

Courses having focus on Employability/ Entrepreneurship/ Skill Development

Robotics & Automation/ Regulation 2018



C. B. Palanivelu

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Subject Code : BEN18001		Subject Name : TECHNICAL ENGLISH - I				Ty/Lb/E TL	L	T/ SLr	P/R	C		
		Prerequisite : None				Ty	1	0/0	2/0	2		
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab												
OBJECTIVES : - Strengthen their vocabulary in both technical and business situations - Get practice in functional grammar - Learn the effective way of corresponding with officials - Learn to give instructions, suggestions, recommendations and comprehend and infer the information from the given passages. - Train learners in organized academic and professional writing												
COURSE OUTCOMES (Cos) : (3 – 5) Students completing the course would be able to												
CO1	Strengthen their active and technical vocabulary											
CO2	Understand functional grammar and gain proficiency in technical writing											
CO3	Learn the appropriate technique of writing formal and business letters; interpret the advertisements and prepare the resume relevantly											
CO4	Learn to give instructions, suggestions, recommendations and comprehend and infer the information from the given passages/ reports											
CO5	Focus on academic and technical writing											
Mapping of Course Outcomes with Program Outcomes (POs)												
COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1				3						3		3
CO2				3						3		3
CO3				3		2			3	3		3
CO4				3					3	3		3
CO5				3					3	3		3
Category	Basic Sciences	Engg Sciences	Humanities & Social Sciences	Program core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skills	Soft Skills			
			✓									

Subject Code : BEN18001	Subject Name : TECHNICAL ENGLISH - I	C	L	T/SLr	P/ R
	Prerequisite : None	2	1	0/0	2/0

UNIT I VOCABULARY BUILDING

6

The concept of Word Formation-Root words and affixes from foreign languages and their use in English to form derivatives.-Homophones- Words often confused-Verbal analogy

UNIT II BASIC WRITING SKILLS

6

Using Idioms and phrases in sentences-Sentence structures: statements, interrogative and imperative-Use of Conditional/if clauses in sentences-Importance of proper punctuation-Creating coherence with sentence markers-Organizing coherent paragraphs in essays

UNIT III IDENTIFYING COMMON ERRORS IN WRITING

6

Subject-verb agreement-Noun-pronoun agreement- Misplaced modifiers-Articles-Prepositions-Redundancies and Clichés

UNIT IV WRITING PRACTICE- NATURE AND STYLE OF TECHNICAL WRITING

6

Describing Gadgets- Defining Concepts-Classifying data-Comprehension-Essay Writing-Informal and Formal Letter Writing:

UNIT V ORAL COMMUNICATION AND INTERACTIVE LEARNING

6

(This unit involves interactive practice sessions in Language Lab)

Activities to develop knowledge in Word formation, Vocabulary and analytical thinking-Instructions and –Recommendations-Formal and Informal Registers in Speech-Listening and taking notes

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Total no. of Periods: 30

TEXT BOOK :

Quest : A Textbook of Communication Skills, Vijay Nicole, 2017.
Pushkala, R, PadmasaniKannan S, Anuradha V, Chandrasena M Rajeswaran

SUGGESTED READINGS:

- (i) *Practical English Usage*. Michael Swan. OUP. 1995.
- (ii) *Remedial English Grammar*. F.T. Wood. Macmillan.2007
- (iii) *On Writing Well*. William Zinsser. Harper Resource Book. 2001
- (iv) *Study Writing*. Liz Hamp-Lyons and Ben Heasley. Cambridge University Press. 2006.
- (v) *Communication Skills*. Sanjay Kumar and PushpLata. Oxford University Press. 2011.
- (vi) *Exercises in Spoken English*. Parts. I-III. CIEFL, Hyderabad. Oxford University Press
- (vi) Pronunciation in Use ,Mark Hancock. Cambridge University Press. 2012

