills and knowledge.</li> </ul>							
SYLLABUS							
UNIT-I	SELF-DISCOVERY						9
Find your flow-Effectuation Principles -Case Study-Identify your Entrepreneurial Style- Venture and Team formation Strategy-Shared Leadership-Hiring& Fitment-Team Role and Responsibilities.							
UNIT-II	OPPORTUNITY DISCOVERY						12
Identifying problems worth solving-Design Thinking-Look for Solutions-Identify personalized idea for startup - Venture start up Strategy.							
UNIT-III	CUSTOMER AND SOLUTION						8
Customers and Markets-Identify your customer segment and Niche-Identify jobs, pains, gains and early adopters- Value Proposition-Outcome driven innovation-Basics of business regulation							
UNIT-IV	BUSINESS MODEL AND SALES MARKETING						8
Basis of business model and lean approach-Lean Canvas-Risks and Assumptions-strategic pitching of business model-Positioning and Branding-Channels-Sales Planning-Selling Skills							
UNIT-V	VALIDATION AND MONEY						8
Blue ocean strategy-Problem and Solution fit-Product& Market fit-Revenue and Pricing-Profitability checks- Bootstrapping and Initial Financing-Practice pitching-Case Study							

## COURSE OUTCOMES

On completion of the course, students will be able to

<b>CO1</b>	Empower students with entrepreneurial mindset and business skills
<b>CO2</b>	Making students to get exposed to superior job prospects, entrepreneurship and long term entrepreneurship.
<b>CO3</b>	Support aspiring entrepreneurs with validated ideas to start meaningful ventures
<b>CO4</b>	Connecting students to connecting them to entrepreneurial ecosystems and customized learning programs.
<b>CO5</b>	Develop an entrepreneurial outlook and mindset, critical skills and knowledge.

## TEXT BOOKS

1. Khanka S.S."Entrepreneurial Development' S.Chand & Co.Ltd.New Delhi 2013.
2. Donald F Kuratko,"Entrepreneurship -Theory,Process and practice", 9th Edition,Cengage Learning, 2014.

## REFERENCES

1. Hisrich R D,Peters M.P., 'Entrepreneurship' 8th Edition, tata McGraw-Hill,201
2. Rajeev Roy, 'Entrepreneurship', II Edition, Oxford University Press,2011.



# Vel Tech Multi Tech

Dr.Rangarajan Dr.Sakunthala Engineering College

An Autonomous Institution

## Department of Mechanical Engineering

### EMPLOYABILITY/ ENTREPRENEURSHIP/ SKILL DEVELOPMENT COURSES

(Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the last five years)

Sl. No.	Name of the Course	Course code	Category	Sem ester	Regulation
1	English for Engineering students	191HS101	EMPLOYABILITY	I	2019
2	Environmental Science and Engineering	191HS201	EMPLOYABILITY	II	
3	Internship/Training -I	191MC46A	SKILL DEVELOPMENT	IV	
4	Problem Solving Python Programming	191CS5410	EMPLOYABILITY	V	
5	Entrepreneurship Development	191ME534	ENTREPRENEURSHIP	V	
6	Interpersonal Skills Laboratory	191HS40B	EMPLOYABILITY	VI	
7	Internship/Training -II	191MC66A	SKILL DEVELOPMENT	VI	
8	Design & Fabrication Project	191ME77A	EMPLOYABILITY	VII	
9	Technical Seminar	191MC77A	SKILL DEVELOPMENT	VII	
10	Disaster Management	191CE545	SKILL DEVELOPMENT	VII	
11	Principles of Management	191HS702	EMPLOYABILITY	VII	
12	Project work	191ME85A	EMPLOYABILITY	VIII	

Total number of courses : 60

Number of Courses having direct bearing on Employment / ED/SD : 12

**Vel Tech Multi Tech Dr Rangarajan Dr Sakunthala Engg College**  
**Department of Mechanical Engineering**

**Category:** Employability

**Couse title:** PROJECT

**OBJECTIVE:**

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same.
- To train the students in preparing project reports and to face reviews and viva voce examination.

**Syllabus:**

The following list gives the guidelines to students for doing Projects for the thrust areas but not restricted to

1. Analysis of mechanisms and engines
2. Hybrid material morphology
3. Study and comparison layout for Conventional and Non-conventional manufacturing methods
4. Mechanical energy transmission and utilisation of regenerative energy
5. Smart manufacturing
7. E-vehicle

SOFT WARE/TOOLS: ANSYS, CATIA, SOLIDWORKS, FRICTION STIR WELDING, POWDER METALLURGY DIE, AUTOMOBILE DESIGNS

**Hours: 300**

**Category:** Employability

**Course title:** Design and Fabrication Project

**OBJECTIVE:**

- To develop their own innovative prototype of ideas.
- To train the students in preparing mini project reports and examination.

**The following list gives the guidelines to students for doing Projects for the thrust areas but not restricted to**

1. Automation systems for productions
2. Agricultural devices useful for harvesting
3. Applications for domestic cleaning
4. Applications using power tools
6. Refrigeration techniques
7. Various Jigs and Fixtures
9. Home Automation systems
10. Design of machines

**Hours: 60**

**Vel Tech Multi Tech Dr Rangarajan Dr Sakunthala Engg College**  
**Department of Mechanical Engineering**

**Category:** Skill Development

**Course title:** Technical Seminar

**OBJECTIVE:** To build self-learning

**The students can take at least three seminars on any topic of Engineering/Technology. The sample list for the seminars as listed below, but not restricted to,**

1. About various mechanical systems and its usage techniques
2. Methods to improve efficiency of machines
3. Commercial and domestic applications

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
191CE545	<b>DISASTER MANAGEMENT</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>

#### **OBJECTIVES:**

- To provide students an exposure to disasters, their significance and types.
- To ensure that students begin to understand the relationship between vulnerability, disasters, disaster prevention and risk reduction
- To gain a preliminary understanding of approaches of Disaster Risk Reduction (DRR)
- To enhance awareness of institutional processes in the country and
- To develop rudimentary ability to respond to their surroundings with potential disaster response in areas where they live, with due sensitivity

#### **UNIT I INTRODUCTION TO DISASTERS 9**

Definition: Disaster, Hazard, Vulnerability, Resilience, Risks – Disasters: Types of disasters – Earthquake, Landslide, Flood, Drought, Fire etc – Classification, Causes, Impacts including social, economic, political, environmental, health, psychosocial, etc.- Differential impacts- in terms of caste, class, gender, age, location, disability – Global trends in disasters: urban disasters, pandemics, complex emergencies, Climate change - Dos and Don'ts during various types of Disasters.

#### **UNIT II APPROACHES TO DISASTER RISK REDUCTION (DRR) 9**

Disaster cycle – Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural- non-structural measures, Roles and responsibilities of community, Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), States, Centre, and other stake-holders- Institutional Processes and Framework at State and Central Level- State Disaster Management Authority(SDMA) – Early Warning System – Advisories from Appropriate Agencies.

#### **UNIT III INTER-RELATIONSHIP BETWEEN DISASTERS AND DEVELOPMENT 9**

Factors affecting Vulnerabilities, differential impacts, impact of Development projects such as dams, embankments, changes in Land-use etc.- Climate Change Adaptation- IPCC Scenario and Scenarios in the context of India – Relevance of indigenous knowledge, appropriate technology and local resources.

#### **UNIT IV DISASTER RISK MANAGEMENT IN INDIA 9**

Hazard and Vulnerability profile of India, Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management, Institutional arrangements (Mitigation, Response and Preparedness, Disaster Management Act and Policy – Other related policies, plans, programmes and legislation – Role of GIS and



Information Technology Components in Preparedness, Risk Assessment, Response and Recovery Phases of Disaster – Disaster Damage Assessment.

**UNIT V      DISASTER MANAGEMENT: APPLICATIONS AND CASE STUDIES AND FIELD WORKS** **9**

Landslide Hazard Zonation: Case Studies, Earthquake Vulnerability Assessment of Buildings and Infrastructure: Case Studies, Drought Assessment: Case Studies, Coastal Flooding: Storm Surge Assessment, Floods: Fluvial and Pluvial Flooding: Case Studies; Forest Fire: Case Studies, Man Made disasters: Case Studies, Space Based Inputs for Disaster Mitigation and Management and field works related to disaster management.

**TOTAL: 45 PERIODS**

**OUTCOMES:**

The students will be able to

- Differentiate the types of disasters, causes and their impact on environment and society
- Assess vulnerability and various methods of risk reduction measures as well as mitigation.
- Draw the hazard and vulnerability profile of India, Scenarios in the Indian context, Disaster damage assessment and management.

**TEXTBOOKS:**

1. Singhal J.P. Disaster Management, Laxmi Publications, 2010. ISBN-10: 9380386427 ISBN-13: 978-9380386423
2. Tushar Bhattacharya, Disaster Science and Management, McGraw Hill India Education Pvt. Ltd., 2012. ISBN-10: 1259007367. ISBN-13: 978-1259007361]
3. Gupta Anil K, Sreeja S. Nair. Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi, 2011
4. Kapur Anu Vulnerable India: A Geographical Study of Disasters, IIAS and Sage Publishers, New Delhi, 2010.

**REFERENCES**

1. Govt. of India: Disaster Management Act , Government of India, New Delhi, 2005
2. Government of India, National Disaster Management Policy, 2009

COURSE CODE	COURSE NAME	L	T	P	C
191HS101	ENGLISH FOR ENGINEERING STUDENTS	3	0	0	3
COURSE OBJECTIVES					
<ul style="list-style-type: none"><li>Equip students with the English language skills required for the successful undertaking of academic studies.</li><li>Improve general and academic listening skills.</li><li>Provide guidance and practice in basic geranial and classroom conversation and to engage in specific academic speaking activities.</li><li>Strengthen the reading and writing skills of students of engineering</li></ul>					
UNIT 1	VOCABULARY BUILDING	9			
Word formation - Prefixes and Suffixes – Root words from foreign languages – Synonyms – Antonyms – Compound Nouns – Standard Abbreviations.					
UNIT 2	GRAMMATICAL COMPETENCY	9			
Noun, Verb, Adjective – Subject-Verb Agreement – Articles – Prepositions – Purpose expressions – Model Verbs.					
UNIT 3	BASIC WRITING SKILLS	9			
Sentence structure – Phrases – Clauses – Coherence – Cohesion (using linking words) – Paragraph Writing (Descriptive and Narrative).					
UNIT 4	READING SKILLS	9			
Reading Strategies – Skimming and Scanning – Reading Comprehension exercises with multiple choice and open ended questions – Transforming Information in the form of charts – Note Making.					
UNIT 5	ORAL COMMUNICATION	9			
(This unit involves interactive practice sessions in Language Lab) <ul style="list-style-type: none"><li>Listing Comprehension</li><li>Pronunciation, Syllable and Stress, Rhythm and Intonation</li><li>General conversations and dialogues, common in everyday situations</li><li>Short Speech</li></ul>					
TOTAL: 45 PERIODS					

