

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(AUTONOMOUS)
AK19-REGULATIONS
ELECTRONICS and COMMUNICATION ENGINEERING (ECE)
(Effective for the batches admitted in 2019-20)

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 & 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	BS	19ABS9901	Algebra and Calculus	3	1	0	4	30	70	100
2	BS	19ABS9902	Applied Physics	3	0	0	3	30	70	100
3	ES	19AES0501	Problem Solving and Programming	3	1	0	4	30	70	100
4	HS	19AHS9901	Communicative English - I	2	0	0	2	30	70	100
Practical										
5	WS	19ALC0401	Electronics and Communication Engineering Workshop	0	0	2	1	30	70	100
6	BS	19ABS9907	Applied Physics Laboratory	0	0	3	1.5	30	70	100
7	ES	19AES0503	Problem Solving and Programming Laboratory	0	0	4	2	30	70	100
8	HS	19AHS9902	Communicative English - I Laboratory	0	0	2	1	30	70	100
TOTAL							18.5	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	ES	19AES0201	Network Theory	3	0	0	3	30	70	100
2	BS	19ABS9906	Differential Equations and Vector Calculus	3	1	0	4	30	70	100
3	BS	19ABS9904	Chemistry	3	0	0	3	30	70	100
4	ES	19AES0502	Data Structures	3	0	0	3	30	70	100
Practical										
5	WS	19ALC0301	Engineering Workshop Practice	0	0	2	1	30	70	100
6	ES	19AES0301	Engineering Graphics Laboratory	1	0	4	3	30	70	100
7	ES	19AES0203	Network Theory Laboratory	0	0	3	1.5	30	70	100
8	BS	19ABS9909	Chemistry Laboratory	0	0	3	1.5	30	70	100
9	ES	19AES0504	Data Structures Laboratory	0	0	3	1.5	30	70	100
TOTAL							21.5	270	630	900

II 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	BS	19ABS9912	Transform Techniques and Complex Variables	3	0	0	3	30	70	100
2	ES	19AES0509	Basics of Python Programming	2	0	0	2	30	70	100
3	ES	19AES0505	Internet of Things (IoT)	2	0	0	2	30	70	100
4	PC	19APC0401	Electronic Devices and Circuits	3	0	0	3	30	70	100
5	PC	19APC0402	Electromagnetic Theory and Transmission Lines	3	0	0	3	30	70	100
6	PC	19APC0403	Signals and Systems	3	1	0	4	30	70	100
7	MC	19AMC9903	Environmental Studies	2	0	0	0	30	-	30
Practical										
8	ES	19AES0510	Basics of Python Programming Laboratory	0	0	2	1	30	70	100
9	PC	19APC0404	Electronic Devices and Circuits Laboratory	0	0	2	1	30	70	100
10	ES	19AES0506	Internet of Things (IoT) Laboratory	0	0	2	1	30	70	100
11	PC	19APC0405	Signals and Systems Laboratory	0	0	3	1.5	30	70	100
TOTAL							21.5	330	700	1030

II 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	BS	19ABS9920	Probability and Random Variables	3	0	0	3	30	70	100
2	HS	19AHS9903	Communicative English II	2	0	0	2	30	70	100
3	ES	19AES0302	Design Thinking and Product Innovation	2	0	0	2	30	70	100
4	PC	19APC0208	Control Systems	3	0	0	3	30	70	100
5	PC	19APC0406	Analog Electronic Circuits	3	0	0	3	30	70	100
6	ES	19AES0101	Basics of Civil and Mechanical Engineering	3	0	0	3	30	70	100
7	MC	19AMC9901	Biology for Engineers	2	0	0	0	30	-	30
Practical										
8	HS	19AHS9904	Communicative English II Laboratory	0	0	2	1	30	70	100
9	ES	19AES0303	Design Thinking and Product Innovation Laboratory	0	0	2	1	30	70	100
10	PC	19APC0407	Analog Electronic Circuits Laboratory	0	0	3	1.5	30	70	100
11	ES	19AES0102	Basics of Civil and Mechanical Engineering Laboratory	0	0	3	1.5	30	70	100
12	PR	19APR0401	Socially Relevant Projects (15 Hours/Semester)	0	0	0	0.5	50	-	50
TOTAL							21.5	380	700	1080