Subject Code : BEN18ET1		Subject Name: COMMUNICATION LAB						Ty/Lb/ ETL	L	T/ SLr	P/R	C
		Prerequisite : None						ETL	1	0/0	2/0	1
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab												
OBJECTIVES : • Strengthen the academic and interpersonal advanced vocabulary • Strengthen learners’ writing skill such as summarizing, describing and report writing • Learn to keep the simple conversations in day to day life • Get to know certain life skills such as marketing, advertising and do presentation • Improve the reading skill with comprehension												
COURSE OUTCOMES (Cos) : (3 – 5) Students completing the course would be able to												
CO1	strengthen their active vocabulary and appropriate language usage through reading poems, stories, texts, newspapers, magazines and research articles											
CO2	use appropriate technical vocabulary in interpreting data											
CO3	engage effectively in role-play, dialogue, conversation and interviews											
CO4	equip them for effective interaction with people in all situations both academic and professional											
CO5	learn English language as a ‘life skill’ and prepare for placement interviews											
Mapping of Course Outcomes with Program Outcomes (POs)												
COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1				3						3		3
CO2				3						3		3
CO3				3		2			3	3		3
CO4				3					3	3		3
CO5				3					3	3		3
Category	Basic Sciences	Engg Sciences	Humanities & Social Sciences	Program core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skills			Soft Skills	
			√									

BEN18ET1 COMMUNICATION LAB	1 1 0/ 02/0
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UNIT I	6
Listening and Speaking- Informal and Formal Contexts	
UNIT II	6
Compeering -Anchoring -Group Discussion	
UNIT III	6
Poster Presentation -Welcome Speech -Vote of Thanks	
UNIT IV	8
Formal Presentation -Power point presentation of charts/ Diagrams	
UNIT V	4
Facing an Interview- Mock Interview	

Total No.of Periods: 30

SUGGESTED READINGS:

- (i) *Practical English Usage*. Michael Swan. OUP. 1995.
- (ii) *Remedial English Grammar*. F.T. Wood. Macmillan.2007
- (iii) *On Writing Well*. William Zinsser. Harper Resource Book. 2001
- (iv) *Study Writing*. Liz Hamp-Lyons and Ben Heasley. CambridgeUniversity Press. 2006.
- (v) *Communication Skills*. Sanjay Kumar and PushpLata. OxfordUniversity Press. 2011.
- (vi) *Exercises in Spoken English*. Parts. I-III. CIEFL, Hyderabad. OxfordUniversity Press
- (vi) *Pronunciation in Use* ,Mark Hancock. CambridgeUniversity Press. 2012

Subject Code : BES18ET1	Subject Name : ORIENTATION TO ENTREPRENEURSHIP & PROJECT LAB						Ty/Lb/ ETL	L	T/ SLr	P/R	C	
	Prerequisite : None						ETL	0	0/0	2/0	1	
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory / Lab / Embedded Theory and Lab												
OBJECTIVES :												
- Understand how entrepreneurship Education transforms individuals into successful leaders. - Identify individual potential &S have career dreams - Understand difference between ideas & opportunities - Identify components & create action plan. - Use brainstorming in a group to generate ideas.												
COURSE OUTCOMES (Cos) : (3 – 5) Students completing the course were able to												
CO1	Develop a Business plan & improve ability to recognize business opportunity											
CO2	Do a self analysis to build a entrepreneurial career.											
CO3	Articulate an effective elevator pitch.											
CO4	Analyze the local market environment & demonstrate the ability to find an attractive market											
C05	Identify the required skills for entrepreneurship & develop											
Mapping of Course Outcomes with Program Outcomes (POs)												
COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2	2	3	2	2	2		2	2	2	1
CO2	3	2		3	2	3	2	3	3	3	2	2
CO3		2	2	2		3		3	3	3		
CO4		3	2	2	2	2		3	2	2	3	
CO5		2	2	3	2	2	3	3	2	2	3	1
Category	Basic Sciences	Engg Sciences	Humanitie s & Social Sciences	Program core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skills	Soft Skills			
							✓					

Subject Code : BES18ET1	Subject Name : ORIENTATION TO ENTREPRENEURSHIP & PROJECT LAB	Ty/Lb /ETL	L	T/ SLr	P/R	C
	Prerequisite : None	ETL	0	0/0	2/0	1

UNIT I CHARACTERISTICS OF A SUCCESSFUL ENTREPRENEUR

Introduction to entrepreneurship education – Myths about entrepreneurship – How has entrepreneurship changed the country – Dream it. Do it - Idea planes - Some success stories – Global Legends – Identify your own heroes –