<b>COURSE OUTCOMES:</b>	
On successful completion of the course, students will be able to	
<b>CO1</b>	Infer meanings of unfamiliar words from context
<b>CO2</b>	Enable to achieve linguistic competence and be able to use grammar as a tool or resource in the comprehension and creation of oral and written discourse efficiently according to the situation.
<b>CO3</b>	Write cohesively, coherently and flawlessly with a wide range of vocabulary and organizing their ideas logically on a topic.
<b>CO4</b>	Activate and reinforce the habit of reading and writing effectively in their discipline.
<b>CO5</b>	Collaborate with multicultural environment
<b>REFERENCES</b>	
<ol style="list-style-type: none"> <li>1. Department of English, Anna University, Mindscapes: English for Technologists and Engineers, Orient Blackswan, Chennai – 2012.</li> <li>2. Dhanavel, S. P. English and Communication Skills for Students of Science and Engineering, Orient Blackswan, Chennai, 2011.</li> <li>3. Communication Skills. Sanjay Kumar and PushpLata. Oxford University Press. 2011.</li> <li>4. Practical English Usage. Michael Swan, OUP, 1995.</li> <li>5. Remedial English Grammar. F.T. Wood. Macmillan.2007.</li> <li>6. Study Writing. Liz Hamp-Lyons and Ben Heasley. Cambridge University Press. 2006.</li> <li>7. Exercises in Spoken English. Parts. I-III. CIEFL, Hyderabad. Oxford University Press, 2011.</li> </ol>	

COURSE CODE	COURSE NAME	L	T	P	C
191HS201	ENVIRONMENTAL SCIENCE AND ENGINEERING	3	0	0	3
COURSE OBJECTIVES					
<ul style="list-style-type: none"><li>To provide the basic knowledge of structure and function of ecosystem and better understanding of natural resources, biodiversity and their conservation practices.</li><li>To describe the need to lead more sustainable lifestyles, to use resources more equitably.</li><li>To helps to create a concern for our environment that will trigger pro-environmental action, including activities we can do in our daily life to protect it.</li><li>To deal the social issues and ethics to develop quality engineer in our country.</li></ul>					
UNIT 1	ENVIRONMENT - AN OVERVIEW	9			
Ecosystem-concept-structure-function-types. Energy flow in ecosystem. Biodiversity and its conservation- values of biodiversity-threats to biodiversity conservation of biodiversity. Natural resources- types, uses.					
UNIT 2	ENVIRONMENTAL IMPACT OF ENERGY SOURCES	9			
Sources of primary energy- present and future consumption of energy- environmental impacts of energy development- oil, natural gas, coal, hydro electric, nuclear power, wind mill and solar panels- Urban problems related to energy - case studies.					
UNIT 3	CLIMATIC CHANGE AND SOLID WASTE MANAGEMENT	9			
Environmental pollution- air, water, soil, marine and noise pollution-green house gases- causes, effects-global warming, ozone layer depletion, acid rain-sources and effects. Pollution control strategies- preventive measures- green technologies-green building concepts- standards and regulations- role of individuals. Sustainable development. Hazardous wastes- e-waste- source-effect, management. Nuclear waste-sources, effects, management. Recycling of waste. Future challenges.					
UNIT 4	HUMAN POPULATION AND THE ENVIRONMENT	9			
Population growth, variation among nations – population explosion – family welfare programme – environment and human health – human rights – value education – HIV / AIDS – women and child welfare – role of information technology in environment and human health – Case studies.					
UNIT 5	ENVIRONMENTAL LAWS AND ETHICS	9			
Legal provision in India- environmental acts-air, water, forest, soil and wildlife. Environmental ethics-theories and codes- resource consumption patterns, equity-disparity, urban-rural equity issues, need for gender equity, preserving resource for future generation, right of animals, ethical basis of environment education and awareness, ethical problem solving- changing attitude, conservation ethics and traditional value systems of India. Effect of social media on the adolescent.					

<b>TOTAL: 45 PERIODS</b>	
<b>COURSE OUTCOMES</b>	
On successful completion of the course, students will be able to	
<b>CO1</b>	Interpret the concept of ecosystem, biodiversity and its conservation.
<b>CO2</b>	Demonstrate the environmental impacts of energy development.
<b>CO3</b>	Categorize the various environmental pollutions and select suitable preventive measures.
<b>CO4</b>	Perceive the environmental effects of human population and the implementation of welfare programs.
<b>CO5</b>	Recall the environmental ethics and legal provisions.
<b>REFERENCES</b>	
<ol style="list-style-type: none"> <li>1. Erach Bharucha, “Text book for Environmental sciences for Undergraduate courses”, UGC, 2004.</li> <li>2. Kaushik, A &amp;Kaushik, CP, Environmental Science and engineering”, 3rd Edition, New Age International (P) Limited, New Delhi, 2009.</li> <li>3. Henry, JG &amp;Heinke, GW, “Environmental Science and Engineering”, 2nd Edition, PHI Learning Private limited, New Delhi, 2011.</li> <li>4. Masters, GM &amp; Ela, WP, “Introduction to Environmental Engineering and Science”, 3rd Edition, PHI Learning Private limited, New Delhi, 2009.</li> <li>5. Encyclopedia of environmental ethics and philosophy. Available at <a href="http://www.gmu.ac.ir/download/booklibrary/e-library/Encyclopedia%20of%20Environmental%20Ethics%20and%20philosophy.pdf">www.gmu.ac.ir/download/booklibrary/e-library/Encyclopedia of Environmental Ethics and philosophy.pdf</a></li> </ol>	

COURSE CODE	COURSE NAME	L	T	P	C
191HS40B	INTERPERSONAL SKILLS LABORATORY	0	0	2	1
<b>COURSE OBJECTIVES</b>					
<ul style="list-style-type: none"> <li>To equip students with the English language skills required for the successful undertaking of academic studies with primary emphasis on academic speaking and listening skills.</li> <li>Provide guidance and practice in basic general and classroom conversation and to engage in specific academic speaking activities.</li> <li>Improve general and academic listening skills</li> <li>Make effective presentations.</li> </ul>					
<p><b>UNIT 1:</b> Listening as a key skill- its importance- speaking - give personal information - ask for personal information - express ability - enquire about ability - ask for clarification Improving pronunciation - pronunciation basics taking lecture notes - preparing to listen to a lecture - articulate a complete idea as opposed to producing fragmented utterances.</p> <p><b>UNIT 2:</b> Listen to a process information- give information, as part of a simple explanation – conversation starters: small talk - stressing syllables and speaking clearly - intonation patterns - compare and contrast information and ideas from multiple sources- converse with reasonable accuracy over a wide range of everyday topics.</p> <p><b>UNIT 3:</b> Lexical chunking for accuracy and fluency- factors influence fluency, deliver a five-minute informal talk - greet - respond to greetings - describe health and symptoms - invite and offer - accept – decline - take leave - listen for and follow the gist- listen for detail</p> <p><b>UNIT 4:</b> Being an active listener: giving verbal and non-verbal feedback - participating in a group discussion -summarizing academic readings and lectures conversational speech listening to and participating in conversations - persuade.</p> <p><b>UNIT 5:</b> Formal and informal talk - listen to follow and respond to explanations, directions and instructions in academic and business contexts - strategies for presentations and interactive communication - group/pair presentations - negotiate disagreement in group work.</p>					
<b>TOTAL: 30 PERIODS</b>					
<b>COURSE OUTCOMES:</b>					
Upon the completion of this course the students will be able to,					
On successful completion of the course, students will be able to					
<b>CO1</b>	Listen and respond appropriately				
<b>CO2</b>	Participate in group discussions				

<b>CO3</b>	Make effective presentations
<b>CO4</b>	Participate confidently and appropriately in conversations both formal and informal
<b>REFERENCES</b>	
<ol style="list-style-type: none"> <li>1. Brooks, Margret. Skills for Success. Listening and Speaking. Level 4 Oxford University Press, Oxford: 2011.</li> <li>2. Richards. Jack. &amp; David Bholke. Speak Now Level 3. Oxford University Press, Oxford: 2010</li> <li>3. Bhatnagar, Nitin and Mamta Bhatnagar. Communicative English for Engineers and Professionals. Pearson: New Delhi, 2010.</li> <li>4. Hughes, Glyn and Josephine Moate. Practical English Classroom. Oxford University Press: Oxford, 2014.</li> <li>5. Ladousse, Gillian Porter. Role Play. Oxford University Press: Oxford, 2014</li> <li>6. Richards C. Jack. Person to Person (Starter). Oxford University Press: Oxford, 2006.</li> <li>7. Vargo, Mari. Speak Now Level 4. Oxford University Press: Oxford, 2013.</li> </ol>	

COURSE CODE	COURSE NAME	L	T	P	C
191HS701	PRINCIPLES OF MANAGEMENT	3	0	0	3
COURSE OBJECTIVES					
<ul style="list-style-type: none"><li>To enable the students to study the evolution of Management, to study the functions and principles of management and to learn the application of the principles in an organization</li></ul>					
UNIT 1	INTRODUCTION TO MANAGEMENT AND ORGANIZATIONS	9			
Definition of Management – Science or Art – Manager Vs Entrepreneur - types of managers - managerial roles and skills – Evolution of Management – Scientific, human relations, system and contingency approaches – Types of Business organization - Sole proprietorship, partnership, company-public and private sector enterprises - Organization culture and Environment – Current trends and issues in Management.					
UNIT 2	MANAGEMENT BY OBJECTIVES	9			
Nature and purpose of planning – planning process – types of planning – objectives – setting objectives – policies – Planning premises – Strategic Management – Planning Tools and Techniques – Decision making steps and process.					
UNIT 3	COORDINATING ACTIVITIES AND RESOURCES	9			
Nature and purpose – Formal and informal organization – organization chart – organization structure – types – Line and staff authority – departmentalization – delegation of authority – centralization and decentralization – Job Design - Human Resource Management – HR Planning, Recruitment, selection, Training and Development, Performance Management , Career planning and management.					
UNIT 4	LEADERSHIP AND COMMUNIVATION	9			
Foundations of individual and group behaviour – motivation – motivation theories – motivational techniques – job satisfaction – job enrichment – leadership – types and theories of leadership – communication – process of communication – barrier in communication – effective communication – communication and IT.					
UNIT 5	MONITORING AND EVALUATING ACTIVITIES	9			
System and process of controlling – budgetary and non-budgetary control techniques – use of computers and IT in Management control – Productivity problems and management – control and performance – direct and preventive control – reporting.					
Total: 45 Periods					
COURSE OUTCOMES:					



On successful completion of the course, students will be able to	
<b>CO1</b>	Understanding of managerial functions like planning, organizing, staffing, leading & controlling
<b>CO2</b>	Basic knowledge on international aspect of management
<b>CO3</b>	Apply planning in the business process
<b>CO4</b>	Apply the concepts of organizing and directing the business process
<b>CO5</b>	Apply various means of controlling in a company to the benefit of organization
REFERENCES	
<ol style="list-style-type: none"> <li>1. JAF Stoner, Freeman R.E and Daniel R Gilbert “Management”, 6th Edition, Pearson Education, 2004.</li> <li>2. Stephen P. Robbins &amp; Mary Coulter, “Management”, Prentice Hall (India) Pvt. Ltd., 10th Edition, 2009.</li> <li>3. Harold Koontz &amp; Heinz Weihrich, “Essentials of Management”, Tata McGraw Hill, 1998.</li> <li>4. Robert Kreitner &amp; Mamata Mohapatra, “Management”, Biztantra, 2008.</li> <li>5. Stephen A. Robbins &amp; David A. Decenzo &amp; Mary Coulter, “Fundamentals of Management”, 7<sup>th</sup> Edition, Pearson Education, 2011.</li> <li>6. Tripathy PC &amp; Reddy PN, “Principles of Management”, Tata McGraw Hill, 1999.</li> </ol>	

