ALBERTIAN INSTITUTE OF SCIENCE AND TECHNOLOGY

(AUTONOMOUS)

B. Tech Curriculum-2026

Semester I to VIII

Computer Science and Engineering

Branch Code: CS

FIRST SEMESTER (July-December)														
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	A105MAT01	BSC	GC	Mathematics for Information Science-1	3	0	0	0	4.5	40	60	3	3
2	B	A105CYT02	BSC	GC	Chemistry for Information Science	3	0	2	0	5.5	40	60	4	5
3	C	A105EST03	ESC	GC	Engineering Graphics and Computer Aided Drawing	2	0	2	0	4	40	60	3	4
4	D	A105EST04	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	A105EST05	ESC	IC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	I*	A105HWT06	HMC	IC	Life Skills and Professional Communication	2	0	1	0	3.5	100	0	1	3
7	L	A105ESL07	ESC	GC	Basic Electrical and Electronics Engineering Workshop	0	0	2	0	1	50	50*	1	2
8	G	A105SED08	SEC	IC	Skill Enhancement Course : AI for Professionals	Online Course *				3			1	
Total										**30/33**			**21**	**26**
Bridge Course (Mathematics or Introduction to Computer Science) *:										**Total 15 Hrs.**				

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

SECOND 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	A205MAT01	BSC	GC	Mathematics for Information Science-2	3	0	0	0	4.5	40	60	3	3
2	B	A205PHT02	BSC	GC	Physics for Information Science	3	0	2	0	5.5	40	60	4	5
3	C	A205EST03	ESC	GC	Foundations of Computing: From Hardware Essentials to Web Design	3	0	0	0	4.5	40	60	3	3
4	D	A205EST04	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	A205PCT05	PC	PC	Discrete Mathematics	3	1	0	0	5	40	60	4	4
6	F	A205EST06	ESC	UC	Engineering Entrepreneurship & IPR	3	0	0	0	4.5	60	40	3	3
7	I*	A205HWT07	HWP	IC	Health and Wellness	1	0	1	0	0	50	0	1	2
8	L	A205ESL08	ESC	GC	IT Workshop	0	0	2	0	1	50	50*	1	2
Total										**34**			**23**	**27**

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

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

CIA: Continuous Internal Assessment, ESE: End Semester Examination

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	A305MAT01	BSC	GC	Mathematics for Information Science-3	3	0	0	0	4.5	40	60	3	3
2	B	A305PCT02	PC	PC	Theory of Computation	3	1	0	0	5	40	60	4	4
3	C	A305PCT03	PC	PC	Data Structures and Algorithms	3	1	0	0	5	40	60	4	4
4	D	A305PBT04	PCPBL	PB	Object Oriented Programming	3	0	0	1	5.5	60	40	4	4
5	E	A305EST05	ESC	GC	Digital Electronics & Logic Design	3	1	0	0	5	40	60	4	4
6	F	A305HMT06	HMC	IC	Engineering Ethics and Sustainable Development	2	0	0	0	3	50	50	2	2
7	L	A305PCL07	PCL	PC	Data Structures Lab	0	0	3	0	1.5	50	50	2	3
8	Q	A305PCL08	PCL	PC	Digital 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*	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	A405MAT01	BSC	GC	Mathematics for Information Science-4	3	0	0	0	4.5	40	60	3	3
2	B	A405PCT02	PC	PC	Database Management Systems	3	1	0	0	5	40	60	4	4
3	C	A405PCT03	PC	PC	Operating Systems	3	1	0	0	5	40	60	4	4
4	D	A405PBT04	PCPBL	PB	Computer Organization and Architecture	3	0	0	1	5.5	60	40	4	4
5	E	A405PET1X	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	F	A405HMT05	HMC	IC	Economics for Engineers	2	0	0	0	3	50	50	2	2
7	L	A405PCL06	PCL	PC	Operating Systems Lab	0	0	3	0	1.5	50	50	2	3
8	Q	A405CSL08	PCL	PC	DBMS 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*	4*	4*
Total										**31/ 36**			**24/ 28***	**26/ 30***

