ISO 9001:2015 AICTE-CII: GOLD Category Institute NAAC-'A' Grade Institute (CGPA: 3.21) NIRF-2020 Rank Band: 201-250

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE
Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506 015, Telangana, INDIA.
काकतीय प्रैद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६ ०१५ तेलंगाना, भारत
కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము
(An Autonomous Institute under Kakatiya University, Warangal)
(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)
website: www.kitsw.ac.in E-mail: principal@kitsw.ac.in ✆ : +91 9392055211, +91 7382564888

DEPARTMENT
OF
ELECTRONICS & COMMUNICATION ENGINEERING

M.Tech – Communication Engineering and Signal Processing

PRR-20
SCHEME OF INSTRUCTION & EVALAUTION

(Applicable from the Academic Year 2020-21)

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VISION OF THE INSTITUTE

- *To make our students technologically superior and ethically strong by providing quality education with the help of our dedicated faculty and staff and thus improve the quality of human life*

MISSION OF THE INSTITUTE

- *To provide latest technical knowledge, analytical and practical skills, managerial competence and interactive abilities to students, so that their employability is enhanced*
- *To provide a strong human resource base for catering to the changing needs of the Industry and Commerce*
- *To inculcate a sense of brotherhood and national integrity*

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

VISION OF THE DEPARTMENT

- *Develop the department into a full-fledged center of learning in various fields of Electronics and Communication Engineering in pursuit of excellence in Education, Research, Entrepreneurship and Technological services to the society*

MISSION OF THE DEPARTMENT

- *Imparting quality education to develop innovative and entrepreneurial professionals fit for globally competitive environment*
- *To nurture the students in the field of Electronics and Communication Engineering with an overall back-ground suitable for attaining a successful career in higher education, research and industry*

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)	
PG – M.Tech. (COMMUNICATION ENGINEERING AND SIGNAL PROCESSING)	
PROGRAM EDUCATIONAL OBJECTIVES (PEOs)	The post graduates of **Communication Engineering and Signal Processing** program will be able to
PEO1 (Research and Innovation)	*engage in research, innovation and in teaching in HE institutions*
PEO2 (Technical expertise and Successful career)	*excel in profession in industry, and entrepreneurship with updated technologies in signal processing, wireless technologies domains.*
PEO3 (Soft skills and Lifelong learning)	*exhibit professional ethics, effective communication, and teamwork in solving engineering problems by adapting contemporary research towards sustainable development of society.*

PROGRAM OUTCOMES (POs) & PROGRAM SPECIFIC OUTCOMES (PSOs)	
PG – M.Tech. (COMMUNICATION ENGINEERING AND SIGNAL PROCESSING)	
PROGRAM OUTCOMES (POs)	**At the time of graduation**, the post graduates of **Communication Engineering and Signal Processing** program will be able to …
PO1	*independently carry out research /investigation and development work to solve practical problems*
PO2	*to write and present an effective technical report/document*
PO3	*demonstrate competence in the area communication engineering and signal processing*
PROGRAM SPECIFIC OUTCOMES (PSOs):	
PSO1	*apply knowledge of signal processing, embedded systems, communication systems, artificial intelligence & machine learning and wireless technologies for development of effective and innovative solutions to engineering problems.*
PSO2	*apply appropriate methodology, contemporary hardware and software tools to solve complex engineering problems related to signal processing, embedded systems, communication systems, artificial intelligence & machine learning and wireless technologies.*

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL – 15
(An Autonomous Institute under Kakatiya University, Warangal)
SCHEME OF INSTRUCTION & EVALUATION FOR TWO YEAR POSTGRADUATE PROGRAMME
M.TECH. (COMMUNICATION ENGINEERING AND SIGNAL PROCESSING)

PRR-20

SEMESTER-I

Sr. No.	Course Type	Course Code	Course Name	Teaching scheme			Credits	Evaluation Scheme								
								CIE							ESE	Total Marks
								I²RE - TA				Minor	MSE	Total		
				L	T	P		ATLP	CRP	CP	PPT					
1	PC	P20SP101	Professional Core-1: Advanced Communication Theory	3	-	-	3	8	8	8	6	10	20	60	40	100
2	PC	P20SP102	Professional Core-2: DSP Processors and Architectures	3	-	-	3	8	8	8	6	10	20	60	40	100
3	PE	P20SP103	Professional Elective-I/ MOOC-I	3	-	-	3	8	8	8	6	10	20	60	40	100
4	PE	P20SP104	Professional Elective-II/ MOOC-II	3	-	-	3	8	8	8	6	10	20	60	40	100
5	PC	P20SP105	Professional Core Lab-I: Advanced Communication Theory Lab	-	-	4	2	-	-	-	-	-	-	60	40	100
6	PC	P20SP106	Professional Core Lab-II: Advanced DSP Processors Lab	-	-	4	2	-	-	-	-	-	-	60	40	100
7	MC	P20MC107	Research Methodology & IPR	2	-	-	2	8	8	8	6	10	20	60	40	100
8	AC	P20AC108	Audit Course-I	2	-	-	1	8	8	8	6	10	20	60	40	100
			Total:	16	-	8	19	48	48	48	36	60	120	480	320	800

