## **Bharath Institute of Higher Education and Research**

## Department of Electrical and Electronics Engineering Curriculum Vs PO's Mapping

S.NO	SUBJECT NAME	SUB CODE	THEORY	LAB	a	b	c	d	e	f	g	h	i	j	k	1
	S	SEMESTER	- I													
1	English –I	BEN101	✓		✓	✓	✓	✓	✓				✓	✓	✓	✓
2	Mathematics-I	BMA101	✓		✓	✓			✓		✓					
3	Engineering Physics-I	BPH101	✓		✓		✓	✓					✓			✓
4	Engineering Chemistry - I	BCH101	✓		✓		✓	✓			✓					
5	Fundamentals of Computing and Programming	BCS101	✓		✓		✓			✓						
6	Engineering Graphics	BME102	✓		✓	✓			✓			✓	✓	✓		
7	Basic Electrical and Electronics Engineering	BEE101	✓			✓			✓							✓
8	Computer Practice Laboratory	BCS1L1		✓	✓			✓		✓				✓		
9	Basic Electrical and Electronic Engineering Practices Lab	BEE1L1		✓		✓		✓	✓						✓	
10	Yoga	BSS1L7		✓									✓			
SEMESTER - II																
1	English - II	BEN201	✓				✓					✓		✓		
2	Mathematics - II	BMA201	✓		✓	✓				✓						
3	Engineering Physics - II	BPH201	✓		✓		✓									
4	Engineering Chemistry - II	BCH201	✓		✓	✓			✓		✓					
5	French	BFR201	✓										✓	✓		
6	German	BGM201	✓										✓	✓		
7	Japanese	BJP201	✓										✓	✓		
8	Korean	BKR201	✓										✓	✓		
9	Chinese	BCN201	✓										✓	✓		
10	Tamil	BTM201	✓										✓	✓		
11	Personality Development	BSS201	✓							✓				✓		✓
12	Biology for Engineers	BBT202	✓										✓			
13	Basic Mechanical Engineering	BME203	✓		✓			✓					✓			
14	Basic Civil Engineering	BCE201	✓		✓	✓			✓	✓			✓			
15	Basic Civil & Mechanical Engineering Practices Lab	BCM2L1		✓	✓			✓					✓			
16	Physics and Chemistry Laboratory	BPC2L1		✓	✓			✓							✓	
17	NCC/NSS/NSO	BSS2L4		✓									✓			
	S	EMESTER -	Ш									-				
1	Mathematics-III	BMA301	✓		✓		✓	✓						✓		
2	Circuit Theory	BEE301	✓		✓	✓	✓	✓	✓					✓		
3	Electrical machines – I	BEE302	✓		✓	✓			✓							
4	Electron Devices	BEE303	✓		✓		✓		✓		✓	✓	✓		✓	
5	Electromagnetic Theory	BEE304	✓		✓	✓			✓							
6	Digital Electronics	BEE306	✓		✓			✓					✓			
7	Electrical Machines Laboratory - I	BEE3L2		✓	✓	✓			✓							
8	Electron Devices Laboratory	BEE3L5		✓	✓	✓		✓	✓							