UNITII ENTREPRENEURIAL STYLE

Entrepreneurial styles – Introduction, concept & Different types - Barrier to Communication – Body language speaks louder than words

UNIT III DESIGN THINKING

Introduction to Design thinking – Myth busters – Design thinking Process - Customer profiling – Wowing your customer – Personal selling – concept & process – show & tell concept – Introduction to the concept of Elevator Pitch

UNIT IV RISK MANAGEMENT

Introduction to risk taking & Resilience – Managing risks (Learning from failures, Myth Buster) – Understanding risks through risk takers – Why do I do? – what do I do ?

UNIT V PROJECT

How to choose a topic – basic skill sets necessary to take up a project – creating a prototype – Pitch your project – Project presentation.

Total No. of Periods: 15

Subject Code:	Subject Name: TECHNICAL SKILL-1 (EVALUATION)	Ty/Lb/E TL	L	T/ SLr	P/R	C
BRE18TS1	Pre requisite: All subjects studied up to date	Lb	0	0/0	3/0	1

L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits
T/L/ETL : Theory/Lab/Embedded Theory and Lab

OBJECTIVES:

- To create awareness in students, various top companies helping them improve their skill set matrix, leading to develop a positive frame of mind.
- To help students be aware of various techniques of candidate recruitment and help them prepare CV's and resume.
- To help student how to face various types of interview, preparing for HR, technical interviews.
- To help students improve their verbal reading, narration and presentation skills by performs various mock sessions.

COURSE OUTCOMES (COs) :

CO1	Be aware of various top companies leading to improvement in skills amongst them.
CO2	Be aware of various candidate recruitment techniques like group discussion, interviews and be able to prepare CV's and resumes.
CO3	Prepare for different types of interviews and be prepared for HR and technical interviews.
CO4	Improve their verbal, written and other skills by performing mock sessions.
CO5	Participation of group discussion and aptitude tests

Mapping of Course Outcomes with Program Outcomes (POs)

Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	1			2	1		2
CO2	3	2	2	1	3	1			2	1		2
CO3	3	3	3	3	3	3	2		3	2		2
CO4	3	3	2	3	3	3	2		3	3		3
CO5	3	3	3	3	3	3	2		3	3		3

Cos / PSOs	PSO1	PSO2	PSO3	PSO4								
CO1												
CO2												
CO3												
CO4												
CO5												

Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills			
								✓				

Subject Code:	Subject Name : TECHNICAL SKILL-I (EVALUATION)	T / L/ ETL	L	T / S.Lr	P/ R	C
BRE18TS1		L	0	0/0	3/0	1

Students should undergo training for at least 1 month in any industry/skill development center for skill development. The report along with certificate in proof of Skill acquired should be submitted during viva voce examination to be conducted by the department.

Subject Code:	Subject Name: SOFT SKILLS-I CAREER & CONFIDENCE BUILDING	Ty/Lb/ ETL	L	T/ SLr	P/R	C
BEN18SK1	Pre requisite: None	Lb	0	0/0	3/0	1

L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits
T/L/ETL : Theory/Lab/Embedded Theory and Lab

OBJECTIVES: The student will

- To create awareness in students, various top companies helping them improve their skill set matrix, leading to develop a positive frame of mind.
- To help students be aware of various techniques of candidate recruitment and help them prepare CV's and resume.
- To help student how to face various types of interview, preparing for HR, technical interviews.
- To help students improve their verbal reading, narration and presentation skills by performs various mock sessions.

