DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

(AFFILIATED TO JNTUK, KAKINADA (RECOGNISED BY ALL INDIA COUNCIL FOR TECH. EDN., NEW DELHI)

(Accredited by NACC, NBA NEW DELHI)

CHINNA AMIRAM (P.O):: BHIMAVARAM :: W.G.Dt., A.P., INDIA :: PIN: 534 204

Dr.B.R.K.Varma, M.E.,Ph.D. Professor & Head



Offi:08816-229373, 223332 Ext.224 Mobile No: 98493 35863 E-mail: bhrkvarma@gmail.com GSTIN:37AABTS9402K2Z5

12-04-2023

CIRCULAR

This is to inform all the members that the 9th Board of Studies (BOS) meeting of the Department of EEE, SRKR Engineering College, Bhimavaram will be held on 30-04-2023 (Sunday) at 10:00 AM in Digital Learning Centre of the department. All the BOS members are invited to attend the meeting.

Agenda:

- 1. To discuss and finalize the scheme and syllabi for the final year of R20 B.Tech (EEE) course curriculum.
- 2. Any other item with the permission of the Chairman.

DEPT. OF E.E.

Head of the Department & BOS Chairman

Heed of EEE Department S.R.K.R. Engg.College BHIMAVARAM -534 204

Copy to

- 1. The Members of the BOS
- 2. The Principal, SRKREC
- 3. The Dean, Academics
- 4. Office file

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Dr. B.R.K.Varma, M.E.,Ph.D. Professor & Head



Offi:08816-229373, 223332 Ext.224 Mobile No : 98493 35863 I-mail: bhrkvarma@gmail.com GSTIN:37AABTS9402K3Z4

Date: 13.04.2023

To Dr. K. Venkata Reddy Professor of EEE, UCEK, JNTU Kakinada Kakinada-533 003.

Dear Sir.

Sub: S.R.K.R. Engineering College EEE Department-Board of Studies Meeting-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of Department of Electrical and Electronics Engineering, SRKR Engineering College as an Expert Nominated by Vice-Chancellor. It is proposed to discuss and finalize the scheme and syllabi for the 4th year of R20 B.Tech (EEE) course curriculum.

In this regard, you are requested to attend the meeting scheduled to be held on 30.04.2023 at 10.00 AM in Digital Learning Centre of EEE Department.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Yours Sincerely,

Dr. B.R.K. Varma Head of the Department

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Date: 13.04.2023

To Dr. M. Damodara Reddy Professor Department of EEE, College of Engineering, Sri Venkateswara University, Tirupati-517502.

Dear Sir,

Sub: S.R.K.R. Engineering College EEE Department-Board of Studies Meeting-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of Department of Electrical and Electronics Engineering, SRKR Engineering College as Subject Expert from outside Parent University. It is proposed to discuss and finalize the scheme and syllabi for the 4th year of R20 B.Tech (EEE) course curriculum.

In this regard, you are requested to attend the meeting scheduled to be held on 30.04.2023 at 10.00 AM in Digital Learning Centre of EEE Department.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Yours Sincerely,

Dr. B.R.K. VarmaHead of the Department

Head of EEE Department S.R.K.R. Engg.College BHIMAVARAM -534 204

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Dr. B.R.K.Varma, M.E.,Ph.D. Professor & Head



Offi:08816-229373, 223332 Ext.224 Mobile No : 98493 35863 E-mail: bhrkvarma@gmail.com GSTIN:37AABTS9402K3Z4

Date: 13.04.2023

To Dr. Ch. V.V.S. Bhaskara Reddy Professor, Department of Electrical Engineering, College of Engineering Andhra University, Visakhapatnam-530003.

Dear Sir,

Sub: S.R.K.R. Engineering College EEE Department-Board of Studies Meeting-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of Department of Electrical and Electronics Engineering, SRKR Engineering College as Subject Expert from outside Parent University. It is proposed to discuss and finalize the scheme and syllabi for the 4th year of R20 B.Tech (EEE) course curriculum.

In this regard, you are requested to attend the meeting scheduled to be held on 30.04.2023 at 10.00 AM in Digital Learning Centre of EEE Department.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Yours Sincerely,

Dr. B.R.K. Varma
Head of the Department

Head of EEE Department S.A.K.R. Copy.Codene MINAWARE - GLA 2011



SAGI RAMAKRISHNAM RAJU ENGINEERING COLLEGE (A) DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

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Dr. B.R.K.Varma, M.E.,Ph.D. Professor &Head



Offi:08816-229373, 223332 Ext.224 Mobile No : 98493 35863 E-mail: bhrkvarma@gmail.com GSTIN:37AABTS9402K3Z4

Date: 13.04.2023

To
Dr P.Sankar
Assistant Professor
Department of Electrical Engineering
National Institute of Technology AP,
Tadepalligudem, -534102.

