

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(AUTONOMOUS)
AK20-REGULATIONS
ELECTRONICS and COMMUNICATION ENGINEERING (ECE)
(Effective for the batches admitted in 2020-21)

INDUCTION PROGRAM (3 weeks duration)	
❖	Physical activity
❖	Creative Arts
❖	Universal Human Values
❖	Literary
❖	Proficiency Modules
❖	Lectures by Eminent People
❖	Visits to local Areas
❖	Familiarization to Dept./Branch and Innovations

I B. Tech – I Semester

S. No.	Category	Course Code	Course Title	Hours per week			Credits	Scheme of Examination (Max. Marks)		
				L	T	P		CIE	SEE	Total
Theory										
1	BSC	20ABS9901	Algebra and Calculus	3	0	0	3	30	70	100
2	BSC	20ABS9902	Applied Physics	3	0	0	3	30	70	100
3	HSMC	20AHS9901	Communicative English	3	0	0	3	30	70	100
4	*ESC	20AES0304	Engineering Workshop Practice	1	0	4	3	30	70	100
5	ESC	20AES0501	Problem Solving and Programming	3	0	0	3	30	70	100
6	HSMC	20AHS9902	Communicative English Laboratory	0	0	3	1.5	30	70	100
7	BSCL	20ABS9907	Applied Physics Laboratory	0	0	3	1.5	30	70	100
8	ESC	20AES0503	Problem Solving and Programming Laboratory	0	0	3	1.5	30	70	100
TOTAL							19.5	240	560	800

I B. Tech – II Semester

S. No.	Category	Course Code	Course Title	Hours per week			Credits	Scheme of Examination (Max. Marks)		
				L	T	P		CIE	SEE	Total
Theory										
1	BSC	20ABS9906	Differential Equations and Vector Calculus	3	0	0	3	30	70	100
2	BSC	20ABS9904	Chemistry	3	0	0	3	30	70	100
3	ESC	20AES0201	Network Theory	3	0	0	3	30	70	100
4	ESC	20AES0502	Data Structures	3	0	0	3	30	70	100
5	ESC	20AES0301	Engineering Graphics	1	0	4	3	30	70	100
6	ESC	20AES0203	Network Theory Laboratory	0	0	3	1.5	30	70	100
7	BSC	20ABS9909	Chemistry Laboratory	0	0	3	1.5	30	70	100
8	ESC	20AES0504	Data Structures Laboratory	0	0	3	1.5	30	70	100
9	MC	20AMC9902	Constitution of India`	2	0	0	0	30		30
TOTAL							19.5	270	560	830

II B. Tech – III Semester

S. No.	Category	Course Code	Course Title	Hours per week			Credits	Scheme of Examination (Max. Marks)		
				L	T	P		CIE	SEE	Total
Theory										
1	BSC	20ABS9912	Transform Techniques and Complex Variables	3	0	0	3	30	70	100
2	PCC	20APC0401	Electronic Devices and Circuits	3	0	0	3	30	70	100
3	PCC	20APC0402	Switching Theory and Logic Design	3	0	0	3	30	70	100
4	PCC	20APC0403	Signals and Systems	3	0	0	3	30	70	100
5	HSS	20AHSMB01	Managerial Economics and Financial Analysis	3	0	0	3	30	70	100
6	PCCL	20APC0404	Electronic Devices and Circuits Laboratory	0	0	3	1.5	30	70	100
7	PCCL	20APC0405	Signals and Systems Laboratory	0	0	3	1.5	30	70	100
8	PCCL	20APC0406	Switching Theory and Logic Design Laboratory	0	0	3	1.5	30	70	100
9	SOC	20ASC0401	Electronic Circuit Design	1	0	2	2	100	-	100
10	MC	20AMC9901	Biology for Engineers	2	0	0	0	30		30
TOTAL							21.5	370	560	930

II B. Tech – IV Semester

S. No.	Category	Course Code	Course Title	Hours per week			Credits	Scheme of Examination (Max. Marks)		
				L	T	P		CIE	SEE	Total
Theory										
1	ESC	20AES0509	Basics of Python Programming	3	0	0	3	30	70	100
2	PCC	20APC0407	Probability Theory and Stochastic Process	3	0	0	3	30	70	100
3	PCC	20APC0408	Electromagnetic Theory and Transmission Lines	3	0	0	3	30	70	100
4	PCC	20APC0409	Analog Communication Systems	3	0	0	3	30	70	100
5	PCC	20APC0410	Electronic Circuit Analysis	3	0	0	3	30	70	100
6	ESCL	20AES0510	Basics of Python Programming Laboratory	0	0	3	1.5	30	70	100
7	PCCL	20APC0411	Analog Communication Systems Laboratory	0	0	3	1.5	30	70	100
8	PCCL	20APC0412	Electronic Circuit Analysis Laboratory	0	0	3	1.5	30	70	100
9	SOC	20ASC0402	Internet of Things	1	0	2	2	100	-	100
10	HSC	20AHS9905	Universal Human Values	2	1	0	3	30	70	100
TOTAL							24.5	370	630	1000
Community service Project with credits\ (To visit the selected community to conduct survey (Socio-economic & domain survey) and conduct sensitization/awareness program/activities at the end of IV- semester before commencement of V-semester and complete immersion programme also during V-Semester and submit report in V - semester. Assessment will be done at the end of V-Semester)										
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				4	0	0	4	100		100