COURSE OUTCOMES (COs) :

CO1	Be aware of various top companies leading to improvement in skills amongst them.
CO2	Be aware of various candidate recruitment techniques like group discussion, interviews and be able to prepare CV's and resumes.
CO3	Prepare for different types of interviews and be prepared for HR and technical interviews.
CO4	Improve their verbal, written and other skills by performing mock sessions.
CO5	Participation of group discussion and aptitude tests

Mapping of Course Outcomes with Program Outcomes (POs)

Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	1	1	2	2	3	2	3	2	3
CO2	1	1	1	1	1	2	2	3	2	3	2	3
CO3	1	1	1	1	1	2	2	3	2	3	2	3
CO4	1	1	1	1	1	2	2	3	2	3	2	3
CO5	1	1	1	1	1	2	2	3	2	3	2	3
Cos / PSOs	PSO1		PSO2		PSO3		PSO4					
CO1												
CO2												
CO3												
CO4												
CO5												
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical	Soft Skills			
									✓			

Subject Code:	Subject Name : SOFT SKILLS-I CAREER & CONFIDENCE BUILDING	T / L/ ETL	L	T / S.Lr	P/ R	C
BEN18SK1	Prerequisite: None	ETL	0	0/0	3/0	1

To Improve:

1. Behavioral Pattern and Basic Etiquette
2. Value System
3. Inter Personal Skills
4. Behaving in Corporate Culture
5. Self Awareness / Confidence
6. Managing Self and Personality Styles including Body Language
7. International Culture / Cross Cultural Etiquette
8. Communication Skill

UNIT- I 6

Creation of awareness of the top companies / different verticals / Subjects for improving skill set matrix, Industry expectations to enable them to prepare for their career – Development of positive frame of mind – Avoiding inhibitions – Creation of self awareness – Overcoming of inferiority / superiority complex.

UNIT- II 6

Selection of appropriate field vis-à-vis personality / interest to create awareness of existing industries, Preparation of Curriculum Vitae – OBJECTIVESs, Profiles vis-à-vis companies.

UNIT- III 6

Group discussions: Do's and Don'ts – handling of group discussions – What evaluators look for! Interpersonal relationships – with colleagues – clients – understanding one's own behaviour – perception by others, How to work with persons whose background, culture, language / work style different from one's, behaviour pattern in multi-national offices.

UNIT-IV 6

Interview – awareness of facing questions – Do's and Don'ts of personal interview / group interview, Enabling students prepare for different Procedures / levels to enter into any company – books / websites to help for further preparation, Technical interview – how to prepare to face it. Undergoing employability skills test.

UNIT-V 6

Entrepreneurship development – preparation for tests prior to the interview – Qualities and pre-requisites for launching a firm.

Total No. of Periods 30

TEXT BOOKS:

1. Agarwal, R.S. Chand, S. (1989) *Quantitative Aptitude*. Publication.
2. ShaliniVerma,(2009) *Soft Skills*. Publication Pearson.

REFERENCES:

1. Shaliniverma,(2012) *Enhancing employability @ SOFT SKILLS*. Publication Pearson.
2. KiranmaiDutt, P. GeethaRajeevan, C.L. Prakash, N.(2010) *A Subject in Communication Skills*. Publication Foundation Books.
3. Nirakonar,(2011) *English Language Laboratories*.PHI Learning.
4. Anandamurugan, S.(2011) *Placement Interviews*. Publication Tata McGraw Hill Education.

Subject Code:	Subject Name: TECHNICAL SKILL-2 (EVALUATION)							Ty/Lb/ETL	L	T/SLr	P/R	C
BRE18TS2	Pre requisite: All Subjects Studied up to date							Lb	0	0/0	3/0	1
L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab												
OBJECTIVES: The objective is to develop the technical skill of the students.												
OURSE OUTCOMES (COs) :												
CO1	Able to identify student’s field of interest											
CO2	Expose to latest technology in his field of interest											
CO3	Develop the technical skills required in the field of study											
CO4	Bridge the gap between the skill requirements of the employer or industry and the competency of the students.											
CO5	Enhance the employability of the students.											
Mapping of Course Outcomes with Program Outcomes (POs)												
Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	1			2	1		2
CO2	3	2	2	1	3	1			2	1		2
CO3	3	3	3	3	3	3	2		3	2		2
CO4	3	3	2	3	3	3	2		3	3		3
CO5	3	3	3	3	3	3	2		3	3		3
Cos / PSOs	PSO1		PSO2		PSO3		PSO4					
CO1	3		3		3		3					
CO2	3		3		3		3					
CO3	3		3		3		3					
CO4	3		3		3		3					
CO5	3		3		3		3					
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills			
								✓				

Subject Code: BRE18TS2	Subject Name : TECHNICAL SKILL -2 (EVALUATION)	T / L/ ETL	L	T / S.Lr	P/ R	C
		L	0	0/0	3/0	1

Students should undergo training for at least 1 month in any industry/skill development center for skill development. The report along with certificate in proof of Skill acquired should be submitted during viva voce examination to be conducted by the department.