COURSE CODE	COURSE NAME	L	T	P	C
191ME534	ENTREPRENEURSHIP DEVELOPMENT	3	0	0	3
COURSE OBJECTIVES					
<ul style="list-style-type: none"><li>To develop and strengthen entrepreneurial quality and motivation in students and to impart basic entrepreneurial skills and understanding to run a business efficiently and effectively.</li></ul>					
UNIT 1	ENTREPRENEURSHIP	9			
To Entrepreneur – Types of Entrepreneurs – Difference between Entrepreneur and Intrapreneur, Entrepreneurship in Economic Growth, Factors Affecting Entrepreneurial Growth					
UNIT 2	MOTIVATION	9			
Major Motives Influencing an Entrepreneur – Achievement Motivation Training, Self Rating, Business Games, Thematic Apperception Test – Stress Management, Entrepreneurship Development Programs – Need, Objectives.					
UNIT 3	BUSINESS	9			
Small Enterprises – Definition, Classification – Characteristics, Ownership Structures – Project Formulation – Steps involved in setting up a Business – identifying, selecting a Good Business opportunity, Market Survey and Research, Techno Economic Feasibility Assessment – Preparation of Preliminary Project Reports – Project Appraisal – Sources of Information – Classification of Needs and Agencies.					
UNIT 4	FINANCING AND ACCOUNTING	9			
Need – Sources of Finance, Term Loans, Capital Structure, Financial Institution, Management of working Capital, Costing, Break Even Analysis, Taxation – Income Tax, Excise Duty – Sales Tax.					
UNIT 5	SUPPORT TO ENTREPRENEURS	9			
Sickness in small Business – Concept, Magnitude, Causes and Consequences, Corrective Measures - Business Incubators – Government Policy for Small Scale Enterprises – Growth Strategies in small industry – Expansion, Diversification, Joint Venture, Merger and Sub Contracting.					
TOTAL: 45 PERIODS					
COURSE OUTCOMES:					
On successful completion of the course, students will be able to					
CO1	Explain the fundamental concepts of entrepreneurship				

<b>CO2</b>	Elaborate in detail about achievement Motivation Training
<b>CO3</b>	Explain about the steps involved in setting up a Business
<b>CO4</b>	Elaborate in detail about Finance related aspects of entrepreneurship
<b>CO5</b>	Explain about the different support to entrepreneurs to run business successfully
<b>REFERENCES</b>	
<ol style="list-style-type: none"> <li>1. Khanka. S.S., “Entrepreneurial Development” S.Chand &amp; Co. Ltd., Ram Nagar, New Delhi, 2013.</li> <li>2. Donald F Kuratko, “Entrepreneurship – Theory, Process and Practice”, 9th Edition, Cengage Learning, 2014.</li> <li>3. Hisrich R D, Peters M P, “Entrepreneurship” 8th Edition, Tata McGraw-Hill, 2013.</li> <li>4. Mathew J Manimala, "Entrepreneurship theory at cross roads: paradigms and praxis" 2nd Edition Dream tech, 2005.</li> <li>5. Rajeev Roy, "Entrepreneurship" 2nd Edition, Oxford University Press, 2011. EDII “Faulty and External Experts – A Hand Book for New Entrepreneurs Publishers: Entrepreneurship Development”, Institute of India, Ahmadabad, 1986.</li> </ol>	



**Vel Tech Multi Tech**  
Dr.Rangarajan Dr.Sagunthala Engineering College  
*An Autonomous Institution*

# **B.Tech – ARTIFICIAL INTELLIGENCE AND DATA SCIENCE CURRICULUM SYLLABUS–Regulation 2019**

**SEMESTER IV**

---

YEAR	II	SEMESTER	IV	L	T	P	C
COURSE CODE / COURSE TITLE	191MC46A - INTERNSHIP / TRAINING - I			0	0	0	0

#### COURSE OBJECTIVES

- ✓ Get connected with reputed industry/ laboratory/academia / research institute
- ✓ Get practical knowledge on Product Development / Services and operations / Software
- ✓ Design and Development / Testing / Analytics/ research/ startups/ professionalism / business processes and insights / domain knowledge/ Industry Practices/ and other related aspects and develop skills to solve related problems
- ✓ Develop technical, soft, team skills to cater to the needs of the industry / academia / businesses / research / organizations in the core aspects of Automation, Digitalization

#### EVALUATION

The students individually undergo training in reputed firms/ research institutes / laboratories for the specified duration. After the completion of training, a detailed report should be submitted within 15 days from the commencement of next semester. The students will be evaluated as per the Regulations.

- ✓ Internship offer letter or mail should be collected and check the company before sending the students for training.
- ✓ After completing the internship, report has to be submitted with necessary details to the coordinator.
- ✓ Internship certificate should be produced for verification along with internship report.
- ✓ PPT should be explained by the students about their company and the nature of training.
- ✓ Based on the performance, company and report the marks should be graded.

#### COURSE OUTCOMES

On completion of the course, students will be able to

CO1	Industry Practices, Processes, Techniques, technology, automation and other core aspects of software industry
CO2	Analyze, Design solutions to complex business problems
CO3	Preparation of Technical reports and presentation

CO-PO MAPPING													PSO's		
CO	PO 1	PO2	PO 3	PO4	PO5	PO6	PO7	PO8	PO 9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
CO 1	2	2	2	1	1	1	-	1	-	1	-	2	2	1	1
CO 2	2	2	2	1	1	1	-	-	-	-	-	2	2	1	1
CO 3	2	2	2	1	1	1	-	1	-	1	-	2	2	1	1
CO	2	2	2	1	1	1	-	1	-	1	-	2	2	1	1

**SEMESTER V**

---



YEAR	III	SEMESTER	V	L	T	P	C
COURSE CODE / COURSE TITLE	191MC56A / TECHNICAL SEMINAR			0	0	0	0

COURSE OBJECTIVES
<ul style="list-style-type: none"> <li>✓ To encourage the students to study advanced engineering developments</li> <li>✓ To prepare and present technical reports.</li> <li>✓ To encourage the students to use various teaching aids such as overhead projectors, power point presentation and demonstrative models.</li> </ul>

EVALUATION
<ul style="list-style-type: none"> <li>➤ During the seminar session each student is expected to prepare and present a topic on engineering/ technology, for a duration of about 15 minutes.</li> <li>➤ In a session of two periods per week, around 10 students are expected to present the seminar.</li> <li>➤ Each student is expected to present at least twice during the semester and the student is evaluated based on that.</li> <li>➤ At the end of the semester, he / she can submit a report on his / her topic of seminar and marks are given based on the report.</li> <li>➤ A Faculty guide is to be allotted and he / she will guide and monitor the progress of the student and maintain attendance also.</li> <li>➤ Evaluation is 100% internal.</li> </ul>

COURSE OUTCOMES	
On completion of the course, students will be able to	
CO1	Ability to review, prepare and present technological developments
CO2	Survey the changes in the technologies relevant to the topic selected
CO3	Compile report of the study and present to the audience, following the ethics also ability to face the placement interviews

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO1	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1
CO2	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1
CO3	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1
CO	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1

# **SEMESTER VI**

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

YEAR	III	SEMESTER	VI	L	T	P	C
COURSE CODE / COURSE TITLE	191MC66A / INTERNSHIP/TRAINING - II			0	0	0	0

COURSE OBJECTIVES
<ul style="list-style-type: none"><li>✓ To train the students</li><li>✓ For gaining domain knowledge, and technical skills to solve potential business / research problems</li><li>✓ Gather requirements and design suitable software solutions and evaluate alternatives</li><li>✓ To work in small teams and understand the processes and practices in the 'industry.</li><li>✓ Implement, Test and deploy solutions for target platforms</li><li>✓ Preparing reports and presentation</li></ul>

EVALUATION
<p>The students individually undergo training in reputed firms/ research institutes / laboratories for the specified duration. After the completion of training, a detailed report should be submitted within ten days from the commencement of next semester. The students will be evaluated as per the Regulations.</p> <ul style="list-style-type: none"><li>✓ Internship offer letter or mail should be collected and check the company before sending the students for training.</li><li>✓ After completing the internship, report has to be submitted with necessary details to the coordinator.</li><li>✓ Internship certificate should be produced for verification along with internship report.</li><li>✓ PPT should be explained by the students about their company and the nature of training.</li><li>✓ Based on the performance, company and report the marks should be graded.</li></ul>

COURSE OUTCOMES	
On completion of the course, students will be able to	
CO1	Gain Domain knowledge and technical skill set required for solving industry / research problems
CO2	Develop communication, interpersonal and other critical skills in the job interview process.
CO3	Prepare detailed technical report, demonstrate and present the work

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

CO-PO MAPPING													PSO's		
CO	PO 1	PO2	PO 3	PO4	PO5	PO6	PO7	PO8	PO 9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
CO 1	2	2	1	1	1	1	-	1	-	1	-	2	3	1	1
CO 2	2	2	1	1	1	1	-	-	-	-	-	2	3	1	1
CO 3	2	2	1	1	1	1	-	1	-	1	-	2	3	1	1
CO	2	2	1	1	1	1	-	1	-	1	-	2	3	1	1

# **SEMESTER VII**

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

---

YEAR	IV	SEMESTER	VII	L	T	P	C
COURSE CODE / COURSE TITLE	191CB77A – PROJECT WORK - PHASE I			0	0	2	2

COURSE OBJECTIVES
<ul style="list-style-type: none"><li>✓ To make them understand the concepts of Project Management for planning to execution of projects.</li><li>✓ To develop the capacity of students in correlating theoretical knowledge into practical systems either to perform creative works or to perform analysis and hence to suggest solutions to problems, pertaining to civil engineering domain</li><li>✓ To Develop self-directed inquiry and life-long skills</li><li>✓ To enhance the communication skills of the students by providing opportunities to discussion groups and to present their observations, findings and report in formal reviews both in oral and written format.</li><li>✓ To understand professional and ethical responsibility</li></ul>



EVALUATION
<ul style="list-style-type: none"><li>• Start by clarifying the objectives and expected outcomes of Phase 2 for the specific project. Ensure that these objectives align with the course or program's learning outcomes.</li><li>• Develop evaluation rubrics and criteria that clearly outline what you'll be assessing. These rubrics should include criteria related to content, presentation, research, teamwork, and other relevant aspects.</li><li>• Review any project documentation, reports, or manuals assess the completeness, accuracy, and quality of these materials.</li><li>• Evaluate how well the documentation aligns with the project's objectives and scope.</li><li>• Assess students' ability to communicate their work effectively, answer questions, and defend their project decisions.</li><li>• This may include evaluating the technical aspects, creativity, problem-solving, and attention to detail.</li><li>• Evaluate the effectiveness of team collaboration. Consider factors such as communication, delegation of tasks, conflict resolution, and individual contributions.</li><li>• Ensure that students have followed any guidelines, instructions, or best practices relevant to their field of study or industry standards.</li><li>• Assess the level of innovation, creativity, and critical thinking.</li><li>• Provide clear and constructive feedback to students, highlighting their strengths and areas where they can improve.</li><li>• Ensure that grading is consistent and aligned with the established rubrics.</li><li>• After the evaluation, compile a final report that summarizes the assessment process and provides recommendations for both individual students and the project as a whole.</li><li>• Evaluate how well students have applied their knowledge and skills to real-world problem-solving.</li></ul>

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	Demonstrate the ability to develop and execute advanced project plans.
<b>CO2</b>	Apply and expand their technical or subject-specific knowledge and skills to solve complex challenges
<b>CO3</b>	Communicate project progress, findings, and outcomes effectively through comprehensive written reports and oral presentations.

