



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
Kakinada-533003, Andhra Pradesh (India)

Comparison of Program Structure R20 with R19

Program Code	Program Name	Total No. of Courses		No of Subjects			Total Courses	Percentage %
		R20	R19	Added in (R20)	Deleted (R19)	Content revised more than 20%		
1A04	B.Tech – Electronics & Communication Engineering	68	70	10	06	04	20	29

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Coordinator

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REGISTRAR
J.N.T. University Kakinada
Kakinada-533003

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Chairman, Board of Studies



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Kakinada-533003, Andhra Pradesh (India)

Comparison of Course Structure R20 with R19

Program Code: 1A04

Program Name: B.Tech – Electronics & Communication Engineering

Year : 1

Semester: 1

R20					R19							Remarks		
Course code	Subjects	L	T	P	C	Course code	Course name	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
1101	Mathematics - I	3		--	3	1101	Communication English	3	1		3			20
1102	Applied Chemistry	3		--	3	1102	Mathematics-I	3			3			20
1103	Communicative English	3		--	3	1103	Applied Chemistry	3			3			20
1104	Programming For Problem Solving Using C	3		--	3	1104	Basic Electrical Engineering	3			3			20
1105	Network Analysis	3		--	3	1105	Network Analysis	3	1		3			20
1106	English Communications Skills Lab	0		3	1.5	1106	English Communication Lab			3	1.5			10
1107	Applied Chemistry Lab	--		3	1.5	1107	Applied Chemistry Lab			3	1.5			10
1108	Programing For Problem Solving using C LAB	--		3	1.5	1108	Electronic Workshop			3	1.5			10
1109	Physical Fitness Activities	--		2	--	1109	Essential of Electrical & Electronics Engg. Lab			3	1.5			10
		--				1110	Environmental Science	3			0			10

				1111	Physical Fitness Activities		2		0			10
Total credits				19.5	Total credits				21			

Program Code: 1A04

Program Name: B.Tech – Electronics & Communication Engineering

Year : 1

Semester: 2

R20						R19								
Course code	Subjects	L	T	P	C	Course code	Course name	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
1201	Mathematics – II	3		--	3	1201	Applied Physics	3			3			20
1202	Applied Physics	3		--	3	1202	Programming & Problem solving using C	3			3			20
1203	Object Oriented Design & Programming using java	3		--	3	1203	Engineering Drawing	3			3			20
1204	Engineering Drawing	2		--	3	1204	Mathematics -II	3	1		3			10
1205	Basic Electrical Engineering	3		--	3	1205	Mathematics -III	3	1		3			20
1206	Electronic workshop Lab			3	1.5	1206	Constitution of India	2			-			10
1207	Applied Physics Laboratory	--		3	1.5	1207	Applied Physics	3		3	1.5			10

							Lab							
1208	Basic Electrical Engineering lab	--	3	1.5	1208	Programming & Problem solving using C Lab	3		3	1.5				10
1209	Applied Physics Virtual Laboratory	--	2	0	1209	Virtual Physics Lab			2	-				10
1210	Constitution of India	2												
1211	Engineering Exploration Project-Design Thinking		1											
Total				19.5	Total					18				

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year : 2

Semester: 1

R20						R19						Remarks		
Course code	Subjects	L	T	P	C	Course code	Course	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
2101	Mathematics III	3			3	2101	Electronics Devices and Circuits	3	0	0	3			20
2102	Electronics Devices and Circuits	3			3	2102	Switching Theory and Logic Design	3	0	0	3			20
2103	Switching Theory and Logic Design	3			3	2103	Signals and Systems	3	0	0	3			30
2104	Signals and Systems	3			3	2104	Object Oriented Design & Programming using Java	3	0	0	3			20
2105	Random Variables and Stochastic Process	3			3	2105	Random Variables and Stochastic Process	3	1	0	3			20
2106	Electronics Devices and Circuits - Lab	0		3	1.5	2106	Computer Architecture and Organization	3	0	0	3			10
2107	Switching Theory and Logic Design - Lab	0		3	1.5	2107	Electronics Devices and Circuits - Lab	0	0	3	1.5			10
2108	Object Oriented Design & Programming using Java lab	0		3	1.5	2108	Switching Theory and Logic Design - Lab	0	0	3	1.5			10
2109	Skill oriented course*	1	0	2	2	2109	Object Oriented Design & Programming using Java lab	0	0	3	1.5	YES		