		SEMESTER -	IV								-					
1	Applied Probability and Statistics	BMA401	✓		✓	✓			✓							
2	Electrical Machines - II	BEE401	✓		✓	✓				✓						
3	Electrical Network analysis & Synthesis	BEE402	✓		✓	✓		✓	✓							
4	Linear Integrated circuits	BEE403	✓		✓			✓	✓			✓	✓			
5	Thermal Engineering & Fluid mechanics	BME405	✓						✓	✓			✓			
6	Environmental Studies	BCE406	✓						✓	✓	✓					
7	Technical Seminar - 1	BEE4S1		✓	✓	✓								✓		
8	Electrical machines Laboratory – II	BEE4L1		✓				✓								
9	Linear & Digital Integrated Circuits Laboratory	BEE4L2		✓				✓	✓				✓			
10	Thermal Engineering & Fluid mechanics Laboratory	BME4L3		✓				✓				✓	✓			
SEMESTER - V																
1	Numerical methods	BMA502	✓		✓	✓										
2	Control System	BEE501	✓		✓	✓			✓		✓					
3	Power Electronics	BEE502	✓		✓				✓		✓					
4	Electrical Machine design	BEE504	✓		✓		✓		✓							
5	Power Generation Systems	BEE505	✓							✓	✓					
6	Comprehension I	BEE5C1		✓						✓				✓		
7	Control System Laboratory	BEE5L1		✓				✓								
8	Power Electronics Laboratory	BEE5L2		✓				✓								
CORE ELECTIVE -I																
1	Electrical Special Machines	BEE015	✓		✓											
2	Distributed generation and Micro grid	BEE051	✓		✓			✓	✓							
3	Solid State Relays	BEE012	✓		✓	✓	✓	✓	✓	✓						✓
4	Power System Protection and Switch Gear	BEE053	✓		✓		✓	✓					✓			
5	High Voltage Engineering	BEE013	✓			✓			✓			✓	✓			✓
		SEMESTER -	VI													
1	Transmission and Distribution	BEE601	✓		✓		✓			✓	✓		✓			
2	Microprocessor and Microcontroller	BEE603	✓										✓			
3	Digital Signal Processing	BEE604	✓										✓			
4	Measurement and Instrumentation	BEE605	✓						✓				✓			
5	Value Education & Professional Ethics	BSS601	✓							✓		✓	✓		✓	✓
6	Microprocessor and Microcontroller Laboratory	BEE6L1		✓				✓					✓			
7	Measurement and Instrumentation Laboratory	BEE6L2		✓		✓							✓			
		ORE ELECTIV		_					_	_			_	_		
1	Electrical Machine Modeling and Analysis	BEE052	✓		√	✓			✓	✓						
2	Flexible AC Transmission Systems	BEE016	✓		✓	✓			<b>√</b>	<b>√</b>						
3	Renewable Energy Sources	BEE048	✓			✓	✓		✓	✓	✓	✓			✓	
4	Advanced Control System	BEE003	✓		✓		✓	✓	✓				✓			
5	High Voltage DC Transmission	BEE011	✓		✓	✓		✓	✓			✓	✓	✓		✓
		MAJOR ELEC	CTIVE -I	_		_			_				_	_	_	
1	Instrumentation and Control in power Plant Industries	BEE045	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓		
2	Design of Embedded Systems	BEE049	✓			✓		✓	✓	✓			✓			
3	Robotics and Automation	BEE009	✓			✓					✓		✓			✓
4	Principles of communication Engineering	BEC612	✓						✓							

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5	Electronic Integrated Circuits	BEE042	✓		<b>_</b>	<b> </b>		<b>✓</b>	✓			<b>✓</b>	✓	✓		
	SEMESTER - VII															
1	Operations Research for Engineers	BMA701	<b>√</b>		<b>V</b>				<b>√</b>			<b>√</b>		✓		
2	Power System Analysis	BEE701	✓		✓	✓	✓		<b>√</b>	✓	<b>√</b>					
3	Electrical Drives and Control	BEE703	✓						✓		<b>√</b>					
4	Term paper	BEE7P1		<b>√</b>	<b>✓</b>	✓		✓						✓		
5	Power System Using PC Laboratory	BEE7L1		✓				✓	✓							
6	Electrical Drives & Control Laboratory	BEE7L3		✓		✓		✓								
7	In plant Training (End of 6 <sup>th</sup> Sem- 15 days)	BEE7V1		✓	✓			✓	✓					$\checkmark$		
	COI	RE ELECTIV	E -III													
1	Power System Operation and Control	BEE047	✓		✓	✓	✓	✓	✓	✓						
2	Power Quality Management	BEE044	✓			✓	✓	✓	✓	✓						
3	Smart Grid	BEE019	✓		✓	✓	✓			✓		✓			✓	
4	Solar Energy Utilization	BEE043	✓			✓	✓	✓		✓	✓			✓		
5	Electric and Hybrid Vehicles	BEE033	✓		✓	✓	✓	✓	✓							
NON MAJOR ELECTIVE -II																
1	Bio-Medical Instrumentation	BEE007	✓		✓			✓	✓							
2	Fuzzy Logic and Neutral Network	BEE014	✓		✓	✓		✓	✓			✓	✓	✓		✓
3	Micro Controller Based System Design	BEE027	✓				✓		✓	✓			✓		✓	✓
4	Biosensors and Transducer	BBM405	✓			✓		✓	✓		✓		✓			
5	Automotive Electronics	BEC013	✓		✓		✓		✓				✓			✓
OPEN ELECTIVE - I																
1	Engineering Economics and Financial accounting	BBA004	✓			✓	✓		✓		✓		✓			
2	Total Quality Management	BBA008	✓		<b>√</b>		✓	✓		✓			✓		✓	
3	Principles of Management and Organizational Behaviour	BBA001	✓		✓	✓		✓		✓			✓	✓	✓	
4	Web Design	BEE031	✓		✓								✓			
5	Java Programming	BEE046	✓										✓			
		EMESTER - V	VIII													
1	Comprehension II	BEE8C1		✓						✓				✓		
2	Project Work	BEE8P1		✓	✓			✓	✓					✓		✓
	1 0	AJOR ELEC	TIVE -III		•	•	•	•	•			•				
1	Virtual Instrumentation	BEI704	✓		✓				✓							
2	Micro Electro Mechanical Systems	BEE026	✓		✓	✓			✓							
3	Process control Engineering	BEE050	✓		<b>✓</b>	✓	✓						✓			
4	Fibre Optics and Laser Instrumentation	BEE022	✓		<b>✓</b>			<b>√</b>	<b>√</b>				✓			
5	Energy Engineering And Management	BBA005	✓		<b>√</b>	<b>√</b>	<b>✓</b>	<b>√</b>			<b>✓</b>		✓		✓	<b>√</b>
		EN ELECTIV	E - II	•	•		•		•	•						
1	Engineering Economics and Cost Analysis	BBA007	✓			✓	✓		✓							✓
2	Entrepreneurship Development	BBA002	✓		<b>✓</b>	✓			✓	<b>✓</b>	<b>✓</b>		✓		✓	
3	Marketing Management	BBA003	✓		<b>✓</b>	✓		✓		<b>✓</b>		✓		✓	✓	
4	Cloud Computing	BEE029	✓		<b>✓</b>	<b>√</b>			<b>✓</b>				✓			
5	Cyber Security	BEE030	✓						<b>√</b>	<b>√</b>				✓		
	1 - 7					<u> </u>		<u> </u>	<u> </u>	<u> </u>						