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
<b>CO1</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO3</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO4</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

**Course Assessment methods:**

**Direct**

Project Reviews  
Project Report  
Project Demonstration

**Indirect**

Course Exit Survey

**GUIDELINES**

1. Selection of a topic or project title in consultation with a Faculty member.
2. Develop a project planning strategy.
3. If it is an industry – sponsored project, a concurrent letter from industry is required.
4. A maximum of 3/4 students per group will do the project.
5. The project may be done in one of the labs under the supervision of a guide or in the selected industry.
6. Continuous assessment of the project will be done by the project review committee based on four reviews consisting of technical presentation.
7. At the end of the project, a report will be written and a technical presentation along with demonstration will be made by the students.
8. The report, project demonstration and technical presentations will be evaluated by the internal and external examiners.



## **SEMESTER VIII**

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

---

YEAR	IV	SEMESTER	VIII	L	T	P	C
COURSE CODE / COURSE TITLE	191CB87A - PROJECT PHASE II			0	0	24	12

COURSE OBJECTIVES
<ul style="list-style-type: none"><li>✓ To further develop and advance the project initiated in Phase 1. This could involve refining the project scope, objectives, and plans.</li><li>✓ To identify and address any challenges or issues that arise during the project implementation, teaching students problem-solving skills in a real-world context.</li><li>✓ To integrate the knowledge and skills gained in previous coursework into the practical implementation of the project.</li><li>✓ To emphasize the importance of documenting project processes, decisions, and outcomes for future reference or analysis.</li><li>✓ To encourage creative and innovative thinking in finding solutions and approaches to project challenges</li></ul>

EVALUATION
<ol style="list-style-type: none"><li>1. Start by clarifying the objectives and work done in Phase 1 for the specific project. Ensure that these objectives align with the course or program's learning outcomes.</li><li>2. Develop evaluation rubrics and criteria that clearly outline what you'll be assessing. These rubrics should include criteria related to content, presentation, research, teamwork, and other relevant aspects.</li><li>3. Evaluate how well the documentation aligns with the project's objectives and scope.</li><li>4. Assess students' ability to communicate their work effectively, answer questions, and defend their project decisions.</li><li>5. This may include evaluating the technical aspects, creativity, problem-solving, and attention to detail.</li><li>6. Evaluate the effectiveness of team collaboration. Consider factors such as communication, delegation of tasks, conflict resolution, and individual contributions.</li><li>7. Ensure that students have followed any guidelines, instructions, or best practices relevant to their field of study or industry standards.</li><li>8. Provide clear and constructive feedback to students, highlighting their strengths and areas where they can improve.</li><li>9. Design the modules and implement the same.</li><li>10. Assess the quality of the modules.</li><li>11. Coding should be done in any languages based on the output.</li><li>12. Ensure that grading is consistent and aligned with the established rubrics.</li><li>13. Project implementation output should be verified manually. After the evaluation, compile a final report that summarizes the assessment process and provides recommendations for both individual students and the project as a whole.</li></ol>

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	Demonstrate the ability to develop and execute advanced project plans.
<b>CO2</b>	Work collaboratively in teams to address complex project issues, demonstrating strong teamwork.
<b>CO3</b>	Implement quality assurance and control processes to ensure the quality of project work

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
<b>CO1</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO3</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO4</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

**Course Assessment methods:**

**Direct**

Project Reviews

Project Report

Project Demonstration

**Indirect**

Course Exit Survey

**GUIDELINES**

- ☐ Project work shall preferably be batchwise, the strength of each batch shall not exceed maximum of four students.
- ☐ Viva-voce examination in project work shall be conducted batch-wise.
- ☐ The CIE marks in the case of projects in the final year shall be based on the evaluation at the end of VIII semester by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the project guide.
- ☐ Students failing to secure a minimum of 50% of the CIE marks in Project work shall not be eligible for the Project examination conducted by the University and they shall be considered as failed in that/those Course/s. However, they can appear for university examinations conducted in other Courses of the same semester and backlog Courses if any. Students after satisfying the prescribed minimum CIE marks in the Course/s when offered during subsequent semester shall appear for SEE.
- ☐ Assess the quality of the work.
- ☐ Norms of final documentation of the project report are to be provided by the Department.



**Vel Tech Multi Tech**  
Dr.Rangarajan Dr.Sagunthala Engineering College  
*An Autonomous Institution*

# **B.Tech – COMPUTER SCIENCE AND BUSINESS SYSTEMS CURRICULUM SYLLABUS–Regulation 2019**

# SEMESTER I

YEAR	I	SEMESTER	I	L	T	P	C
COURSE CODE / COURSE TITLE	191HS101 / BUSINESS COMMUNICATION & VALUE SCIENCE -I			3	0	0	3

### COURSE OBJECTIVES

- ✓ Understand what life skills are and their importance in leading a happy and well-adjusted life
- ✓ Motivate students to look within and create a better version of self
- ✓ Introduce them to key concepts of values, life skills and business communication
- ✓ Understand the basic skills in Business Communication
- ✓ Apply the learnt techniques in the business world.

### SYLLABUS

UNIT-I	OVERVIEW OF LEADERSHIP ORIENTED LEARNING	9
<p>Overview of Leadership Oriented Learning (LOL)-Theory and Practice-Activity on introducing Self- Introducing self and SWOT-Class activity – presentation on favorite cricket captain in IPL-The skills and values they demonstrate-Self-work with immersion – interview a maid, watchman and Sweeper and narrate what you think are the values that drive them-Report on interview-Self-work with immersion – interview a cab driver, beggar and narrate what you think are the values that drive them-Report on interview-Overview of business communication- Types and techniques-Activity: Write a newspaper report on an IPL match-Compare the report with friends Activity: Record a conversation between a celebrity and an interviewer -Stress Management-To overcome stress- Essential Grammar – I: Parts of Speech-Tenses: Applications of tenses in Functional Grammar-Sentence formation(general &amp; Technical), Common errors, Voices.</p>		
UNIT-II	COMMUNICATION SKILLS	9
<p>Communication Skills: Overview of Communication Skills Barriers of communication, Effective communication-Business communication-Types of communication- verbal and non – verbal – Role- play based learning-Importance of Questioning-Listening Skills: Law of nature- Importance of listening skills, Difference between listening and Hearing, Types of listening-Listening activity-Expressing self On stage activity-Connecting with emotions-Best moments Visualizing-Visual Activity-Experiencing Purpose Discussion-Activity: Skit based on communication skills-Activity: Skit 2 based on communication skills- Evaluation on Listening skills – listen to recording and answer questions based on them-Evaluate audio clip- Email writing: Formal and informal emails, activity Paper and web based</p>		
UNIT-III	VERBAL COMMUNICATION	9
<p>Verbal communication: clarity of speech-Pronunciation-Vocabulary Enrichment: Exposure to words from General Service List (GSL) by West, Academic word list (AWL) technical specific terms related to the field of technology, phrases, idioms, significant abbreviations formal business vocabulary- Group discussion using words learnt-Practice: Toastmaster style Table Topics speech with evaluation- Activity Written Communication: Summary writing, story writing: Various scenario-Build your CV – writing comprehensive CV-Activity Life skill: Stress management- Causes of stress-Life skill: working with rhythm-activity.</p>		

UNIT-IV	GROUP DISCUSSION	9
<p>Group Discussion-Understanding Life Skills: Movie based learning – Pursuit of Happiness. What are the skills and values identified, what it can be related to?-Post discussion-Introduction to life skills What are the critical life skills-Current trend-Multiple Intelligences Embracing diversity – Activity on appreciation of diversity-Post activity discussion- Presentation-techniques involved in presentation, types etc., Life skill: Community service– work with an NGO and make a Presentation.</p>		
UNIT-V	LIFE SKILLS	9
<p>Life skill: Join a trek – Values to be learned: Leadership qualities-Types and styles-Team Work -Dealing with ambiguity-Values to be learned: Managing stress-Need for Yoga -Motivating people-Intrinsic and extrinsic-Creativity-understanding Result Orientation Assessment-Creativity –importance of being creative-Painting-Activity: Adzap.</p>		

COURSE OUTCOMES	
On completion of the course, students will be able to	
<b>CO1</b>	Describe the need for life skills and values
<b>CO2</b>	Explain their own strengths and opportunities
<b>CO3</b>	Apply the basic tenets of communication
<b>CO4</b>	Analyze the basic communication practices in different types of communication
<b>CO5</b>	Apply the life skills to different situations

TEXT BOOKS
<ol style="list-style-type: none"> <li>1. APAART: Speak Well 1 (English language and communication)</li> <li>2. APAART: Speak Well 2 (Soft Skills).</li> </ol>

## REFERENCES

- ✓ 1.Alan McCarthy and O'Dell – English Vocabulary in Use – Third Edition – Cambridge University Press 2017
- ✓ 2.Dr. Saroj Hiremath – Business Communication – Nirali Prakashan
- ✓ Web References:
  - Train your mind to perform under pressure- Simon sinek <https://curiosity.com/videos/simon-sinek-on-training-your-mind-to-perform-under-pressure-captureyour-flag/>
  - ✓ Brilliant way one CEO rallied his team in the middle of layoffs <https://www.inc.com/video/simon-sinek-explains-why-you-should-put-peoplebefore-numbers.html>
  - ✓ Will Smith's Top Ten rules for success <https://www.youtube.com/watch?v=bBsT9omTeh0>

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO3	PO 4	PO 5	PO 6	PO 7	PO 8	P O9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO 1	3	3	2	2	-	-	-	3	3	3	-	2	3	3	1
CO 2	3	3	2	2	-	-	-	3	3	3	-	2	3	3	1
CO 3	3	3	2	2	-	-	-	3	3	3	-	2	3	3	1
CO 4	3	3	2	2	-	-	-	3	3	3	-	2	3	3	1
CO 5	3	3	2	2	-	-	-	3	3	3	-	2	3	3	1
CO	3	3	2	2	-	-	-	3	3	3	-	2	3	3	1



**SEMESTER II**

---

YEAR	I	SEMESTER	II	L	T	P	C
COURSE CODE /COURSE TITLE	191HS202 / BUSINESS COMMUNICATION &VALUE SCIENCE –II			3	0	0	3

### COURSE OBJECTIVES

- ✓ Develop effective writing, reading, presentation and group discussion skills
- ✓ Help students identify personality traits and evolve as a better team player.
- ✓ Introduce them to key concepts of a) Morality b) Behavior and beliefs c) Diversity & Inclusion