PROGRAM ELECTIVE I: A405PET1X

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	A405PET11	Software Engineering	3-0-0-0	3	3
	A405PET12	Pattern Recognition	3-0-0-0	3	3
	A405PET13	Functional Programming	3-0-0-0	3	3
	A405PET14	Coding Theory	3-0-0-0	3	3
	A405PET15	Signals and Systems	3-0-0-0	3	3

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
	A405PET16	Soft Computing	3-0-0-0	3	3
	A405PET17	Computational Geometry	3-0-0-0	3	3
	A405PET18	Cyber Ethics, Privacy and Legal Issues	3-0-0-0	3	3
	A405PET19	Advanced Data Structures	3-0-0-0	3	5/3

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	A505PCT01	PC	PC	Computer Networks	3	1	0	0	5	40	60	4	4
2	B	A505PCT02	PC	PC	Design and Analysis of Algorithms	3	1	0	0	5	40	60	4	4
3	C	A505PCT03	PC	PC	Machine Learning	3	0	0	0	4.5	40	60	3	3
4	D	A505PBT04	PCPBL	PB	Microcontrollers	3	0	0	1	5.5	60	40	4	4
5	E	A505PET2X	PE	PE	PE-2	3	0	0	0	4.5	40	60	3	3
6	I*	A505HUD05	HMC	IC	Constitution of India (MOOC)	-	-	-	-	2	-	-	1	-
7	L	A505PCL06	PCL	PC	Networks Lab	0	0	3	0	1.5	50	50	2	3
8	Q	A505PCL07	PCL	PC	Machine Learning 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*	4*	4*
	S_5/S_6	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	A505PET21	Software Project Management	3-0-0-0	3	3
	A505PET22	Artificial Intelligence	3-0-0-0	3	3
	A505PET23	Data Analytics	3-0-0-0	3	3
	A505PET24	Data Compression	3-0-0-0	3	3
	A505PET25	Digital Signal Processing	3-0-0-0	3	3
	A505PET26	Computer Graphics & Multimedia	3-0-0-0	3	3
	A505PET27	Advanced Computer Architectures	3-0-0-0	3	3
	A505PET28	Advanced Graph Algorithms	3-0-0-0	3	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	A605PCT01	PC	PC	Compiler Design	3	1	0	0	5	40	60	4	3
2	B	A605PCT02	PC	PC	Advanced Computing Systems	3	0	0	0	4.5	40	60	3	3
3	C	A605PET3X	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	A605PBT03	PCPBL	PB	Fundamentals of Cyber Security	3	0	0	1	5.5	60	40	4	4
5	E	A605EST04	ESC	GC	Design Thinking and Product Development	2	0	0	0	3	40	60	2	2
6	F	A605OET1X /A605IET1X	OE/ILE	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	A605PCL05	PCL	PC	Systems Lab	0	0	3	0	1.5	50	50	2	3
8	P	A605PWQ08	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*	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	A605PET31	Software Testing	3-0-0-0	3	3
	A605PET32	Deep Learning	3-0-0-0	3	3
	A605PET33	Wireless & Mobile Computing	3-0-0-0	3	3
	A605PET34	Advanced Database Systems	3-0-0-0	3	3
	A605PET35	Digital Image Processing	3-0-0-0	3	3
	A605PET36	Fundamentals of Cryptography	3-0-0-0	3	3
	A605PET37	Quantum Computing	3-0-0-0	3	3
	A605PET38	Randomized Algorithms	3-0-0-0	3	3
	A605PET39	Cloud Computing	3-0-0-0	3	5/3