III B. Tech – V Semester

S. No.	Category	Course Code	Course Title	Hours per week			Credits	Scheme of Examination (Max. Marks)		
				L	T	P		CIE	SEE	Total
Theory										
1	PCC	20APC0413	Antennas and Wave Propagation	3	0	0	3	30	70	100
2	PCC	20APC0414	Digital Communication Systems	3	0	0	3	30	70	100
3	PCC	20APC0415	Integrated Circuits and Applications	3	0	0	3	30	70	100
4	OEC/JOE	20APC0515	Operating Systems	3	0	0	3	30	70	100
		20AOE0202	Programmable Logic Controllers							
		20APC0213	Control Systems							
5	PEC	20APE0401	VLSI Design	3	0	0	3	30	70	100
		20APE0402	Computer Organization							
		20APE0403	Digital System Design							
6	PCCL	20APC0416	Digital Communication Systems Laboratory	0	0	3	1.5	30	70	100
7	PCCL	20APC0417	Integrated Circuits and Applications Laboratory	0	0	3	1.5	30	70	100
8	SAC/SSC	20AHE9902	Principles of Effective Public Speaking	1	0	2	2	100	-	100
9	MC	20AMC9904	Professional Ethics and Human Values	2	0	0	0	30	-	30
10	CSP	20CSP0401	Community Service Project	0	0	0	1.5	100	-	100
TOTAL							21.5	440	490	930
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				4	0	0	4	100		100

III B. Tech –VI Semester

S. No.	Category	Course Code	Course Title	Hours per week			Credits	Scheme of Examination (Max. Marks)			
				L	T	P		CIE	SEE	Total	
Theory											
1	PCC	20APC0418	Microprocessors and Microcontrollers	3	0	0	3	30	70	100	
2	PCC	20APC0419	Digital Signal Processing	3	0	0	3	30	70	100	
3	PCC	20APC0420	Microwave and Optical Communications	3	0	0	3	30	70	100	
4	PEC	20APE0404	Low Power VLSI Circuits and Systems	3	0	0	3	30	70	100	
		20APE0405	MEMS and Microsystems								
		20APE0406	Industrial Electronics								
5	OEC/JOE MOOCS	20AOE0518	Open Elective (Inter disciplinary) (MOOC-I)	0	0	0	3			100	
		20AOE0516									Scripting Languages R Programming
		20AOE0201									Neural Networks and Fuzzy Logic
6	PCCL	20APC0421	Microprocessors and Microcontrollers Laboratory	0	0	3	1.5	30	70	100	
7	PCCL	20APC0422	Digital Signal Processing Laboratory	0	0	3	1.5	30	70	100	
8	PCCL	20APC0423	Microwave and Optical Communications Laboratory	0	0	3	1.5	30	70	100	
9	SAC/SSC	20ASA0501	Basics of Cloud Computing	1	0	2	2	100	-	100	
10	MC	20AMC9903	Environmental Studies	2	0	0	0	30	-	30	
TOTAL							21.5	340	490	930	
Internship 2 Months (Mandatory) during summer vacation											
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				4	0	0	4	100		100	

IV B. Tech – VII Semester

S. No.	Category	Course Code	Course Title		Hours per week			Credits	Scheme of Examination (Max. Marks)		
					L	T	P		CIE	SEE	Total
Theory											
1	PC	20APC0424	Pattern Recognition and Applications		3	0	0	3	30	70	100
2	PEC	20APE0407	Digital Image Processing		3	0	0	3	30	70	100
		20APE0408	Adaptive Signal Processing								
		20APE0409	Television Engineering								
3	PEC	20APE0410	Professional Elective (MOOC-II)	Electronic Measurements and Instrumentation	0	0	0	3			100
		20APE0411		FPGA Design							
		20APE0412		RF Integrated Circuits							
4	PEC	20APE0413	Radar Systems		3	0	0	3	30	70	100
		20APE0414	Satellite Communications								
		20APE0415	Wireless Communications								
5	OEC/JOE	20APC0510	Computer Networks		2	0	2	3	30	70	100
		20APE0417	Sensors and IOT								
		20AOE0402	Bio Medical Instrumentation								
6	OEC/JOE	20APC0512	Data Base Management Systems		2	0	2	3	30	70	100
		20APE0416	Computer System Architecture								
		20AOE0301	Robotics								
7	SAC/SSC	20ASA0401	Embedded Systems		1	0	2	2	100	-	100
Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester)					0	0	0	3	100	-	100
TOTAL								23	350	350	800
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)					4	0	0	4	100		100

IV B. Tech – VIII Semester

S. No.	Category	Course Code	Course Title		Hours per week			Credits	Scheme of Examination (Max. Marks)		
					L	T	P		CIE	SEE	Total
Theory											
1	MP	20APR0401	Project work		0	0	0	12	60	140	200
TOTAL								12	60	140	200
Grand Total								163	2440	3780	6420