Subject Code: BEN18SK2	SOFT SKILLS-II QUALITATIVE AND QUANTITATIVE SKILLS						T / L/ ETL	L	T / S.Lr	P/ R	C	
	Prerequisite: Basic Mathematics.						ETL	0	0/0	3/0	1	
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab												
OBJECTIVES: - To bring behavioural patterns of students. - To train them for corporate culture. - To create self awareness. - To build confidence. To train the students for facing the interviews and develop interpersonal relationship.												
COURSE OUTCOMES (COs) : (3- 5)												
CO1	Recognize and apply arithmetic knowledge in a variety of contexts.											
CO2	Ability to identify and critically evaluate philosophical arguments and defend them from criticism.											
CO3	Gain the skill in solving H.C.F & L.C.M – Problem and Profit & Loss problems.											
CO4	Gain the skill in solving the problems in Permutations & Combinations											
CO5	Data Interpretation using different graphs.											
Mapping of Course Outcomes with Program Outcomes (Pos)												
Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	3	3	1	1	3	2	3	3
CO2	2	2	2	3	1	3	1	3	3	3	3	1
CO3	3	3	3	3	3	3	2	2	3	3	3	3
CO4	3	3	3	3	3	3	1	1	3	2	3	3
CO5	2	2	2	3	1	3	1	3	3	3	3	1
Cos / PSOs	PSO1		PSO2		PSO3		PSO4					
CO1												
CO2												
CO3												
CO4												
CO5												
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills	Interdisciplinary Subject		
									✓			

Subject Code: BEN18SK2	SOFT SKILLS-II QUALITATIVE AND QUANTITATIVE SKILLS	T / L/ ETL	L	T / S.Lr	P/ R	C
	Prerequisite: None	ETL	0	0/0	3/0	1

SUBJECT OBJECTIVES:

- Ability to work out mentally any problem.
- Ability to choose the correct approaches.
- Ability to tackle all interviews and competitive exams.

The purpose of this Subject is to build confidence, inculcate various Soft skills and also helps the students to identify in achieving their personal potential.

At the end of this training program the participant will be able to,

Explain the concept problem solving

- Outline the basic steps in problem solving.
- List out the key elements
- Explain the use of tools and techniques in problem solving.
- Discuss the personality types and problem solving techniques.
- By adapting different thinking styles in group and learn environment.
- Recognizing and removing barriers to thinking in challenging situations.
- Make better decision through critical thinking and creative problem solving.

METHODOLOGY

The entire program is designed in such a way that every student will participate in the class room activities. The activities are planned to bring out the skills and talent of the students which they will be employing during various levels in their real life.

1. Group activities + individual activities
2. Collaborative learning
3. Interactive sessions
4. Ensure Participation
5. Empirical Learning

UNIT I Logical Reasoning I

Logical Statements – Arguments – Assumptions – Courses of Action.

UNIT II Logical Reasoning II

Logical conclusions – Deriving conclusions from passages – Theme detection.

UNIT III Arithmetical Reasoning I

Number system – H.C.F & L.C.M – Problem on ages – Percentage – Profit & Loss – Ratio & Proportion – Partnership.

UNIT IV Arithmetical Reasoning II

Time & Work – Time & Distance – Clocks – Permutations & Combinations – Heights & Distances – Odd man out and Series.

UNIT V Data Interpretation

Tabulation – Bar graphs – Pie graphs – Line graphs.

Total No. of Periods : 30

Reference Book:

1. R.S.Agarwal, A modern approach to Logical Reasoning, S.Chand & Co., (2017).
2. R.S.Agarwal, A modern approach to Verbal and Non verbal Reasoning, S.Chand & Co., (2017).
3. R.S.Agarwal, Quantitative Aptitude for Competitive Examinations, S.Chand & Co., (2017).