III 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	PC	19APC0410	Digital Electronics and Logic Design	3	0	0	3	30	70	100	
2	PC	19APC0411	Antennas and Wave Propagation	3	0	0	3	30	70	100	
3	PC	19APC0412	Analog and Digital Communications	3	0	0	3	30	70	100	
4	PC	19APC0413	Integrated Circuits and Applications	3	0	0	3	30	70	100	
5	PE	19APE0401	Professional Elective – I	Information Theory and Coding	3	0	0	3	30	70	100
		19APE0402		MATLAB Programming							
		19APE0403		Computer System Architecture							
6	OE	19AOE0501	Open Elective – I (Inter disciplinary)	Database Management Systems	3	0	0	3	30	70	100
		19AOE0502		Operating Systems							
		19AOE0202		Programmable Logic Controllers							
7	MC	19AMC9902	Constitution of India	3	0	0	0	30	-	30	
Practical											
8	PC	19APC0414	Digital Electronics and Logic Design Laboratory	0	0	2	1	30	70	100	
9	PC	19APC0415	Analog and Digital Communications Laboratory	0	0	2	1	30	70	100	
10	PC	19APC0416	Integrated Circuits and Applications Laboratory	0	0	2	1	30	70	100	
11	PR	19APR0402	Socially Relevant Projects (15 Hours/Semester)	0	0	0	0.5	50	-	50	
TOTAL							21.5	350	630	980	

III 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	PC	19APC0417	Microprocessors and Microcontrollers	3	0	0	3	30	70	100	
2	PC	19APC0418	Digital Signal Processing	3	0	0	3	30	70	100	
3	PC	19APC0419	Microwave Engineering and Optical Communications	3	0	0	3	30	70	100	
4	PE	19APE0404	Professional Elective - II	Real Time Operating Systems	3	0	0	3	30	70	100
		19APE0405		VLSI Design							
		19APE0406		MEMS							
5	HE	19AHE9902	Humanities Elective - I	Principles of Effective Public Speaking	3	0	0	3	30	70	100
		19AHSMB01		Managerial Economics and Financial Analysis							
		19AOE0518		Scripting Languages							
6	OE	19APC0216	Open Elective-II (Inter disciplinary)	Neural Networks and Fuzzy Logic	3	0	0	3	30	70	100
		19AHE9907		Advanced Optics							
		19AHE9905		Materials Chemistry							
7	MC	19AMC9904	Professional Ethics and Human Values	3	0	0	0	30	-	30	
Practical											
8	PC	19APC0420	Microprocessors and Microcontrollers Laboratory	0	0	2	1	30	70	100	
9	PC	19APC0421	Digital Signal Processing Laboratory	0	0	2	1	30	70	100	
10	PC	19APC0422	Microwave Engineering and Optical Communications Laboratory	0	0	2	1	30	70	100	
11	PR	19APR0403	Socially Relevant Projects (15 Hours/Semester)	0	0	0	0.5	50	-	50	
12	PR	19APR0404	Industrial Training/ Internship/ Research Projects in National Laboratories/Academic Institutions	0	0	0	0	-	-	-	
TOTAL							21.5	350	630	980	

IV 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	PC	19APC0423	Digital Image Processing	3	0	0	3	30	70	100
2	PC	19APC0424	Electronic Measurements and Instrumentation	2	0	0	2	30	70	100
3	OE	19APC0510	Open Elective-III (Inter disciplinary)	Computer Networks			3	30	70	100
		19AOE0304		Robotics						
		19AOE0301		Management Science						
4	PE	19APE0407	Professional Elective-III	Radar Systems			3	30	70	100
		19APE0408		Digital System Design						
		19APE0409		RF System Design						
5	PE	19APE0410	Professional Elective-IV	Satellite Communication			3	30	70	100
		19APE0411		Embedded Systems						
		19APE0412		Digital IC Design						
6	HE	19AHE9901	Humanities Elective – II	Technical Writing			2	30	70	100
		19AHE9906		Effective Technical Communication						
Practical										
7	PC	19APC0427	Embedded Systems and UAV Laboratory	0	0	0	1	30	70	100
8	PR	19APR0405	Socially Relevant Projects (15 Hours/Semester)	0	0	0	0.5	50	-	50
9	PR	19APR0406	Industrial Training/Internship/Research Projects in National Laboratories/Academic Institutions	0	0	0	1.5	50	-	50
TOTAL							19	310	490	800

IV 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	OE	19AOE0101	Open Elective – IV (Inter disciplinary) (MOOC-I)	Structural Health Monitoring			3	-	-	-
		19AOE0516		R Programming						
		19APE0208		Electricity and Safety Measures						
2	PE	19APE0413	Professional Elective-V (MOOC-II)	Electronic Systems for Cancer diagnosis			3	-	-	-
		19APE0414		Wireless Communications						
		19APE0415		Speech Processing						
Practical										
3	PR	19APR0407	Technical Paper Presentation/Seminars	0	0	0	0	50	-	50
4	PR	19APR0408	Project	0	0	0	9	60	140	200
TOTAL							15	110	140	250