[L= [Lecture, T = Tutorials, P = Practicals, C = Credits, ATLP = Assignments, CRP = Course Research Paper, CP = Course Patent, PPT = Course Presentation, Minor=Minor Examination, MSE=Mid Semester Examination and ESE=End Semester Examination]

Professional Elective-I/ MOOC-I	Professional Elective-II/ MOOC-II	Audit Course 1
P20SP103A: Wireless Sensor Networks	P20SP104A: Adaptive Signal Processing	P20AC108A: English for Research Paper Writing
P20SP103B: Array Signal Processing	P20SP104B: Real Time Operating Systems	P20AC108B: Sanskrit for Technical Knowledge
P20SP103C: FPGA based Wireless Communication System	P20SP104C: Advanced Cellular and Mobile Communications	P20AC108C: Constitution of India
P20SP103D: MOOCs	P20SP104D: MOOCs	P20AC108D: Pedagogy Studies

Total Contact Periods/Week: 24 **Total Credits: 19**

Additional Learning: Students are advised to do MOOCs to bridge the gap in the curriculum as suggested by the Department Academic, Advisory Committee (DAAC). The credits earned by the student through MOOCs will be printed in the semester grade sheet

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL – 15
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M.TECH. (COMMUNICATION ENGINEERING AND SIGNAL PROCESSING)

PRR-20

SEMESTER-II

Sr. No.	Course Type	Course Code	Course Name	Teaching scheme			Credits	Evaluation Scheme								
								CIE							ESE	Total Marks
								I²RE - TA				Minor	MSE	Total		
				L	T	P		ATLP	CRP	CP	PPT					
1	PC	P20SP201	Professional Core-3: Software Defined Radio	3	-	-	3	8	8	8	6	10	20	60	40	100
2	PC	P20SP202	Professional Core-4: Machine Learning for Signal Processing	3	-	-	3	8	8	8	6	10	20	60	40	100
3	PE	P20SP203	Professional Elective-III/ MOOC-III	3	-	-	3	8	8	8	6	10	20	60	40	100
4	PE	P20SP204	Professional Elective-IV/ MOOC-IV	3	-	-	3	8	8	8	6	10	20	60	40	100
5	PC	P20SP205	Professional Core Lab-III: Software Defined Radio Lab	-	-	4	2	-	-	-	-	-	-	60	40	100
6	PC	P20SP206	Professional Core Lab-IV: Artificial Intelligence and Machine Learning Lab	-	-	4	2	-	-	-	-	-	-	60	40	100
7	PROJ	P20SP207	Mini Project with Seminar	-	-	4	2	-	-	-	-	-	-	100	-	100
8	AC	P20AC208	Audit Course-II	2	-	-	1	8	8	8	6	10	20	60	40	100
			Total:	14	-	12	19	40	40	40	30	50	100	520	280	800

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Note: The students shall undergo mandatory Industrial training/ Internship for at least 6 to 8 weeks during summer vacation at Industry/R&D organization. Internship evaluation will be done during the III semester.

Professional Elective-III/ MOOC-III	Professional Elective-IV/ MOOC-IV	Audit Course-II
P20SP203A: 5G Communication Systems	P20SP204A: Multi rate systems & filter banks	P20AC208A: Stress Management by Yoga
P20SP203B: IoT and Applications	P20SP204B: Real Time Embedded Systems	P20AC208B: Value Education
P20SP203C: Radar Signal processing	P20SP204C: Millimeter Wave Communication	P20AC208C: Personality Development through Life Enlightenment Skills
P20SP203D: MOOCs	P20SP204D: MOOCs	P20AC208D: Disaster Management

Total Contact Periods/Week: 26 **Total Credits: 19**

Additional Learning: Students are advised to do MOOCs to bridge the gap in the curriculum as suggested by the Department Academic, Advisory Committee (DAAC).