Dear Sir.

Sub: S.R.K.R. Engineering College EEE Department-Board of Studies Meeting-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of Department of Electrical and Electronics Engineering, SRKR Engineering College as Subject Expert from outside Parent University. It is proposed to discuss and finalize the scheme and syllabi for the 4th year of R20 B.Tech (EEE) course curriculum.

In this regard, you are requested to attend the meeting scheduled to be held on 30.04.2023 at 10.00 AM in Digital Learning Centre of EEE Department.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Yours Sincerely,

Dr. B.R.K. Varma
Head of the Department
Head of EEE Department

S.R.K.R. Engg.College BHIMAVARAM ~534 204



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

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Offi:08816-229373; 223332 Ext.224 Mobile No : 98493 35863 E-mail: bhrkvarma/a gmail.com GSTIN:37AABTS9402K3Z4

Date: 13.04.2023

To

Akula Ramesh

Principal Engineer,

Mercedes Benz Research and Development India,

Bangalore.

Dear Sir,

Sub: S.R.K.R. Engineering College EEE Department-Board of Studies Meeting-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of Department of Electrical and Electronics Engineering, SRKR Engineering College as Representative from Industry/Corporate Sector/Allied Area Relating to Placement. It is proposed to discuss and finalize the scheme and syllabifor the 4th year of R20 B.Tech (EEE) course curriculum.

In this regard, you are requested to attend the meeting scheduled to be held on 30.04.2023 at 10.00 AM in Digital Learning Centre of EEE Department.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Yours Sincerely,

Dr. B.R.K.Varma Head of the Department

Head of EER Chostamore S. M. K. A. Lingg. College H. J. M. W. 2017 - 1, 34 2 C

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Date: 13.04.2023

To Dr.G.Kasi Viswanadha Raju Lead Specialist, Power System Consulting, Vestas Technology R&D Chennai-600119.

Dear Sir,

Sub: S.R.K.R. Engineering College EEE Department-Board of Studies Meeting-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of Department of Electrical and Electronics Engineering, SRKR Engineering College as Postgraduate Meritorious Alumni. It is proposed to discuss and finalize the scheme and syllabi for the 4th year of R20 B.Tech (EEE) course curriculum.

In this regard, you are requested to attend the meeting scheduled to be held on 30.04.2023 at 10.00 AM in Digital Learning Centre of EEE Department.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Yours Sincerely,

Dr. B.R.K. Varma
Head of the Department

Head of EEE Department S.R.K.R. Engg.College RHIMAVARAM -534 204



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Date: 30-04-2023

Members of Board of Studies

S. No	Category	Name	Position	Signature		
1	Chairman	Dr. B.R.K.Varma	Professor & Head Dept. of EEE SRKR Engineering College China Amiram, Bhimavaram-534204	Dopul 30 Mas		
2	Expert Nominated by Vice-Chancellor	Dr. K.Venkata Reddy	Professor of EEE, UCEK JNTUK, Kakinada-533003	Attended in		
3	Subject Experts from	Dr. M. Damodara Reddy	Professor, Department of EEE College of Engineering, Sri Venkateswara University Tirupati-517502	Meddy		
4	outside Parent Universities	Dr. Ch. V.V.S. Bhaskara Reddy	Professor, Dept. of EEE, College of Engineering, Andhra University, Visakhapatnam-530003.	- War		
5		Dr P.Sankar	Assistant Professor Dept. of EEE, NIT AP, Tadepalligudem, -534102,AP	Attended in online made		
6	Representative from Industry/Corporate Sector/Allied Area Relating to Placement	Akula Ramesh	Principal Engineer, Mercedes Benz Research and Development India, Bangalore.	Affended in oneinemade		
7	Postgraduate Meritorious Alumnus	Dr.G.Kasi Viswanadha Raju	Lead Specialist, Power System Consulting, Vestas Technology R&D, Chennai-600119	Affended in outline mode		
8		Dr. P.Kanta Rao	Professor, Dept. of EEE SRKR Engineering College	Pur		
9	Faculty of a 1	Prof. N.Srinivasu	Professor, Dept. of EEE SRKR Engineering College	N.S.		
10	Faculty of each specialization	Dr. M.Sai Veerraju	Professor, Dept. of EEE SRKR Engineering College	Mad		
11		Sri D.J.V.Prasad	Associate Professor, Dept. of EEE SRKR Engineering College	Not afferded due to medical ground		
12		Dr. M.Siva Rama Krishna	Associate Professor, Dept. of EEE SRKR Engineering College	Not afferded due to medical emergency		
13	Student Members	Ms. Katuri Baalambica	19B91A0291 B.Tech., EEE, 2019-2023 Batch	K.BalaAmbica		
14	Stadent Mellioels	Mr. V. Kishore Kumar	20B91A02H2 B.Tech., EEE, 2020-2024 Batch	V. Kishote Kumon		

Agenda:

- 1. To discuss and finalize the scheme and syllabi for the final year of R20 B.Tech (EEE) course curriculum.
- 2. Any other item with the permission of the chairman.