Subject Code:	Subject Name : INDUSTRIAL TRAINING							T / L/ ETL	L	T / S.Lr	P/ R	C
BRE18L07								Lb	0	0/0	3/0	1
L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab												
OBJECTIVES: The student will learn: ➤ Make use of the knowledge and skill developed during their four years of study and to apply them for making an innovative product/process for the development of society and industries.												
COURSE OUTCOMES (COs) :												
CO1	Generate, develop and evaluate ideas and information so as to apply the skills acquired to the project work											
CO2	Ability to make links across different area of knowledge											
CO3	Acquire skills to communicate effectively and present the ideas clearly											
CO4	Acquire collaborative skills through working in team to achieve a common goal											
CO5	Able to learn on their own, reflect on their learning and take appropriate actions to improve it.											
Mapping of Course Outcomes with Program Outcomes (POs)												
Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	3	3	3	3	3	2	3	3
CO2	3	3	3	3	3	3	3	3	3	2	3	3
CO3	2	2	3	3	2	2	2	-	3	3	3	3
CO4	3	2	3	3	2	2	2	-	3	3	2	3
CO5	3	3	3	3	3	3	3	-	3	3	2	3
Cos / PSOs	PSO1		PSO2		PSO3		PSO4					
CO1	3		3		3		3					
CO2	3		3		3		3					
CO3	2		2		2		2					
CO4	3		3		3		3					
CO5	3		3		3		3					
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills			
							✓					

Subject Code:	Subject Name : INDUSTRIAL TRAINING	T / L/ ETL	L	T / S.Lr	P/ R	C
BME18L07		L	0	0/0	3/0	1

OBJECTIVES:

Students will have an opportunity to expose their knowledge and talent to make an innovative project. Students are supposed to do innovative projects useful to industries/society in the area of Mechanical Engineering and related areas, under the guidance of a staff member of their study. They have to prepare a project report and submit to the department.

OR

Students are supposed to get training in a Manufacturing/service Industry for a minimum period of 15days, prepare a report and submit to the department.

At the end of the semester Viva-Voce examination will be conducted by the internal Examiner duly appointed by the Head of the department and the students will be evaluated.

Subject Code:	Subject Name : MINI-PROJECT	Ty / Lb/ ETL	L	T / S.Lr	P/ R	C
BRE18L10	Prerequisite: Knowledge of Interdisciplinary Subjects and Skills.	Lb	0	0/0	3/0	1

Students will have an opportunity to expose their knowledge and talent to make an innovative project. Students are supposed to do innovative projects useful to industries/society in the area of Robotics Engineering and related areas, under the guidance of a staff member of their study. They have to prepare a project report and submit to the department.

At the end of the semester Viva-Voce examination will be conducted by the internal Examiner duly appointed by the Head of the department and the students will be evaluated.

Subject Code:	Subject Name: TECHNICAL SKILL-3 (EVALUATION)							T / L/ ETL	L	T / S.Lr	P/ R	C
BRE17TS3	Pre requisite: All Subjects Studied Upto Date							Lb	0	0/0	3/0	1
L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab												
OBJECTIVES: The objective is to develop the technical skill of the students.												
COURSE OUTCOMES (COs) :												
CO1	Able to identify student’s field of interest											
CO2	Expose to latest technology in his field of interest											
CO3	Develop the technical skills required in the field of study											
CO4	Bridge the gap between the skill requirements of the employer or industry and the competency of the students.											
CO5	Enhance the employability of the students.											
Mapping of Course Outcomes with Program Outcomes (POs)												
Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	1			2	1		2
CO2	3	2	2	1	3	1			2	1		2
CO3	3	3	3	3	3	3	2		3	2		2
CO4	3	3	2	3	3	3	2		3	3		3
CO5	3	3	3	3	3	3	2		3	3		3
Cos / PSOs	PSO1		PSO2		PSO3		PSO4					
CO1	3		3		3		3					
CO2	3		3		3		3					
CO3	3		3		3		3					
CO4	3		3		3		3					
CO5	3		3		3		3					
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills			

Subject	Subject Name : TECHNICAL SKILL-3 (EVALUATION)	T / L/ ETL	L	T / S.Lr	P/ R	C
Code: BME18TS3		L	0	0/0	3/0	1

Students should undergo training for at least 1 month in any industry/skill development center for skill development. The report along with certificate in proof of Skill acquired should be submitted during viva voce examination to be conducted by the department.