### SYLLABUS

UNIT-I	MAGAZINE	9
Icebreaker-Individual identification of social issues-Group discussion and Power Point Presentation on the social cause –Writing an Article-Good and Bad Writing. Common errors, punctuation rules, use of words. Plan and design an E Magazine. Writing an article to the magazine, Lucid Writing, Activity: Contributing an article to the magazine.		
UNIT-II	PRESENTATION SKILL	9
Creation of Vision, Mission, Value statement, tagline and Design a logo for NGO. Introduction to basic presentation skills & ORAI app Theory and video Groups-individual write up for E- magazine Sharing of learning, written Practical and formative evaluation-Group activity to share findings from the recording. Speed Reading session: Introduction to skimming and scanning. SATORI – Join the dots- Brain Storming session- Discuss and explore the means Of articulating and amplifying the social issue of NGO-Design a skit- script writing-articulating the message of their respective NGOs. Activity: preparing a script for a play		
UNIT-III	TEAM PLAYER	9
Play writing: Techniques, review writing-Views, observations and experiences of working in a team- 5personality traits- 8team player -identify individual personality traits with 8 team player styles Practical based learning followed by a presentation- working in teams- Ten minutes General Talk about Changes that affects the society. Activity: taking part in a ten minutes talk.		
UNIT-IV	INTERVIEWS TECHNIQUES	9
Speech-Direct and Indirect-Narrative Techniques, Narration of a story in first person-Practical Research on a book, incident or film based on the topic of a NGO. Write a review in a blog on the topics they are covering in their research. Types of interviews: Preparation of interviews of people from diverse groups .Debate: Practical Debate on the topic of diversity with an angle of ethics, morality and Respect for individual. Activity: debate		

UNIT-V	NGO	9
<p>Project- 1) Each team to look for an NGO/ social group in the city which is working on the issue their college group is supporting.2) Spend a day with the NGO/ social group to understand exactly how they work and the challenges they face.3) Render voluntary service to the group for one day4) Invite the NGO/ social group to address with students for couple of hours. Plan the suitable venue in the college, gather audience, invite faculty members etc.(they need to get their plan ratified their professor). Outcome--Host an interactive session with the NGO spokesperson 5) The groups to present their experience of a day with the NGO and inspire students to work for the cause, Field work: Formative Evaluation</p>		

COURSE OUTCOMES	
On completion of the course, students will be able to	
CO1	Apply the tools of structured written communication
CO2	Design the basics of presentation.
CO3	Apply the basic concept of speed reading, skimming and scanning
CO4	Identify individual personality types and role in a team
CO5	Recognize the concepts of outward behavior and internal behavior

TEXTBOOKS
<ol style="list-style-type: none"> <li>1. Dr. A.P.J Abdul Kalam , Arun Tiwari,"Guiding Souls : Dialogues on the purpose of life",2005.</li> <li>2. Dr. A.P.J Abdul Kalam , Acharya Mahapragya ,"The Family and the Nation", 2015.</li> <li>3. Dr. A.P.J Abdul Kalam, Y.S.Rajan," The Scientific India: A twenty First Century Guide to the World around Us",2011.</li> <li>4. Dr. A.P.J Abdul Kalam ,"Forge Your Future: Candid, Forthright, Inspiring" ,2014</li> <li>5. Peter H. Diamandis and Steven Kotler ,"Abundance: The Future is Better Than You Think", 2012.</li> <li>6. Simon Sinek ,"Start With Why: How Great Leaders Inspire Everyone to Take Action", Penguin,2011.</li> <li>7. Sandra Moriarty, Nancy D. Mitchell, William D. Wells," Advertising &amp; IMC: Principles and Practice",Pearson Education India,2016</li> </ol>

REFERENCES
<ul style="list-style-type: none"> <li>✓ ETHICS FUNDAMENTALS AND APPROACHES TO ETHICS <a href="https://www.eolss.net/Sample-Chapters/C14/E1-37-01-00.pdf">https://www.eolss.net/Sample-Chapters/C14/E1-37-01-00.pdf</a></li> <li>✓ A Framework for Making Ethical Decisions <a href="https://www.brown.edu/academics/science-and-technology-studies/framework-makingethical-decisions">https://www.brown.edu/academics/science-and-technology-studies/framework-makingethical-decisions</a></li> <li>✓ Five Basic Approaches to Ethical Decision<a href="http://faculty.winthrop.edu/meelerd/docs/rolos/5_Ethical_Approaches.pdf">http://faculty.winthrop.edu/meelerd/docs/rolos/5_Ethical_Approaches.pdf</a></li> </ul>

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO3	PO 4	PO 5	PO 6	PO 7	PO 8	PO9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
CO1	3	3	3	2	-	-	-	-	2	3	-	2	3	3	2
CO2	3	3	3	2	-	-	-	-	2	3	-	2	3	2	1
CO3	3	3	3	2	-	-	-	-	2	3	-	2	3	2	1
CO4	3	3	3	2	-	-	-	-	2	3	-	2	3	2	1
CO5	3	3	3	2	-	-	-	-	2	3	-	2	3	2	1
CO	3	3	3	2	-	-	-	-	2	3	-	2	3	2	1

SEMESTER III

---

YEAR	II	SEMESTER	III	L	T	P	C
COURSE CODE / COURSE TITLE	191CB321 / BASIC ECONOMICS FOR ENGINEERS			3	0	0	3

COURSE OBJECTIVES
<ul style="list-style-type: none"> <li>✓ Introduce various basic concepts and terminology of the subject of economics.</li> <li>✓ Study the nuances of optimizing conditions of consumer and producer behavior.</li> <li>✓ Understand various features concepts used in macroeconomic decision-making.</li> <li>✓ Perform basic knowledge of monetary and fiscal policy and external sector economics</li> <li>✓ Explore role of government in economic decision making at microeconomic and macroeconomic level.</li> </ul>

SYLLABUS		
UNIT-I	DEMAND AND SUPPLY	9
Principles of Demand and Supply — Supply Curves of Firms — Elasticity of Supply; Demand Curves of Households—Elasticity of Demand; Equilibrium and Comparative Statics(Shift of a Curve and Movement along the Curve)-Micro Economics		
UNIT-II	CONSUMER ANALYSIS	9
Welfare Analysis — Consumers’ and Producers’ Surplus — Price Ceilings and Price Floors; Consumer Behavior — Axioms of Choice — Budget Constraints and Indifference Curves; Consumer’s Equilibrium Effects of a Price Change, Income and Substitution Effects - Demand Curve Derivation.		
UNIT-III	COST AND ITS APPLICATION	9
Applications — Tax and Subsidies — Inter-temporal Consumption — Suppliers’ Income Effect; Theory of Production — Production Function and Iso-quants — Cost Minimization; Cost Curves — Total, Average and Marginal Costs — Long Run and Short Run Costs; Equilibrium of a Firm under Perfect Competition; Monopoly and Monopolistic Competition-Cost Analysis-Traditional costing approach		
UNIT-IV	COMSUMPTION AND INVESTMENT	9
National Income and its Components — GNP, NNP, GDP, NDP; Consumption Function; Investment; Simple Keynesian Model of Income Determination and the Keynesian Multiplier; Government Sector — Taxes and Subsidies		
UNIT-V	DEMAND AND ITS APPLICATIONS	9
External Sector — Exports and Imports; Money — Definitions; Demand for Money — Transactionary and Speculative Demand; Supply of Money — Bank’s Credit Creation Multiplier; Integrating Money and Commodity Markets—IS, LM Model; Business Cycles and Stabilization—Monetary and Fiscal Policy— Central Bank and the Government; The Classical Paradigm — Price and Wage Rigidities — Voluntary and Involuntary Unemployment-Case Study.		

### COURSE OUTCOMES

On completion of the course, students will be able to

<b>CO1</b>	Remember basic knowledge of terminology and fundamental concepts of economics.
<b>CO2</b>	Identify and understanding of decision making behavior of consumers.
<b>CO3</b>	Apply the detailed insightful knowledge of producer optimization conditions and equilibrium.
<b>CO4</b>	Analyze the critical role played by various variables in determination of macroeconomic aggregates.
<b>CO5</b>	Evaluate substantial understanding of the role played by policy making in determining various outcomes in an economy.

### TEXT BOOKS

- 1.Pindyck, Robert S., and Daniel L. Rubinfeld , Microeconomics,7/e,Pearson,2009.
- 2.Dornbusch, Fischer and Startz , Macroeconomics, 12/e, McGraw Hill Education,27 August 2018.
- 3.Paul Anthony Samuelson, William D. Nordhaus, Economics,20/e, McGraw-Hill, 28 October 2019.

### REFERENCES

- 1.Intermediate Microeconomics: A Modern Approach, Hal R,Varian,2019.
- 2.Principles of Macroeconomics, N. GregoryMankiw,2012.

CO-PO MAPPING													PSO's		
CO	PO 1	PO2	PO 3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO12	PSO 1	PSO 2	PSO 3
<b>CO 1</b>	3	2	1	1	-	3	1	1	-	-	-	2	3	3	2
<b>CO 2</b>	3	2	2	1	-	2	1	1	-	-	-	2	3	2	1
<b>CO 3</b>	3	2	2	1	-	2	1	1	-	-	-	2	3	2	1
<b>CO 4</b>	3	2	1	1	-	3	1	1	-	-	-	2	3	2	1
<b>CO 5</b>	3	2	2	1	-	2	1	1	-	-	-	2	3	2	1
<b>CO</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>

**SEMESTER IV**

---

YEAR	II	SEMESTER	IV	L	T	P	C
<b>COURSE CODE / COURSE TITLE</b>	<b>191CB421 / INNOVATION MANAGEMENT, ENTREPRENEURSHIP AND IPR</b>			<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>

**COURSE OBJECTIVES**

- To learn creative and innovative thinking styles.
- To provide the deep knowledge about Entrepreneurship
- To understand about various types of IPR to protect competitive advantage

**SYLLABUS**

UNIT-I	INNOVATION WHAT AND WHY?	9
Innovation as core business process – Sources of Innovation – Knowledge Pull vs. Need Pull Innovation. Case study: Class Discussion- Is innovation manageable or just a random gambling activity?		
UNIT-II	BUILDING AN INNOVATIVE ORGANIZATION	9
Creating new products and services - Exploiting open innovation and collaboration - Use of innovation for starting a new venture Case study: Class Discussion - Innovation: Co-operating across networks vs. 'go-it-alone' approach		
UNIT-III	ENTREPRENEURSHIP	9
Opportunity recognition and entry strategies- Entrepreneurship as a Style of Management- Maintaining Competitive Advantage- Use of IPR to protect Innovation. Entrepreneurship Financial Planning – Financial Projections and Valuation- Stages of financing- Debt, Venture Capital and other forms of Financing		
UNIT-IV	INTELLECTUAL PROPERTY RIGHTS	9
Introduction and the economics behind development of IPR: Business Perspective- IPR in India – Genesis and Development - International Context - Concept of IP Management, Use in marketing		
UNIT-V	TYPES OF IPR	9
Patent- Procedure, Licensing and Assignment, Infringement and Penalty - Trademark- Use in marketing, example of trademarks- Domain name - Geographical Indications- What is GI, Why protect them? – Copyright- What is copyright- Industrial Designs- What is design? How to protect? Case study: Class Discussion - Major Court battles regarding violation of patents between corporate companies		



### COURSE OUTCOMES

On completion of the course, students will be able to

<b>CO1</b>	Define familiar with creative and innovative thinking styles
<b>CO2</b>	Plan the process of founding a startup
<b>CO3</b>	Design the needs for resources as well as obstacles in the early stages of the development of a business
<b>CO4</b>	Describe the fundamentals of intellectual property rights and legislation, particularly in the biotech industry.
<b>CO5</b>	Evaluate various types of IPR to protect competitive advantage

### TEXT BOOKS

1. Joe Tidd, John Bessant. Managing Innovation: Integrating Technological, Market and Organizational Change 2007
2. Case Study Materials: To be distributed for class discussion 2003

CO-PO Mapping													PSO's		
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
<b>CO1</b>	3	3	3	2	1	1	-	1	2	3	2	1	3	2	2
<b>CO2</b>	3	3	3	2	1	1	-	1	2	3	2	1	3	2	2
<b>CO3</b>	3	3	3	2	1	1	-	1	2	3	2	1	3	2	2
<b>CO4</b>	3	3	3	2	1	1	-	1	2	3	2	1	3	2	2
<b>CO5</b>	3	3	3	2	1	1	-	1	2	3	2	1	3	2	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>

YEAR	II	SEMESTER	IV	L	T	P	C
COURSE CODE / COURSE TITLE	191MC46A - INTERNSHIP / TRAINING - I			0	0	0	0

#### COURSE OBJECTIVES

- ✓ Get connected with reputed industry/ laboratory/academia / research institute
- ✓ Get practical knowledge on Product Development / Services and operations / Software
- ✓ Design and Development / Testing / Analytics/ research/ startups/ professionalism/ business processes and insights / domain knowledge/ Industry Practices/ and other related aspects and develop skills to solve related problems
- ✓ Develop technical, soft, team skills to cater to the needs of the industry / academia / businesses / research / organizations in the core aspects of Automation, Digitalization

#### EVALUATION

The students individually undergo training in reputed firms/ research institutes / laboratories for the specified duration. After the completion of training, a detailed report should be submitted within 15 days from the commencement of next semester. The students will be evaluated as per the Regulations.