2110	Indian Traditional Knowledge	2	0	0	0									10
Total					21.5		Total				22.5			

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year : 2

Semester: 2

R20						R19						Remarks		
Course code	Subjects	L	T	P	C	Course code	Subjects	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
2201	Mathematics -4	3			3	2201	Mathematics -4	3	0	0	3			10
2202	Digital IC Applications	3			3	2202	Managerial Economics & Financial Analysis	3	0	0	3	YES		
2203	Electronics Circuit Analysis	3			3	2203	Electronics Circuit Analysis	2	1	0	2			20
2204	Analog Communications	3			3	2204	Control Systems	2	1	0	2			20
2205	Managerial Economics & Financial Analysis	3			3	2205	Electromagnetic Waves and Transmission Lines	3	0	0	3			30
2206	Digital IC Applications Lab	0		3	1.5	2206	Analog Communications	3	0	0	3	YES		
2207	Analog	0		3	1.5	2207	Electronics	0	0	3	1.5			10

	Communications – Lab						Circuit Analysis - Lab							
2208	Electronics Circuit Analysis - Lab	0		3	1.5	2208	Analog Communications - Lab	0	0	3	1.5			
2209	Skill oriented course*	1	0	2	2	2209	Socially Relevant Projects	0	0	1	0.5	YES	YES	
						2210	Indian Traditional Knowledge/ Employability Skills - 1 and 2/PE&HV	3	0	0	0			
Total credits					21.5	Total credits					19.5			

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year : 3

Semester: 1

R20					R19					Remarks				
Course code	Subjects	L	T	P	C	Course code	Subjects	L	T	P	C	New Course? (R20)	Deleted Course ? (R19)	Content Revision %
3101	Linear IC Applications	3			3	3101	Integrated Circuits and applications	3	0	0	3			30
3102	Micro Processors & Micro Controllers	3			3	3102	Microprocessor and Microcontrollers	3	0	0	3			10
3103	Electromagnetic Waves and Transmission Lines	3			3	3103	Digital Communications	3	0	0	3			20
3104	Professional Elective courses (PE1) 1. Control Systems 2. Electronic Measurements and Instrumentation 3. Tele communications and witching Network	3			3	3104	Antennas and Wave Propagation	3	0	0	3			10
3105	Open Elective (OE1) 1. Data Communications 2. EMI/EMC 3. Cellular & Mobile Communications	3			3	3105	Professional Elective (PE1)	3	0	0	3			10
3106	Microprocessor and Microcontrollers - Lab			3	1.5	3106	Integrated Circuits and applications -	0	0	3	1.5			10

							Lab							
3107	Linear IC Applications Lab			3	1.5	3107	Digital Communications Lab	0	0	3	1.5			25
3108	Skill advanced course/ soft skill course*	1	0	2	2	3108	Microprocessor and Microcontrollers - Lab	0	0	3	1.5	YES		
3109	Environmental Science	2	0	0	0	3109	Socially Relevant Projects	0	0	1	0.5		YES	
3110	Internship	0	0	0	1.5							YES		
Total credits					21.5	Total credits					20			

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year : 3

Semester: 2

R20						R19						Remarks		
Course Code	Subjects	L	T	P	C	Course Code	Subjects	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
3201	VLSI Design	3			3	3201	Internet of Things	3	0	0	3		YES	20
3202	Digital Signal Processing	3			3	3202	VLSI Design	3	0	0	3			20
3203	Digital Communications	3			3	3203	Digital Signal Processing	3	0	0	3			10
3204	Professional Elective courses(PE2)	3			3	3204	Open Elective (OE1)	3	0	0	3			10