OPEN ELECTIVE 1: A605OET1X

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
F	A605OET11	Data Structures	3-0-0-0	3	3
	A605OET12	Data Communication	3-0-0-0	3	3
	A605OET13	Foundations of Cryptography	3-0-0-0	3	3
	A605OET14	Machine Learning for Engineers	3-0-0-0	3	3
	A605OET15	Object Oriented Programming	3-0-0-0	3	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	A705PET4X/ A705SED4X	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	A705PET5X/ A705SED5X	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	A705OET2X/ A705IET2X/ A705SED2X	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*	A705HET1X/ A705SED1X	HMC	IE	Elective (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	A705PWS05	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	A705PWP06/ A705PWK06	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	8	8	100	0	4	8
7	R/H		VAC	-	Remedial/Honours Course	3	0	0	0	4.5	3*	3*	3*	3*
Total										**26**			**17**	**22**

**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	A705PET41	Formal Methods in Software Engineering	3-0-0-0	3	3
	A705PET42	Web Programming	3-0-0-0	3	3
	A705PET43	Bioinformatics	3-0-0-0	3	3
	A705PET44	Information Security	3-0-0-0	3	3
	A705PET45	Embedded Systems	3-0-0-0	3	3
	A705PET46	Blockchain and Cryptocurrencies	3-0-0-0	3	3
	A705PET47	Realtime Systems	3-0-0-0	3	3
	A705PET48	Approximation Algorithms	3-0-0-0	3	5
	A705PET49	Computer Vision	3-0-0-0	3	5/3

PROGRAM ELECTIVE 5: A705PET5X

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	A705PET51	Advanced Computer Networks	3-0-0-0	3	3
	A705PET52	Responsible Artificial Intelligence	3-0-0-0	3	3
	A705PET53	Fuzzy Systems	3-0-0-0	3	3
	A705PET54	Digital Forensics	3-0-0-0	3	3
	A705PET55	Game Theory and Mechanism Design	3-0-0-0	3	3
	A705PET56	High Performance Computing	3-0-0-0	3	3
	A705PET57	Programming Languages	3-0-0-0	3	3
	A705PET58	Parallel Algorithms	3-0-0-0	3	3
	A705PET59	Internet of Things	3-0-0-0	3	5/3

OPEN ELECTIVE 2: A705OET2X

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	A705OET21	Cyber Security	3-0-0-0	3	3
	A705OET22	Cloud Computing	3-0-0-0	3	3
	A705OET23	Software Engineering	3-0-0-0	3	3
	A705OET24	Computer Networks	3-0-0-0	3	3
	A705OET25	Mobile Application Development	3-0-0-0	3	3

Slot I: HMC Elective	
A705HET11	Project Management: Planning, Execution, Evaluation and Control
A705HET12	Proficiency course in French. (MOOC) (B1 level)
A705HET13	Proficiency Course in German (B1 Level). (MOOC)
A705HET14	Proficiency Course in Spanish (B1 Level) (MOOC)
A705HET15	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	A805PET6X/ A805SED6X	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	A805OET3X A805IET3X/ A805SED3X	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*	A805HMT03/ A805SED4X	HMC	UC	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	A805PWP04/ A805PWK04/ A805PWJ04	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase-II (For 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	A805PET61	Software Architectures	3-0-0-0	3	3
	A805PET62	Natural Language Processing	3-0-0-0	3	3
	A805PET63	Topics in Security	3-0-0-0	3	3
	A805PET64	Computational Complexity	3-0-0-0	3	3
	A805PET65	Speech and Audio Processing	3-0-0-0	3	3
	A805PET66	Storage Systems	3-0-0-0	3	3
	A805PET67	Prompt Engineering	3-0-0-0	3	3
	A805PET68	Computational Number Theory	3-0-0-0	3	3
	A805PET69	Next Generation Interaction Design	3-0-0-0	3	5/3

OPEN ELECTIVE 3: A805OET3X

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	A805OET31	Introduction to Algorithms	3-0-0-0	3	3
	A805OET32	Web Programming	3-0-0-0	3	3
	A805OET33	Software Testing	3-0-0-0	3	3
	A805OET34	Internet of Things	3-0-0-0	3	3
	A805OET35	Computer Graphics	3-0-0-0	3	3