- ✓ Internship offer letter or mail should be collected and check the company before sending the students for training.
- ✓ After completing the internship, report has to be submitted with necessary details to the coordinator.
- ✓ Internship certificate should be produced for verification along with internship report.
- ✓ PPT should be explained by the students about their company and the nature of training.
- ✓ Based on the performance, company and report the marks should be graded.

#### COURSE OUTCOMES

On completion of the course, students will be able to

CO1	Industry Practices, Processes, Techniques, technology, automation and other core aspects of software industry
CO2	Analyze, Design solutions to complex business problems
CO3	Preparation of Technical reports and presentation

CO-PO MAPPING													PSO's		
CO	PO 1	PO2	PO 3	PO4	PO5	PO6	PO7	PO8	PO 9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
CO 1	2	2	2	1	1	1	-	1	-	1	-	2	2	1	1
CO 2	2	2	2	1	1	1	-	-	-	-	-	2	2	1	1
CO 3	2	2	2	1	1	1	-	1	-	1	-	2	2	1	1
CO	2	2	2	1	1	1	-	1	-	1	-	2	2	1	1

SEMESTER V

---

YEAR	III	SEMESTER	V	L	T	P	C
COURSE CODE / COURSE TITLE	191MC56A / TECHNICAL SEMINAR			0	0	0	0

#### COURSE OBJECTIVES

- ✓ To encourage the students to study advanced engineering developments
- ✓ To prepare and present technical reports.
- ✓ To encourage the students to use various teaching aids such as overhead projectors, power point presentation and demonstrative models.

#### EVALUATION

- During the seminar session each student is expected to prepare and present a topic on engineering/ technology, for a duration of about 15 minutes.
- In a session of two periods per week, around 10 students are expected to present the seminar.
- Each student is expected to present at least twice during the semester and the student is evaluated based on that.
- At the end of the semester, he / she can submit a report on his / her topic of seminar and marks are given based on the report.
- A Faculty guide is to be allotted and he / she will guide and monitor the progress of the student and maintain attendance also.
- Evaluation is 100% internal.

#### COURSE OUTCOMES

On completion of the course, students will be able to

CO1	Ability to review, prepare and present technological developments
CO2	Survey the changes in the technologies relevant to the topic selected
CO3	Compile report of the study and present to the audience, following the ethics also ability to face the placement interviews

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO1	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1
CO2	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1
CO3	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1
CO	2	-	-	-	-	2	1	1	1	2	-	1	2	1	1

# **SEMESTER VI**

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

YEAR	III	SEMESTER	VI	L	T	P	C
COURSE CODE / COURSE TITLE	191HS601 – BUSINESS COMMUNICATION & VALUESCIENCE – III			3	0	0	3

COURSE OBJECTIVES
<ul style="list-style-type: none"> <li>Recognize the importance of diversity in workplace</li> <li>Recognize the best practices of communicative writing</li> <li>Understand the importance of emotional intelligence in personal and professional lives</li> <li>Apply emotional intelligence in real life scenarios</li> <li>Understand the importance of corporate social responsibility (CSR) and corporate etiquettes</li> <li>Practice corporate etiquettes in real life scenarios</li> </ul>

SYLLABUS		
UNIT-I	DIVERSITY AND INCLUSION AT WORKPLACE	9
Recapitulation activity of Satori, Introduce the concept of Diversity in corporate environments through an activity. Understand the importance of diversity and inclusion at workplace, Diversity and inclusion matter at workplace.		
UNIT-II	COMMUNICATIVE WRITING AND EMOTIONAL INTELLIGENCE	9
Communicative writing, Application of communicative writing in real life scenarios , Use of charts and graphs in communicative writing, The best practices of communicative writing what is emotional intelligence?, Emotional intelligence in personal and professional lives its importance need and application, public speaking at workplace, Importance , need and ways, The best practices of public speaking, Apply public speaking in real life scenarios		
UNIT-III	CORPORATE SOCIAL RESPONSIBILITY	9
Corporate social responsibility (CSR) its importance and need, Stalwarts in CSR, the attributes needed to function and grow in a corporate environment, the best practices to share and receive feedback for CSR		
UNIT-IV	INTELLIGENCES AND LEARNING STYLES IN INTERPERSONAL INTERACTIONS	9
Application of emotional intelligence in real life scenarios, intelligences and learning styles in interpersonal interactions, the impact of conflicts, Basic guidelines required to manage conflicts		



UNIT-V	CORPORATE ETIQUETTE, STRESS & TIME MANAGEMENT	9
The key features of corporate etiquette, Application of the business idioms and corporate terms, the impact of stress in life and work, the best practices to manage stress, the importance of time management, the best time management practices		

COURSE OUTCOMES	
On completion of the course, students will be able to	
CO1	Understand the ways and means of working effectively within the diversified social environment
CO2	Engage even with the personalities of high social profiles effectively with respect to the sophisticated communication under the balancing emotional intelligence
CO3	Quite aware of the best practices and so understands the significance of individual responsibility in the corporate environment
CO4	Become efficient in conflict management and so he would be able to establish amicable interpersonal relations.
CO5	Learn the corporate etiquette and so becomes expertise in terms of managing time and stress.

REFERENCES
<ul style="list-style-type: none"> <li>✓ Emotional Intelligence: Why it Can Matter More Than IQ by Daniel Goleman</li> <li>✓ Putting Emotional Intelligence To Work by Ryback David</li> <li>✓ How to Develop Self Confidence and Improve Public Speaking – Time – Tested Methods of Persuasion by Dale Carnegie</li> <li>✓ TED Talks: The official TED guide to public speaking: Tips and tricks for giving unforgettable speeches and presentations</li> <li>✓ Diversity, Inclusion and Engagement 3<sup>rd</sup> Edition by Mervyn Hyde Lorelei Carpenter , Shelley Dole</li> </ul>

CO-PO MAPPING													PSO's		
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO 11	PO12	PS O1	PS O2	PS O3
CO1	3	3	3	2	-	-	-	-	2	3	-	2	3	3	1
CO2	3	3	3	2	-	-	-	-	2	3	-	2	3	3	1
CO3	3	3	3	2	-	-	-	-	2	3	-	2	3	2	1
CO4	3	3	3	2	-	-	-	-	2	3	-	2	3	3	1
CO5	3	3	3	2	-	-	-	-	2	3	-	2	3	3	1
CO	3	3	3	2	-	-	-	-	2	3	-	2	3	3	1

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

YEAR	III	SEMESTER	VI	L	T	P	C
COURSE CODE / COURSE TITLE	191MC66A / INTERNSHIP/TRAINING - II			0	0	0	0

COURSE OBJECTIVES
<ul style="list-style-type: none"><li>✓ To train the students</li><li>✓ For gaining domain knowledge, and technical skills to solve potential business / research problems</li><li>✓ Gather requirements and design suitable software solutions and evaluate alternatives</li><li>✓ To work in small teams and understand the processes and practices in the 'industry.</li><li>✓ Implement, Test and deploy solutions for target platforms</li><li>✓ Preparing reports and presentation</li></ul>

EVALUATION
<p>The students individually undergo training in reputed firms/ research institutes / laboratories for the specified duration. After the completion of training, a detailed report should be submitted within ten days from the commencement of next semester. The students will be evaluated as per the Regulations.</p> <ul style="list-style-type: none"><li>✓ Internship offer letter or mail should be collected and check the company before sending the students for training.</li><li>✓ After completing the internship, report has to be submitted with necessary details to the coordinator.</li><li>✓ Internship certificate should be produced for verification along with internship report.</li><li>✓ PPT should be explained by the students about their company and the nature of training.</li><li>✓ Based on the performance, company and report the marks should be graded.</li></ul>

COURSE OUTCOMES	
On completion of the course, students will be able to	
CO1	Gain Domain knowledge and technical skill set required for solving industry / research problems
CO2	Develop communication, interpersonal and other critical skills in the job interview process.
CO3	Prepare detailed technical report, demonstrate and present the work

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

---

CO-PO MAPPING													PSO's		
CO	PO 1	PO2	PO 3	PO4	PO5	PO6	PO7	PO8	PO 9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
CO 1	2	2	1	1	1	1	-	1	-	1	-	2	3	1	1
CO 2	2	2	1	1	1	1	-	-	-	-	-	2	3	1	1
CO 3	2	2	1	1	1	1	-	1	-	1	-	2	3	1	1
CO	2	2	1	1	1	1	-	1	-	1	-	2	3	1	1

# **SEMESTER VII**

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

YEAR	IV	SEMESTER	VII	L	T	P	C
COURSE CODE / COURSE TITLE	191CB721 - MARKETING RESEARCH AND MARKETING MANAGEMENT			3	0	0	3

COURSE OBJECTIVES
<ul style="list-style-type: none"> <li>✓ To learn the basics of marketing</li> <li>✓ To understand the product life cycle</li> <li>✓ To study the various pricing, promotion and distribution strategies</li> <li>✓ To learn about Internet marketing in detail</li> </ul>

SYLLABUS		
UNIT-I	MARKETING CONCEPTS AND APPLICATIONS	9
Introduction to Marketing & Core Concepts, Marketing of Services, Importance of marketing in service sector. Marketing Planning & Environment: Elements of Marketing Mix, Analyzing needs & trends in Environment - Macro, Economic, Political, and Technical & Social. Understanding the consumer: Determinants of consumer behavior, Factors influencing consumer behavior. Market Segmentation: Meaning & Concept, Basis of segmentation, selection of segments, Market Segmentation strategies, Target Marketing, Product Positioning.		
UNIT-II	PRODUCT MANAGEMENT	9
Product Life cycle concept, New Product development & strategy, Stages in New Product development, Product decision and strategies, Branding & packaging		
UNIT-III	PRICING, PROMOTION AND DISTRIBUTION STRATEGY	9
Policies & Practices – Pricing Methods & Price determination Policies. Marketing Communication – The promotion mix, Advertising & Publicity, 5 M's of Advertising Management. Marketing Channels, Retailing, Marketing Communication, Advertising.		
UNIT-IV	MARKETING RESEARCH AND DATA ANALYSIS	9
Introduction, Type of Market Research, Scope, Objectives & Limitations, Marketing Research Techniques, Survey Questionnaire design & drafting, Pricing Research, Media Research, Qualitative Research Use of various statistical tools – Descriptive & Inference Statistics, Statistical Hypothesis Testing, Multivariate Analysis - Discriminate Analysis, Cluster Analysis, Segmenting and Positioning, Factor Analysis.		
UNIT-V	INTERNET MARKETING	9
Introduction to Internet Marketing. Mapping fundamental concepts of Marketing (7Ps, STP); Strategy and Planning for Internet Marketing.		