## **List of Program Outcomes (PO's)**

 An ability to apply knowledge of mathematics, science, and engineering fundamentals.

 An ability to identify, formulate, and solve engineering problems.

 An ability to design a system, component, or process to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

• An ability to design and conduct experiments, as well as to analyze and interpret data.

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• An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

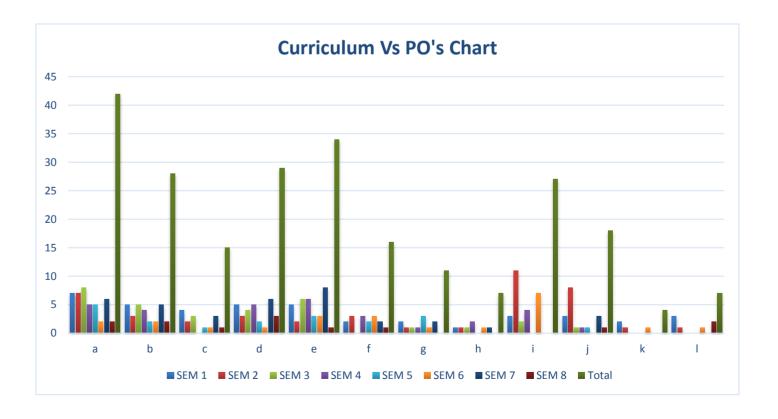
 An ability to apply reasoning informed by the knowledge of contemporary issues.

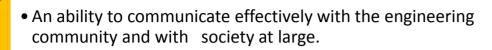
• An ability to broaden the education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

 An ability to understand professional and ethical responsibility and apply them in engineering practices.

• An ability to function on multidisciplinary teams.

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING														
CURRICULUM Vs PO's CHART														
POs	SEM 1 SEM 2 SEM 3 SEM 4 SEM 5 SEM 6 SEM 7 SE													
а	7	7	8	5	5	2	6	2	42					
b	5	3	5	4	2	2	5	2	28					
С	4	2	3	0	1	1	3	1	15					
d	5	3	4	5	2	1	6	3	29					
е	5	2	6	6	3	3	8	1	34					
f	2	3	0	3	2	3	2	1	16					
g	2	1	1	1	3	1	2	0	11					
h	1	1	1	2	0	1	1	0	7					
i	3	11	2	4	0	7	0	0	27					
j	3	8	1	1	1	0	3	1	18					
k	2	1	0	0	0	1	0	0	4					
	3	1	0	0	0	1	0	2	7					





- An ability in understanding of the engineering and management principles and apply them in project and finance management as a leader and a member in a team.
- An ability to recognize the need for, and an ability to engage in life-long learning.