



ALBERTIAN INSTITUTE OF SCIENCE AND TECHNOLOGY
(AUOTONOMUS)

B. Tech Curriculum-2026 Semester I to VIII
Electronics & Communication Engineering
Branch Code: EC

FIRST SEMESTER (July-December): Group B														
45 Hours Compulsory Induction Program and UHV														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./Week
						L	T	P	R		CIA	ESE		
1	A	A104MAT01	BSC	GC	Mathematics for Electrical Science-1	3	0	0	0	4.5	40	60	3	3
2	B	A104PHT02	BSC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
3	C	A104EST03	ESC	GC	Engineering Graphics and Computer Aided Drawing.	2	0	2	0	4	40	60	3	4
4	D	A104EST04	ESC	GC	Introduction to Electrical & Electronics Engineering (Part 1: Electrical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Electronics Engineering)	2	0	0	0	3	20	30		
5	E	A104EST05	ESC	IC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	I*	A104HWT06	HWP	IC	Health and Wellness	1	0	1	0	0	50	0	1	2
7	L	A104ESL07	ESC	GC	Basic Electrical and Electronics Engineering Workshop	0	0	2	0	1	50	50	1	2
8	G	A104SED08	SEC	IC	AI for Professionals	Online course				3			1	
Total										30/33			21	25/26
Bridge Course (Mathematics or Introduction to Computer Science) *:										Total 15 Hrs.				

*No Grade Points will be awarded for the online course and I slot course.

SECOND SEMESTER (January-June): Group B														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course name)	Credit Structure				SS	Total Marks		Credits	Hrs./Week
						L	T	P	R		CIA	ESE		
1	A	A204MAT01	BSC	GC	Mathematics for Electrical Science-2	3	0	0	0	4.5	40	60	3	3
2	B	A204CYT02	BSC	GC	Chemistry for Electrical Science	3	0	2	0	5.5	40	60	4	5
3	C	A204EST03	ESC	GC	Foundations of Computing: From Hardware Essentials to Web Design	3	0	0	0	4.5	40	60	3	3
4	D	A204EST04	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	A204PCT05	PC	PC	Network Theory	3	1	0	0	5	40	60	4	4
6	F	A204EST06	ESC	IC	Engineering Entrepreneurship & IPR	3	0	0	0	4.5	60	40	3	3
7	I	A204HMT07	HMC	IC	Life Skills and Professional Communication	2	0	1	0	3.5	100	0	1	3
8	L	A204ESL08	ESC	GC	IT Workshop	0	0	2	0	1	50	50*	1	2
Total										34			23	27/28

**No Grade Points will be awarded for the online course and I slot course.*

- L-T-P-R: Lecture-Tutorial-Practical-Project
- SS (Self Study) Hours= $1.5L+0.5T+0.5P+R$

CIA: Continuous Internal Assessment, ESE: End Semester Examination

Note: *Physics, Chemistry, Health and Wellness & Life Skill and Professional Communication can be offered in both Semester 1 (S1) and Semester 2 (S2). Institutions are encouraged to guide approximately 50% of their branches to choose between Physics **or** Chemistry (Slot B) and Health and Wellness **or** Life Skill and Professional Communication (Slot I) in Semester 1.*

THIRD SEMESTER (July-December)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./ Week
						L	T	P	R		CIA	ESE		
1	A	A304MAT01	BSC	GC	Mathematics for Electrical Science-3	3	0	0	0	4.5	40	60	3	3
2	B	A304PCT02	PC	PC	Solid State Devices	3	1	0	0	5	40	60	4	4
3	C	A304PCT03	PC	PC	Analog Circuits	3	1	0	0	5	40	60	4	4
4	D	A304PBT04	PC-PBL	PB	Logic Circuit Design	3	0	0	1	5.5	60	40	4	4
5	E	A304EST05	ESC	GC	Introduction to Artificial Intelligence and Data Science	3	1	0		5	40	60	4	4
6	F	A304HMT06	HMC	IC	Engineering Ethics and Sustainable Development	2	0	0	0	3	50	50	2	2
7	L	A304PCL07	PCL	PC	Analog Circuits Lab	0	0	3	0	1.5	50	50	2	3
8	Q	A304PCL08	PCL	PC	Logic Circuit Design Lab	0	0	3	0	1.5	50	50	2	3
9	R/M		VAC		Remedial/Minor Course	3	1	0	0	5			4*	4*
Total										31/36			25/29*	27/31*
Bridge Course for Lateral Entry Students: Total 15 Hrs.														