BOS MINUTES

C1		- IV/IV B. Tech	
Sl.no	Suggestion	BOS Member	Resolution
1	Mention subjects list for MOOCS in the Professional Elective Course	Dr. M. Damodara Reddy	List not to be given to keep more options open for the student Moreover, selection is subject to approval by the department.
2	Change the title of the subject "Introduction to Drone Technology"	Dr P. Sankar Sri Akula Ramesh	Resolved to approve the suggestion by changing the title as "Introduction to Unmanned Aerial Vehicles".
3	Include Embedded System Lab	Dr P. Sankar Sri Akula Ramesh	As only one skill course i possible, Electric vehicles course is considered.
4	Accommodate Skill Courses in one track	Dr. M. Damodara Reddy	As skill course is a lab course resolved to consider only on course in view of lal establishment difficulties.
5	Include Minor degree in 'EV'	Dr P. Sankar	Resolved to consider for future batches.
6	 ❖ Facing difficulty during study of topics like 'current and voltage controllers' in Electric Vehicles (R19 syllabus) ❖ More number of 'Circuit Breakers' in Switchgear and Protection (R19 syllabus) 	Ms. K. Baalambica (Student Member)	Resolved to remove the topics Air blast and Vacuum CBs in Switchgear and protection subject and the topics - 'curren and voltage controllers' in Electric Vehicles subject.
7	 Include many projects related courses in the curriculum Incorporate Laboratories with more Hardware equipment. 	Mr. V. Kishore Kumar (Student Member)	Resolved to procure more Hardware for Sadhana Project laboratory.
8	 Electric Vehicles Elaborate topic 'comparison of EV with IC Engine' in unit -1 Elaborate topics 'Architecture of EV and fuel cells' in unit -2 Remove the 'fuel cells' in unit -3 Reduce the content in unit - 4 by including basics of various motors and their comparison etc., Include EV on grid - challenges, remedies. Add 'Introduction to Vehicle' 	Dr. G. Kasi Viswanadha Raju Dr. Ch. V.V.S. Bhaskara Reddy Dr P. Sankar Sri Akula Ramesh	Resolved to approve all suggestions except fuel cells removal as the course is an elective.
9		Dr. K. Venkata Reddy	Resolved to include battery safety, fuel cells concepts and

	 Include battery safety terminology in unit -4 Add 'introduction to fuel cells, fuel cell operated EV' and reduce content of BMS in unit -4 Rearrange the contents in unit -4 and unit -5 Change the textbook links 	Dr. Ch. V.V.S. Bhaskara Reddy Dr P. Sankar Sri Akula Ramesh	units are rearranged to accommodate above.
10	Power Electronics for Renewable Energy ❖ Rearrange the content in unit - 3 ❖ Modify the topic 'power electronics for wind power' as 'power electronics for type 1, type 2, type 3 and type 4 for wind power.	Dr. Ch. V.V.S. Bhaskara Reddy Dr. M. Damodara Reddy Dr. G. Kasi Viswanadha Raju	Resolved to approve suggestions
11	Power System Operation and Control ❖ Rearrange the contents in unit - 1 and unit -5 ❖ Move topic 'operational aspects' in unit -5 into unit -1 ❖ Add security, contingency analysis, selection and ranking in unit -5	Dr. Ch. V.V.S. Bhaskara Reddy Dr. G. Kasi Viswanadha Raju Dr P. Sankar	Resolved to revise topics in the unit – 5 and make it as unit-1 along with title "Introduction to Power System Operation and Control". Ranking not included to limit the content.
12	 Smart Grid ❖ Change the unit -2 title as 'wide area monitoring system (WAMS)' instead of 'smart grid technologies' ❖ Add 'comparison between SCADA and WAMS ❖ Elaborate the contents of 'control of microgrid' topic in unit -4 ❖ Change the unit -5 title as 'Communication Technology' instead of 'Advanced metering and security' ❖ Rearrange the topics in unit -5 	Dr. M. Damodara Reddy Dr. Ch. V.V.S. Bhaskara Reddy Sri Akula Ramesh	The topic 'comparison between SCADA and WAMS' be added in the unit -2 and contents of 'control of microgrid' are elaborated.
13	Switchgear and Protection Merge all lightning arresters in one topic as 'protection against surges' and elaborate contents in 'protection of alternator topic' in unit – 4. Remove static relays and add digital relays/substation-automation/recent advancements in the protection in unit -5.	Dr. M. Damodara Reddy Dr. Ch. V.V.S. Bhaskara Reddy Dr. G. Kasi Viswanadha Raju	Resolved to approve suggestions
14	Digital Design and Computer Architecture Make an integrated course instead of theory course	Dr P. Sankar	Not considered as the scheme allows only theory course.
15	ARM Microcontrollers	Dr P. Sankar	Resolved to approve suggestions