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	State the basic marketing concepts
<b>CO2</b>	Summarize the concept of Product Life cycle and Product development.
<b>CO3</b>	Apply the basic knowledge on Pricing, Promotion and Distribution Strategy.
<b>CO4</b>	Analyze the dynamics of marketing and analyze how its various components interact with each other in the real world.
<b>CO5</b>	Evaluate the marketing concepts for effective Internet Marketing.

**TEXT BOOKS**

1. Philip Kotler , “Marketing Management (Analysis, Planning, Implementation & Control)”, Pearson Education, 8th edition, 1993
2. William J. Stanton, “Fundamentals of Marketing”, McGraw-Hill Inc.,US; 8th edition, 1986
3. Rajendra Nargundkar, “Marketing Research”, McGraw Hill Education; 3rd edition, 2017
4. V.S. Ramaswamy and S. Namakumari, “Marketing Management”, McGraw Hill Education; 5th edition, 2017
5. G.C. Beri, “Market Research”, McGraw Hill Education; Fifth edition, 2013

**REFERENCES**

1. Rajan Saxena, “Marketing Management”, McGraw Hill Education; 4th edition 2009
2. S.A. Sherlekar, “Marketing Management”, Himalaya Publishing House, 2010
3. S.M. Zha, “Service Marketing”, Himalaya Publishing House, 2002
4. David M. Levine, David F. Stephan, Kathryn A. Szabat, P.K. Viswanatha, “Business Statistics - A First Course” Pearson Education, 2017

<b>CO-PO Mapping</b>													<b>PSO's</b>		
<b>CO</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PO 7</b>	<b>PO 8</b>	<b>PO 9</b>	<b>PO10</b>	<b>PO 11</b>	<b>PO12</b>	<b>PS O1</b>	<b>PS O2</b>	<b>PS O3</b>
<b>CO1</b>	3	3	2	2	1	-	-	-	-	-	-	-	3	3	2
<b>CO2</b>	3	3	2	2	1	1	-	-	-	-	-	-	3	3	2
<b>CO3</b>	3	3	2	2	1	1	1	1	-	-	-	-	3	3	2
<b>CO4</b>	3	2	2	1	1	1	1	1	1	1	1	-	3	3	2
<b>CO5</b>	3	2	2	1	1	1	1	1	1	1	1	1	3	3	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>2</b>

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

---

YEAR	IV	SEMESTER	VII	L	T	P	C
COURSE CODE / COURSE TITLE	191CB77A – PROJECT WORK - PHASE I			0	0	2	2

**COURSE OBJECTIVES**

- ✓ To make them understand the concepts of Project Management for planning to execution of projects.
- ✓ To develop the capacity of students in correlating theoretical knowledge into practical systems either to perform creative works or to perform analysis and hence to suggest solutions to problems, pertaining to civil engineering domain
- ✓ To Develop self-directed inquiry and life-long skills
- ✓ To enhance the communication skills of the students by providing opportunities to discussion groups and to present their observations, findings and report in formal reviews both in oral and written format.
- ✓ To understand professional and ethical responsibility

**EVALUATION**

- Start by clarifying the objectives and expected outcomes of Phase 2 for the specific project. Ensure that these objectives align with the course or program's learning outcomes.
- Develop evaluation rubrics and criteria that clearly outline what you'll be assessing. These rubrics should include criteria related to content, presentation, research, teamwork, and other relevant aspects.
- Review any project documentation, reports, or manuals assess the completeness, accuracy, and quality of these materials.
- Evaluate how well the documentation aligns with the project's objectives and scope.
- Assess students' ability to communicate their work effectively, answer questions, and defend their project decisions.
- This may include evaluating the technical aspects, creativity, problem-solving, and attention to detail.
- Evaluate the effectiveness of team collaboration. Consider factors such as communication, delegation of tasks, conflict resolution, and individual contributions.
- Ensure that students have followed any guidelines, instructions, or best practices relevant to their field of study or industry standards.
- Assess the level of innovation, creativity, and critical thinking.
- Provide clear and constructive feedback to students, highlighting their strengths and areas where they can improve.
- Ensure that grading is consistent and aligned with the established rubrics.
- After the evaluation, compile a final report that summarizes the assessment process and provides recommendations for both individual students and the project as a whole.
- Evaluate how well students have applied their knowledge and skills to real-world problem-solving.

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	Demonstrate the ability to develop and execute advanced project plans.
<b>CO2</b>	Apply and expand their technical or subject-specific knowledge and skills to solve complex challenges
<b>CO3</b>	Communicate project progress, findings, and outcomes effectively through comprehensive written reports and oral presentations.

CO-PO MAPPING													PSO's		
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
<b>CO1</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO2</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO3</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

**Course Assessment methods:**

**Direct**

Project Reviews  
Project Report  
Project Demonstration

**Indirect**

Course Exit Survey

**GUIDELINES**

1. Selection of a topic or project title in consultation with a Faculty member.
2. Develop a project planning strategy.
3. If it is an industry – sponsored project, a concurrent letter from industry is required.
4. A maximum of 3/4 students per group will do the project.
5. The project may be done in one of the labs under the supervision of a guide or in the selected industry.
6. Continuous assessment of the project will be done by the project review committee based on four reviews consisting of technical presentation.
7. At the end of the project, a report will be written and a technical presentation along with demonstration will be made by the students.
8. The report, project demonstration and technical presentations will be evaluated by the internal and external examiners.



## **SEMESTER VIII**

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

YEAR	IV	SEMESTER	VIII	L	T	P	C
COURSE CODE / COURSE TITLE	191CB87A - PROJECT PHASE II			0	0	24	12

COURSE OBJECTIVES
<ul style="list-style-type: none"><li>✓ To further develop and advance the project initiated in Phase 1. This could involve refining the project scope, objectives, and plans.</li><li>✓ To identify and address any challenges or issues that arise during the project implementation, teaching students problem-solving skills in a real-world context.</li><li>✓ To integrate the knowledge and skills gained in previous coursework into the practical implementation of the project.</li><li>✓ To emphasize the importance of documenting project processes, decisions, and outcomes for future reference or analysis.</li><li>✓ To encourage creative and innovative thinking in finding solutions and approaches to project challenges</li></ul>

EVALUATION
<ol style="list-style-type: none"><li>1. Start by clarifying the objectives and work done in Phase 1 for the specific project. Ensure that these objectives align with the course or program's learning outcomes.</li><li>2. Develop evaluation rubrics and criteria that clearly outline what you'll be assessing. These rubrics should include criteria related to content, presentation, research, teamwork, and other relevant aspects.</li><li>3. Evaluate how well the documentation aligns with the project's objectives and scope.</li><li>4. Assess students' ability to communicate their work effectively, answer questions, and defend their project decisions.</li><li>5. This may include evaluating the technical aspects, creativity, problem-solving, and attention to detail.</li><li>6. Evaluate the effectiveness of team collaboration. Consider factors such as communication, delegation of tasks, conflict resolution, and individual contributions.</li><li>7. Ensure that students have followed any guidelines, instructions, or best practices relevant to their field of study or industry standards.</li><li>8. Provide clear and constructive feedback to students, highlighting their strengths and areas where they can improve.</li><li>9. Design the modules and implement the same.</li><li>10. Assess the quality of the modules.</li><li>11. Coding should be done in any languages based on the output.</li><li>12. Ensure that grading is consistent and aligned with the established rubrics.</li><li>13. Project implementation output should be verified manually. After the evaluation, compile a final report that summarizes the assessment process and provides recommendations for both individual students and the project as a whole.</li></ol>

**VEL TECH Multi Tech Dr.Rangarajan Dr.Sakunthala Engineering College (Autonomous),  
Avadi, Chennai**

**COURSE OUTCOMES**

On completion of the course, students will be able to

<b>CO1</b>	Demonstrate the ability to develop and execute advanced project plans.
<b>CO2</b>	Communicate project progress, findings, and outcomes effectively through comprehensive written reports and oral presentations.
<b>CO3</b>	Work collaboratively in teams to address complex project issues, demonstrating strong teamwork.
<b>CO4</b>	Implement quality assurance and control processes to ensure the quality of project work

CO-PO Mapping													PSO's		
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
<b>CO1</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO2</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO3</b>	3	3	3	2	1	1	1	1	1	1	2	3	3	3	2
<b>CO</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

**Course Assessment methods:**

**Direct**

Project Reviews  
Project Report  
Project Demonstration

**Indirect**

Course Exit Survey

**GUIDELINES**

- ☐ Project work shall preferably be batchwise, the strength of each batch shall not exceed maximum of four students.
- ☐ Viva-voce examination in project work shall be conducted batch-wise.
- ☐ The CIE marks in the case of projects in the final year shall be based on the evaluation at the end of VIII semester by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the project guide.
- ☐ Students failing to secure a minimum of 50% of the CIE marks in Project work shall not be eligible for the Project examination conducted by the University and they shall be considered as failed in that/those Course/s. However, they can appear for university examinations conducted in other Courses of the same semester and backlog Courses if any. Students after satisfying the prescribed minimum CIE marks in the Course/s when offered during subsequent semester shall appear for SEE.
- ☐ Assess the quality of the work.
- ☐ Norms of final documentation of the project report are to be provided by the Department.

VEL TECH MULTI TECH DR.RANGARAJAN DR.SAKUNTHALA ENGINEERING COLLEGE  
(An Autonomous Institution)

**7<sup>th</sup> Academic Council Meeting - on 20.01.2023**

*Agenda of the 7<sup>th</sup> Academic Council Meeting*

The following points are lined up for discussion.

1. Consideration and Approval of the Program, Naalaiya Tiran, offered by Anna University in Association with the Department of Information and Technology, Government of Tamil Nadu. It is applicable to the Departments of CSE, IT & ECE.
2. Consideration and Approval of courses offered by Anna University in Association with the Government of Tamil Nadu, under the program called Naan Mudhalvan, to be included in the current curriculum (R2019) for all the branches of study as to be formulated by the Govt of Tamil Nadu.
3. Consideration and Approval of Internal and External mark allocation from the academic year 2021-2022 onwards. (60 marks Internal & 40 marks external for Laboratory courses & 40 marks Internal & 60 marks external for Theory courses)
4. Consideration and Approval of Relative grading for the theory courses for the students admitted from 2021 onwards & Absolute grading for Practical courses.
5. Consideration and Approval for the revised Regulation 2023 of B.E-Biomedical Engineering, B.Tech-Artificial Intelligence and Data Science, B.E- Computer Science and Engineering, B.Tech-Computer Science and Business Systems, B.E-Electronics and Communication Engineering, B.E-Electrical and Electronics Engineering, B.E-Mechanical Engineering and B.Tech-Information Technology from the academic year 2023-2024 onwards.
6. Consideration and Approval of revised Curriculum and Syllabi for I Semester and II Semester of B.E-Biomedical Engineering, B.Tech-Artificial Intelligence and Data Science, B.E- Computer Science and Engineering, B.Tech-Computer Science and Business Systems, B.E-Electronics and Communication Engineering, B.E-Electrical

and Electronics Engineering, B.E-Mechanical Engineering and B.Tech-Information Technology from the academic year 2023-2024 onwards.