FOURTH SEMESTER (January-June)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./ Week
						L	T	P	R		CIA	ESE		
1	A	A404MAT01	BSC	GC	Mathematics for Electrical Science-4	3	0	0	0	4.5	40	60	3	3
2	B	A404PCT02	PC	PC	Signals and Systems	3	1	0	0	5	40	60	4	4
3	C	A404PCT03	PC	PC	Linear Integrated Circuits	3	1	0	0	5	40	60	4	4
4	D	A404PBT04	PC-PBL	PB	Microcontrollers	3	0	0	1	5.5	60	40	4	4
5	E	A404PET1X	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	F	A404HMT06	HMC	IC	Economics for Engineers	2	0	0	0	3	50	50	2	2
7	L	A404PCL07	PCL	PC	Linear Integrated Circuits Lab	0	0	3	0	1.5	50	50	2	3
8	Q	A404PCL08	PCL	PC	Microcontroller Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
Total										31/36			24/28*	26/30*

Note: Economics for Engineers and Engineering Ethics and Sustainable Development shall be offered in both S3 and S4. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Economics for Engineers in S3 and Engineering Ethics & Sustainable Development in S4 and vice versa.

PROGRAM ELECTIVE I: A405PET1X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	A404PET11	Instrumentation	3-0-0-0	3	3
	A404PET12	Power Electronics	3-0-0-0		3
	A404PET13	Machine Learning	3-0-0-0		3
	A404PET14	Object Oriented Programming	3-0-0-0		3
	A404PET15	Digital System Design	3-0-0-0		3
	A404PET16	Digital Systems and VLSI Design	3-0-0-0		5/3

Note : Level 5 courses in the B. Tech curriculum carry a total of 5 credits, consisting of 3 credits for the Programme Elective and 2 additional credits. The additional 2 credits shall be awarded only if the student meets the eligibility conditions specified in the B. Tech. -2026 regulations. If those conditions are not fulfilled, the student will receive only 3 credits for the course.

FIFTH SEMESTER (July-December)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./ Week
						L	T	P	R		CIA	ESE		
1	A	A504PCT01	PC	PC	Electromagnetics	3	1	0	0	5	40	60	4	4
2	B	A504PCT02	PC	PC	Analog & Digital Communication	3	1	0	0	5	40	60	4	4
3	C	A504PCT03	PC	PC	Control Systems	3	0	0	0	4.5	40	60	3	3
4	D	A504PBT04	PC-PBL	PB	Digital Signal Processing	3	0	0	1	5.5	60	40	4	4
5	E	A504PET2X	PE	PE	PE-2	3	0	0	0	4.5	40	60	3	3
6	I*	A504HMD06	HMC	IC	Constitution of India (MOOC)	-	-	-	-	2	-	-	1	-
7	L	A504PCL07	PCL	PC	DSP Lab	0	0	3	0	1.5	50	50	2	3
8	Q	A504PCL08	PCL	PC	Communication Lab I	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
	S5 / S6	Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										30/35			23/27*	24/28*

*No Grade Points will be awarded for the MOOC course and I slot course. Industrial

Training:

Students who are not participating in the industrial visit must attend industrial training during that period.

PROGRAM ELECTIVE 2: A505PET2X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	A504PET21	Biomedical Engineering	3-0-0-0	3	3
	A504PET22	Data Structures	3-0-0-0		3
	A504PET23	Sensors and Actuators	3-0-0-0		3
	A504PET24	Estimation and Detection	3-0-0-0		3
	A504PET25	High Speed Digital Design	3-0-0-0		3
	A504PET26	ARM architecture and programming	3-0-0-0		3
	A504PET27	ARM architecture, programming and Interfacing	3-0-0-0		5/3

SIXTH SEMESTER (January-June)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	A604PCT01	PC	PC	Advanced Communication Theory	3	1	0	0	5	40	60	4	4
2	B	A604PCT02	PC	PC	Microwaves and Antennas	3	0	0	0	4.5	40	60	3	3
3	C	A604PCT3X	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	A604PBT04	PC-PBL	PB	VLSI Circuit Design	3	0	0	1	5.5	60	40	4	4
5	E	A604EST45	ESC	GC	Design Thinking and Product Development for Electrical Science	2	0	0	0	3	40	60	2	2
6	F	A604OET1X	OE/ILE	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	A604PCL07	PCL	PC	Communication Lab II	0	0	3	0	1.5	50	50	2	3
8	P	A604PWQ08	PWS	PC	Mini Project: Socially Relevant Project	0	0	0	3	3	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	0	0	0	4.5			3*	3*
	S5/S6	Industrial Visit (Maximum of 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										32/36			23/26*	25/28*

Note: Open Electives are such courses which will be offered by other departments. Like CSE department students have to opt open electives from ECE/ME/EEE etc. departments.

Industrial Training:

Students who are not participating in the industrial visit must attend industrial training during that period.