	1. Antenna and Wave Propagation 2. Computer Architecture and Organization 3. Soft computing techniques						1. Data Communications 2. EMI/EMC							
3205	Open Elective (OE2) 1. Biomedical Instrumentation 2. Electronic Measurements and Instrumentation 3. TeleVision Engineering	3			3	3205	(PE2) 1. Digital IC Design 2. Electromagnetic Interference & Compatibility (EMI/EMC) 3. Soft computing techniques and Python programming	3	0	0	3			10
3206	VLSI Lab			3	1.5	3206	(PE3) 1. Analog IC Design 2. Simulation & Mathematical Modeling 3. Information Theory & Coding	3	0	0	3			10
3207	Digital Signal Processing Lab			3	1.5	3207	VLSI Lab	0	0	3	1.5			10
3208	Digital Communications Lab			3	1.5	3208	Digital Signal Processing Lab	0	0	3	1.5			10
3209	Skill advanced course/ soft skill course*	1	0	2	2	3209	Mandatory Course - Indian Traditional Knowledge / Life Sciences/PE&HV	3	0	0	0	YES		

3210	Research Methodology	2	0	0	0							YES		
Total credits					21		Total credits					21		

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year : 4

Semester: 1

R20						R19						Remarks		
Course Code	Subjects	L	T	P	C	Course Code	Course	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
4101	Professional Elective courses(PE3) 1.Analog IC Design 2.Microwave Engineering 3.Information Theory & Coding	3			3	4101	Optical communication	3	0	0	3			10
4102	Professional Elective courses(PE4) 1.Data Communications & Computer Networks 2.Low power VLSI Design 3.Digital Imaging Processing	3			3	4102	Microwave engineering	3	0	0	3		YES	10

4103	Professional Elective courses(PE5) 1.DSP processors and Architectures 2.Radar Engineering 3.Embedded Systems	3			3	4103	(PE4) 1. Data Communications & Computer networks 2. Low power VLSI Design 3. Digital Imaging Processing	3	0	0	3			10
4104	Open Elective (OE3) 1. VLSI Mobile Communications 3.Biomedical signal processing	3			3	4104	(PE5) 1. DSP processors and Architectures 2. Radar Engineering 3. Embedded Systems	3	0	0	3			10
4105	Open Elective (OE4) 1. Satellite Communication 2.FPGA Design 3.Speech Processing	3			3	4105	Open Elective(OE2) 1. Biomedical Instrumentation 2. Electronic Measurements and Instrumentation	3	0	0	3			10
4106	Universal Human Values 2: Understanding Harmony	3			3	4106	Microwave & optical communication lab	0	0	3	1.5	YES	YES	
4107	Skill advanced course/ soft skill course*	1	0	2	2	4107	Internet of Things(IOT) Lab	0	0	3	1.5	YES	YES	
4108	Industrial/Research Internship		0	0	3	4108	Projet Work-Phase 1	-	-	-	2			

					4109	Industrial Training / Skill Development Programmes / Research Project				-	-	1			
Total credits					23	Total credits					21				

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year : 4

Semester: 2

R20						R19						Remarks		
Course Code	Subjects	L	T	P	C	Course Code	Course	L	T	P	C	New Course? (R20)	Deleted Course? (R19)	Content Revision %
4201	Project Project work, seminar and internship in industry	0	0	0	12	4201	(PE6) 1. Satellite Communication 2. FPGA Design 3. Speech Processing	3	0	0	3			10
						4202	(PE7) 1. Cellular &	3	0	0	3			10

						Mobile Communications 2. Tele Vision Engineerin g 3. Biomedical signal processing							
					4203	(OE3) 1. VLSI 2. Mobile Communications	3	0	0	3			10
					4204	Project Work	-	-	-	8			
Total credits					12	Total credits	17						
Total					160	Total	160						

Coordinator

Chairman, Board of Studies