	 Add programming lab in future Add links of 'ARM University Program' 	Sri Akula Ramesh	
16	 Introduction of Unmanned Aerial Vehicles Modify the Title Include ethics and safety topics. Add working and operation, control of ESC. Add communication components and include case studies like applications of drone to monitor the power system, rescue operations, inspection and survey in unit -5. 	Dr P. Sankar Sri Akula Ramesh	Resolved to approve suggestions
17	 Electric Vehicles Laboratory Modify the name of the 1st experiment — connecting the components instead of display. Mention 'power train' component in 7th experiment Modify the experiments 2,3,4 and 5 by adding 'speed and torque control' Include 'Vehicle model (Closed loop control simulation) experiment Remove 'study of' term in experiments — 8,9,10. Make experiment — 10 as both simulation and hardware. 	Bhaskara Reddy Dr. G. Kasi Viswanadha Raju	Resolved to consider suggested improvements while procuring equipment for the lab.

30 4 202 Head of EEE Department 5.R.K.R. Enest -534 204 BHIMAVARAM -534 204



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UG Programmes CE, CSE, ECE, EEE, IT & ME are Accredited by NBA. Accredited by NAAC with A

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Regulation: R20		IV / IV - B.Tech. I - Semester									
ELECTRICAL AND ELECTRONICS ENGINEERING											
	SCHEME OF INSTR (With effect from 202)										
Course Code Course Name		Catego ry		r	Т	P	Int. Marks	Ext. Marks	Total Marks		
B20HS4102	Managerial Economics and Financial Accountancy	HS	3	3	0	0	30	70	100		
#PE-III	Professional Elective -III	PE	3	3	0	0	30	70	100		
#PE-IV	Professional Elective -IV	PE	3	3	0	0	30	70	100		
#PE-V	Professional Elective -V	PE	3	3	0	0	30	70	100		
#OE-III	Open Elective-III	OE	3	3	0	0	30	70	100		
#OE-IV	Open Elective-IV	OE	3	3	0	· C	30	70	100		
B20EE4113	Electric Vehicles Laboratory (Skill Oriented Course)	SOC	2	1	. 0	2		50	50		
B20EE4114	Industrial/Research Internship 2 Months	PR	3				,	50	50		

	Course Code	Course				
	B20EE4101	Electric Vehicles				
#PE-III	B20EE4102	Power System Operation and Control				
	B20EE4103	Digital Design and Computer Architecture				
	B20EE4104	MOOCS- 1				
	B20EE4105	Energy Storage and Battery Management Systems				
	B20EE4106	Smart Grid				
#PE-IV	B20EE4107	ARM Microcontrollers				
	B20EE4108	MOOCS - 2				
	B20EE4109	Power Electronics for Renewable Energy				
	B20EE4110	Switchgear and Protection				
#PE-V	B20EE4111	Introduction to Unmanned Aerial Vehicles				
	B20EE4112	MOOCS - 3				
#OE-III &	Student has to study one Open Elective each from OE-III & IV offered by AIDS or					
#OE-IV	CE or CSBS or CSE or ECE or IT or ME or S&H from the list enclosed.					

TOTAL

PRINCIPAL
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SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (AUTONOMOUS)

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Regulation: R20		IV / IV - B.Tech. II - Semester								
	ELECTRICAL AND ELECTRONICS ENGINEERING									
	SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2020-21 admitted Batch onwards)									
Course Code			Catego ry	Cr	L	T	P	Int. Marks	Ext. Marks	Total Marks
B20EE4201 Project Work (Project work, seminar and internship in industry)		PR	8	0	0	16	60	14 0	20 0	
	TOTAL				0	0	16	60	140	200

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Head OF FEE PERATURENT S.R.K.R. ENER. College RHIMAYARAM -534 204

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S.R.K.R. Engineering College