7. Consideration and Approval for the Regulation 2023 of Post-Graduate course M.E VLSI Design and M.E-Embedded System Technologies from the academic year 2023-2024 onwards.
8. Consideration and Approval of Curriculum and Syllabus for I Semester and II Semester of Post-Graduate course M.E VLSI Design and M.E-Embedded System Technologies from the academic year 2023-2024 onwards.
9. Consideration and Approval for Amendment to the admitted students 2021 for B.E. / B. Tech. degree Programme - Anna University – award of UG

*B.E Honours in the same discipline*

*B.E Honours with Different verticals*

*B.E Minor in other specialization*



VEL TECH MULTI TECH DR.RANGARAJAN DR.SAKUNTHALA ENGINEERING COLLEGE  
(An Autonomous Institution)

**Minutes of the Seventh Meeting of the Academic Council Held on 20.01.2023**

The Seventh meeting of the Academic Council was held at 10.00 AM on 20.01.2023 under the Chairmanship of Dr.V.Rajamani, Principal.

The minutes of the sixth meeting of the Academic Council held on 27.04.2022 vide VTMT/21-22/ACM/006 dated 27.04.2022 was confirmed as the points discussed in the meeting are recorded.

**BUSINESS BROUGHT FORWARD BY THE BOARD OF STUDIES**

1. TO CONSIDER and Approve the Program, Naalaiya Tiran, offered by Anna University in Association with the Department of Information and Technology, Government of Tamil Nadu. It is applicable to the Departments of CSE, IT & ECE.

RESOLVED TO approve the Program, Naalaiya Tiran, offered by Anna University in Association with the Department of Information and Technology, Government of Tamil Nadu. It is applicable to the Departments of CSE, IT & ECE

2. TO CONSIDER and approve the courses offered by Anna University in Association with the Government of Tamil Nadu, under the program called Naan Mudhalvan, to be included in the current curriculum (R2019) for all the branches of study as to be formulated by the Govt of Tamil Nadu.

RESOLVED TO approve the courses offered by Anna University in Association with the Government of Tamil Nadu, under the program called Naan Mudhalvan, to be included in the current curriculum (R2019) for all the branches of study as to be formulated by the Govt of Tamil Nadu.

✓ 27/01/2023

3. TO CONSIDER and approve the Internal and External mark allocation from the academic year 2021-2022 onwards. (60 marks Internal & 40 marks external for Laboratory courses & 40 marks Internal & 60 marks external for Theory courses)

RESOLVED TO approve the Internal and External mark allocation from the academic year 2021-2022 onwards. (60 marks Internal & 40 marks external for Laboratory courses & 40 marks Internal & 60 marks external for Theory courses)

4. TO CONSIDER and approve the Relative grading for the theory courses for the students admitted from 2021 onwards & Absolute grading for Practical courses.

RESOLVED TO approve the Relative grading for the theory courses for the students admitted from 2021 onwards & Absolute grading for Practical courses.

5. TO CONSIDER and approve the revised Regulation 2023 of B.E-Biomedical Engineering, B.Tech-Artificial Intelligence and Data Science, B.E- Computer Science and Engineering, B.Tech-Computer Science and Business Systems, B.E-Electronics and Communication Engineering, B.E-Electrical and Electronics Engineering, B.E-Mechanical Engineering and B.Tech-Information Technology from the academic year 2023-2024 onwards.

RESOLVED TO approve the revised Regulation 2023 of B.E-Biomedical Engineering, B.Tech-Artificial Intelligence and Data Science, B.E- Computer Science and Engineering, B.Tech-Computer Science and Business Systems, B.E-Electronics and Communication Engineering, B.E-Electrical and Electronics Engineering, B.E-Mechanical Engineering and B.Tech-Information Technology from the academic year 2023-2024 onwards.

7/27/10/2022



6. TO CONSIDER and approve the revised Curriculum and Syllabi for I Semester and II Semester of B.E-Biomedical Engineering, B.Tech-Artificial Intelligence and Data Science, B.E- Computer Science and Engineering, B.Tech-Computer Science and Business Systems, B.E-Electronics and Communication Engineering, B.E-Electrical and Electronics Engineering, B.E-Mechanical Engineering and B.Tech-Information Technology from the academic year 2023-2024 onwards.

RESOLVED TO approve the revised Curriculum and Syllabi for I Semester and II Semester of B.E-Biomedical Engineering, B.Tech-Artificial Intelligence and Data Science, B.E- Computer Science and Engineering, B.Tech-Computer Science and Business Systems, B.E-Electronics and Communication Engineering, B.E-Electrical and Electronics Engineering, B.E-Mechanical Engineering and B.Tech-Information Technology from the academic year 2023-2024 onwards.

7. TO CONSIDER and approve of Regulation 2023 of Post-Graduate course M.E VLSI Design and M.E-Embedded System Technologies from the academic year 2023-2024 onwards.

RESOLVED TO approve of Regulation 2023 of Post-Graduate course M.E VLSI Design and M.E-Embedded System Technologies from the academic year 2023-2024 onwards.

8. TO CONSIDER and approve of Curriculum and Syllabus for I Semester and II Semester of Post-Graduate course M.E VLSI Design and M.E-Embedded System Technologies from the academic year 2023-2024 onwards.

7.5  
27/10/2023



RESOLVED TO approve of Curriculum and Syllabus for I Semester and II Semester of Post-Graduate course M.E VLSI Design and M.E-Embedded System Technologies from the academic year 2023-2024 onwards.

9. TO CONSIDER and approve of the Amendments to the admitted students 2021 for B.E. / B. Tech. degree Programme - Anna University – award of UG

*B.E Honours in the same discipline*

*B.E Honours with Different verticals*

*B.E Minor in other specialization*

RESOLVED TO approve of the Amendments to the admitted students 2021 for B.E. / B. Tech. degree Programme - Anna University – award of UG

*B.E Honours in the same discipline*

*B.E Honours with Different verticals*

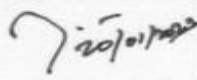
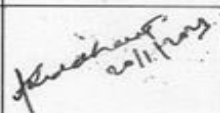
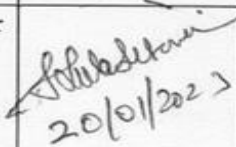



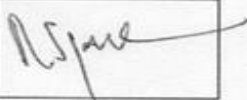
*B.E Minor in other specialization*

  
CHAIRMAN

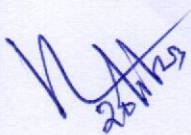
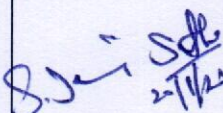
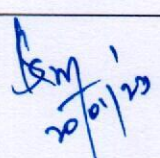
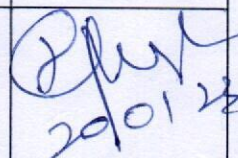
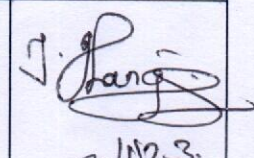
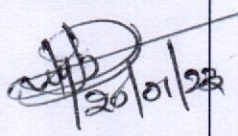
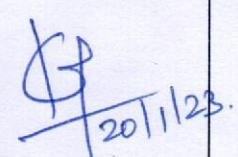
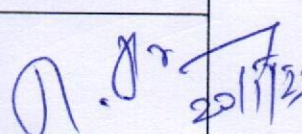
**VEL TECH MULTI TECH DR.RANGARAJAN DR.SAKUNTHALA ENGINEERING COLLEGE**  
(An Autonomous Institution)

**Minutes of the Meeting of the 7<sup>th</sup> Academic Council Meeting Held on 20.01.2023**

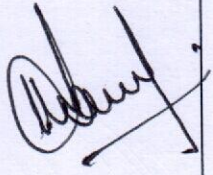
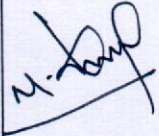
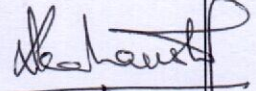
**ACADEMIC COUNCIL**


Sl. No.	Name	Position in AC	Signature
1	Dr. V. Rajamani	Chairman - Principal, Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	
2	Dr.A.Siddharthan	Anna University Nominee - Professor & Head, Department of Production Technology, MIT Campus, Anna University, Chennai - 600025	
3	Dr.S.Sivasubramaniam	Anna University Nominee - Professor & Head, Department of Science & Humanities, University College of Engineering, Tindivanam, Tindivanam-604001	
4	Dr.G.Ramakrishna	Anna University Nominee - Professor, Department of Civil Engg, Puducherry Technological University, Puducherry-605014	
5	Dr. S.Baskar	Institution Nominee - Professor and Head, Department of Electrical and Electronics Engg., Thyagarajar College of Engg., Madurai	
6	Dr.A.Karthikeyan	COE & Professor, Dept. of Electronics and Communication and Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	
7	Dr. G. Sasi	Head- BME - Professor and Head, Dept. of Biomedical Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	
8	Dr. R.Saravanan	Head-CSE - Professor and Head, Dept. of Computer Science and Engg., Vel TechMulti Tech	



		Dr.Rangarajan Dr.Sakunthala Engg College	
9	Dr. V. Prabhu	Head-ECE - Professor and Head, Dept. of Electronics and Communication and Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 26/1/23
10	Dr.S.Thaisubha	Head-EEE - Professor and Head, Dept. of Electrical and Electronics Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 27/1/23
11	Dr.V.Suresh Kumar	Head-IT - Professor and Head, Dept. of Information Technology, Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/01/23
12	Dr. N.Pragadish	Head-Mech - Professor and Head, Dept. of Mechanical Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/01/23
13	Dr. T. Thangeeswari	Head-Science and Humanities - Professor and Head, Dept. of Science and Humanities, Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/1/23
14	Dr.Deepthi Joseph	Principal nominee – Professor, Dept. of Electrical and Electronics Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/01/23
15	Dr. K.Immanuvel Arokia James	Principal nominee – Teacher - Assistant Professor, Dept. of Information Technology, Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/1/23
16	Mr. R. Prabhu	Principal Nominee – Teacher - Assistant Professor, Dept. of Information Technology, Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/1/23



17	Dr. M. Selvam	Principal Nominee – Teacher - Assistant Professor, Dept. of Mechanical Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	
18	Dr.M.Karthikeyan	Principal nominee – Teacher - Assistant Professor, Dept. of Electrical & Electronics Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	
19	Dr. K.A.Harish	Ex-Officio - Assistant Professor-Dept. of Mechanical Engg., Vel Tech Multi Tech Dr.Rangarajan Dr.Sakunthala Engg College	 20/01/2023

 20/01/2023