Subject Code:		Subject Name : MINI-PROJECT						Ty / Lb/ ETL	L	T / S.Lr	P/ R	C
BRE18L10		Prerequisite: Knowledge of Interdisciplinary Subjects and Skills.						Lb	0	0/0	3/0	1
L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab												
OBJECTIVE : The main objective of the this course is to bring out the interdisciplinary skills in students by encouraging them to do mini projects, in the field of Mechanical, Electrical, Electronics & Computer science .The project can be a simulation or hardware based.												
COURSE OUTCOMES (COs) : (3- 5)												
CO1		To apply the interdisciplinary knowledge for carrying out an innovative, industrial application Project.										
CO2		To acquire desired technological skills required in the interdisciplinary domain										
CO3		To enhance the employability skills of the students.										
Mapping of Course Outcomes with Program Outcomes (POs)												
COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M	L	L	L	L	H	H	H	H	H	H	H
CO2	H	M	H	H	M	H	H	H	H	H	H	M
CO3	H	H	H	H	M	H	H	H	H	H	H	M
H/M/L indicates Strength of Correlation H- High, M- Medium, L-Low												
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills			
							✓					
Approval												

Students will have an opportunity to expose their knowledge and talent to make an innovative project. Students are supposed to do innovative projects useful to industries/society in the area of Robotics Engineering and related areas, under the guidance of a staff member of their study. They have to prepare a project report and submit to the department. At the end of the semester Viva-Voce examination will be conducted by the internal Examiner duly appointed by the Head of the department and the students will be evaluated.

Subject Code:	Subject Name : FOREIGN LANGUAGE	Ty/Lb/ ETL	L	T/ SLr	P/R	C
BHS18FLX	Pre Requisite: Nil	Lb	0	0/0	3/0	1

L : Lecture T : Tutorial SLr : Supervised Learning P : Project R : Research C: Credits

T/L/ETL : Theory/Lab/Embedded Theory and Lab

OBJECTIVE : The main objective of this course is to equip the students with one foreign language which will enable them for higher studies/professional career abroad

COURSE OUTCOMES (COs) : (3- 5)

CO1	Students will gain the knowledge of identifying phonetics of all the letters in one foreign language
CO2	Students will gain the knowledge of reading small words and in one foreign language
CO3	Students will gain the knowledge of writing skill in one foreign language.
CO4	Students will gain the knowledge of reading skill in one foreign language
CO5	Students will gain the knowledge of spoken skill in one foreign language

Mapping of Course Outcomes with Program Outcomes (POs)

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1	3	3	3	3	3	3	3
CO2	3	2	3	3	2	3	3	3	3	3	3	2
CO3	3	3	3	3	2	3	3	3	3	3	3	2
CO4	3	2	3	3	2	3	3	3	3	3	3	2
CO5	3	3	3	3	2	3	3	3	3	3	3	2
COs / PSOs	PSO1		PSO2		PSO3		PSO4		PSO5			
CO1												
CO2												
CO3												
CO4												
CO5												

Category		Basic Sciences
		Engineering Sciences
	✓	Humanities and Social Sciences
		Program Core
		Program Electives
		Open Electives
		Practical / Project
		Internships / Technical Skill
		Soft Skills

Subject Code:	Subject Name : FOREIGN LANGUAGE	Ty/Lb/ETL	L	T/SLr	P/R	C
BHS18FLX	Pre Requisite: Nil	Lb	0	0/0	3/0	1
OBJECTIVE : The main objective of this course is to equip the students with one foreign language which will enable them for higher studies/professional career abroad						