PROGRAM ELECTIVE 3: A605PET3X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	A604PET01	Computer Networks	3-0-0-0	3	3
	A604PET02	Optimization Techniques	3-0-0-0		3
	A604PET03	Secure Communication	3-0-0-0		3
	A604PET04	Nano-Electronics	3-0-0-0		3
	A604PET05	Optical Communication	3-0-0-0		3
	A604PET06	Digital Image Processing	3-0-0-0		3
	A604PET07	Image Processing Applications	3-0-0-0		5/3

OPEN ELECTIVE 1: A605OET1X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
F	A604OET01	Entertainment Electronics	3-0-0-0	3	3
	A604OET02	Computer Networks	3-0-0-0		3
	A604OET03	Biomedical Engineering	3-0-0-0		3

SEVENTH SEMESTER (July-December)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	A704PET4X/ A704PED4X	PE	PE	PE-4 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	A704PET5X/ A704PED5X	PE	PE	PE-5 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	C	A704OET2X/ A704ILT2X/ A704OED2X	OE/ ILE	OE/IE	OE/ILE-2 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
4	I*	A704HET1X/ A704HED1X	HMC	UE	Elective (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	A704PWS05	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	A704PWP06/ A704PWK06	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	8	8	100	0	4	8
7	R/H/ M		VAC		Remedial/Honours Course	3	0	0	0	4.5			3*	3*
Total										26/ 31			17/20*	22/25*

*No Grade Points will be awarded for the I slot courses

*Students can opt for the internship either in the 7th or 8th semester.

* Option 1: Work on a Project in the institute/department under the mentorship of faculty members. Option 2: Full semester Internship in an Industry/organization (7th or 8th semester)

Note: Open Electives are such courses which will be offered by other departments.

PROGRAM ELECTIVE 4: A705PET4X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	A704PET41	Advanced Mobile Communication	3-0-0-0	3	3
	A704PET42	Cryptography	3-0-0-0		3
	A704PET43	Robotics and Automation	3-0-0-0		3
	A704PET44	Coding Theory	3-0-0-0		3
	A704PET45	Advanced DSP	3-0-0-0		3
	A704PET46	Deep Learning	3-0-0-0		3
	A704PET47	Deep Learning Techniques	3-0-0-0		5/3

PROGRAM ELECTIVE 5: A705PET5X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	A704PET51	Satellite and Radar Communication	3-0-0-0	3	3
	A704PET52	Internet of Things	3-0-0-0		3
	A704PET53	Real Time Operating System	3-0-0-0		3
	A704PET54	Microwave Devices and Circuits	3-0-0-0		3
	A704PET56	Speech and Audio Processing	3-0-0-0		3
	A704PET57	Mixed Signal Circuits	3-0-0-0		3
	A704PET58	Mixed Signal Circuit Design	3-0-0-0		5/3

OPEN ELECTIVE 2: A705OET2X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	A704OET21	Optical Communication	3-0-0-0	3	3
	A704OET22	Digital Image Processing	3-0-0-0		3
	A704OET23	Optimization Techniques	3-0-0-0		3

Slot I: HMC Elective	
A704HET11	Project Management: Planning, Execution, Evaluation and Control
A704HET12	Proficiency course in French. (MOOC) (B1 level)
A704HET13	Proficiency Course in German (B1 Level). (MOOC)
A704HET14	Proficiency Course in Spanish (B1 Level) (MOOC)
A704HET15	Introduction to Japanese Language and Culture (N5 level). (MOOC)

EIGHTH SEMESTER (January-June)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	A804PET6X/ A804PED6X	PE	PE	PE-6 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	A804OET3X/ A804ILT3X/ A804OED3X	OE/ ILE	OE/IE	OE/ILE-3 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	I*	A804HMT03/ A804HMD03	HMC	IC	Organizational Behavior and Business Communication (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	1	2
4	P	A804PWP04/ A804PWK04 /A804PWJ04	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase -II (For the students who have not opted for internship in S7/S8)	0	0	0	8	8	100	0	4	8
Total										20			11	16

*No Grade Points will be awarded for the I slot courses

* Option 2: Full semester Internship in an Industry/organization (7th or 8th semester)

PROGRAM ELECTIVE 6: A805PET6X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	A804PET61	Wireless Sensor Networks	3-0-0-0	3	3
	A804PET62	RF Engineering	3-0-0-0		3
	A804PET63	Renewable Energy Systems	3-0-0-0		3
	A804PET64	Cyber-Security	3-0-0-0		3
	A804PET65	Low Power VLSI	3-0-0-0		3
	A804PET66	Blockchain	3-0-0-0		3
	A804PET67	Antenna Theory & Wave Propagation	3-0-0-0		3
	A804PET68	Antenna Theory & Design	3-0-0-0		5/3

OPEN ELECTIVE 3: A805ECT3X					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	A804OET01	Internet of Things	3-0-0-0	3	3
	A804OET02	Satellite and Radar Communication	3-0-0-0		3
	A804OET03	Robotics	3-0-0-0		3