The credits earned by the student through MOOCs will be printed in the semester grade sheet.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL – 15
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PRR-20

SCHEME OF INSTRUCTION & EVALUATION FOR TWO YEAR POSTGRADUATE PROGRAMME
M.TECH. (COMMUNICATION ENGINEERING AND SIGNAL PROCESSING)
SEMESTER-III

Sr. No.	Course Type	Course Code	Course Name	Teaching scheme			Credits	Evaluation Scheme								
				L	T	P		CIE							ESE	Total Marks
								I²RE - TA				Minor	MSE	Total		
								ATLP	CRP	CP	PPT					
1	PE	P20SP301	Professional Elective-V/ MOOC-V	3	-	-	3	8	8	8	6	10	20	60	40	100
2	OE	P20OE302	Open Elective-I/ MOOC-VI	3	-	-	3	8	8	8	6	10	20	60	40	100
3	PROJ	P20SP303	Dissertation *Phase-I* /Industrial Project(*to be continued in IV – semester also*)	-	-	18	9	-	-	-	-	-	-	100	-	100
4	PROJ	P20SP304	Internship Evaluation			2	--	-	-	-	-	-	-	100	-	100
			Total:	6	-	20	15	16	16	16	12	20	40	320	80	400

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Professional Elective-V/ MOOC-V	Open Elective-I/ MOOC-VI
P20SP301A: Statistical Signal Processing	P20OE302A: Business Analytics
P20SP301B: Coding Techniques	P20OE302B: Industrial Safety
P20SP301C: Image Processing and Computer Vision	P20OE302C: Operations Research
P20SP301D: MOOCs	P20OE302D: Cost Management of Engineering Projects P20OE302E: Composite Materials P20OE302F: Waste to Energy P20OE302G: Renewable Energy Sources P20OE302H: MOOCS

Total Contact Periods/Week: 26 **Total Credits: 15**

Additional Learning: Students are advised to do MOOCs to bridge the gap in the curriculum as suggested by the Department Academic, Advisory Committee (DAAC). The credits earned by the student through MOOCs will be printed in the semester grade sheet.

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KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL – 15
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SCHEME OF INSTRUCTION & EVALUATION FOR TWO YEAR POSTGRADUATE PROGRAMME
M.TECH. (COMMUNICATION ENGINEERING AND SIGNAL PROCESSING)
SEMESTER-IV

Sr. No.	Course Type	Course Code	Course Name	Teaching scheme			Credits	Evaluation Scheme								
								CIE							ESE	Total Marks
								I²RE - TA				Minor	MSE	Total		
				L	T	P		ATLP	CRP	CP	PPT					
1	**PROJ**	**P20SP401**	**Dissertation Phase – II**	**-**	**-**	**30**	15	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**40**	**100**
			Total:	**-**	**-**	**30**	**15**	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**40**	**100**

[L= [Lecture, T = Tutorials, P = Practicals, C = Credits, ATLP = Assignments, CRP = Course Research Paper, CP = Course Patent, PPT = Course Presentation, Minor=Minor Examination, MSE=Mid Semester Examination and ESE=End Semester Examination]

Total Contact Periods/Week: 30 **Total Credits: 15**

COURSE CREDIT STRUCTURE

Semester	PRR-20 Curriculum	As per Model Curriculum
I	19	18
II	19	18
III	15	16
IV	15	16
Total:	**68**	**68**

COURSE WEIGHTAGE

Courses	% Weightage of Courses
Professional Theory	42.85 % (9/21)
Professional Lab	38.1 % (8/21)
Other	19.05 % (4/21)
Total:	**100 % (21/21)**

SEMESTER vs COURSE CATEGORY WEIGHTAGE

Number of Courses / Number of Credits (*Course Category wise*)

Semester	MC	PC	PE	OE	PROJ	AC	TOTAL
I	1/2	4/10	2/6	-	-	1/1	**8/19**
II	-	4/10	2/6	-	1/2	1/1	**8/19**
III	-	-	1/3	1/3	2/9	-	**4/15**
IV	-	-	-	-	1/15	-	**1/15**
Total	**1/2**	**8/20**	**5/15**	**1/3**	**4/26**	**2/2**	**21/68**
% Weightage of Course Category	**2.94 % (2/68)**	**29.41 % (20/68)**	**22.05 % (15/68)**	**4.41 % (3/68)**	**38.23 % (26/68)**	**2.94 % (2/68)**	**100 % (68/68)**