Subject Code:	Subject Name: PROJECT PHASE-I								Ty/Lb/ETL	L	T/SLr	P/R	C
BRE18L12	Pre requisite: All Courses								Lb	0	0/0	3/3	2
L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab													
OBJECTIVES: The student will ➤ make use of the knowledge and skill developed during their four years of study and to apply them for making an innovative product/process for the development of society and industries.													
COURSE OUTCOMES (COs) :													
CO1		Generate, develop and evaluate ideas and information so as to apply the skills acquired to the project work											
CO2		Ability to make links across different area of knowledge											
CO3		Acquire skills to communicate effectively and present the ideas clearly											
CO4		Acquire collaborative skills through working in team to achieve a common goal											
CO5		Able to learn on their own, reflect on their learning and take appropriate actions to improve it.											
Mapping of Course Outcomes with Program Outcomes (POs)													
Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	3	3	3	3	3	3	3	3	3	2	3	3	
CO2	3	3	3	3	3	3	3	3	3	2	3	3	
CO3	2	2	3	3	2	2	2	-	3	3	3	3	
CO4	3	2	3	3	2	2	2	-	3	3	2	3	
CO5	3	3	3	3	3	3	3	-	3	3	2	3	
Cos / PSOs	PSO1		PSO2		PSO3		PSO4						
CO1	3		3		3		3						
CO2	3		3		3		3						
CO3	2		2		2		2						
CO4	3		3		3		3						
CO5	3		3		3		3						
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills				

Subject Code: BRE18L12	Subject Name: PROJECT PHASE-I	Ty/Lb/ ETL	L	T/ SLr	P/R	C
	Pre requisite: All Courses	Lb	0	0/0	3/3	2

Students should identify the topic of the Project and should collect the literatures and data, at the end of the Semester the students should submit their Project Phase - I report to the Department and Viva - Voce examination will be conducted with external examiners and this carries 3 credits.

Subject Code:	Subject Name: PROJECT PHASE-II							Ty/Lb/ ETL	L	T/ SLr	P/R	C
BRE18L13	Pre requisite: All Courses, Project Phase-I							Lb	0	0/0	8/8	8
L : Lecture T : Tutorial S Lr : Supervised Learning P : Project R : Research C: Credits T/L/ETL : Theory/Lab/Embedded Theory and Lab												
OBJECTIVES: The student will ➤ make use of the knowledge and skill developed during their four years of study and to apply them for making an innovative product/process for the development of society and industries.												
COURSE OUTCOMES (COs) :												
CO1		Generate, develop and evaluate ideas and information so as to apply the skills acquired to the project work										
CO2		Ability to make links across different area of knowledge										
CO3		Acquire skills to communicate effectively and present the ideas clearly										
CO4		Acquire collaborative skills through working in team to achieve a common goal										
CO5		Able to learn on their own, reflect on their learning and take appropriate actions to improve it.										
Mapping of Course Outcomes with Program Outcomes (POs)												
Cos/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	3	3	3	3	3	2	3	3
CO2	3	3	3	3	3	3	3	3	3	2	3	3
CO3	2	2	3	3	2	2	2	-	3	3	3	3
CO4	3	2	3	3	2	2	2	-	3	3	2	3
CO5	3	3	3	3	3	3	3	-	3	3	2	3
Cos / PSOs	PSO1		PSO2		PSO3		PSO4					
CO1	3		3		3		3					
CO2	3		3		3		3					
CO3	2		2		2		2					
CO4	3		3		3		3					
CO5	3		3		3		3					
Category	Basic Sciences	Engineering Sciences	Humanities and Social Sciences	Program Core	Program Electives	Open Electives	Practical / Project	Internships / Technical Skill	Soft Skills			

Subject Code:	Subject Name: PROJECT PHASE-II	Ty/Lb	L	T/SLr	P/R	C
BRE18L13	Pre requisite: All Courses, Project Phase-I	Lb	0	0/0	8/8	8

To make the students to make use of the knowledge and skill developed during their four years of study and to apply them for making an innovative product/process for the development of society and industries.

Students are expected to do a Project work either in an Industry or at the University in the field of Mechanical Engineering in group, not exceeding 4 students in a group. Each group will be allotted a guide based on the area of Project work. Number of reviews will be conducted during the semester to monitor the development of project. Students must submit the thesis at the end of the semester and appear for the Project Viva-Voce examination conducted by one internal examiner and one external examiner. 50% weight age will be given for the internal assessment and 50% weight age for the Project viva a voce examination.



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