(Applicable from the academic session 2018-2019) **Curriculum Structure** 

	Se	econd Year Third Semester					
Category	Subject Code	Subject Name	Total Number of contact hours		Credits		
30%7			L	T	P		
•	BS-CS301	Numerical Methods	2	1	0	3	
Professional Core Courses	PC-IC301	Electric Circuit Theory	3	0	0	3	
Professional Core Courses	PC-IC302	Analog Integrated circuits	3	0	0	3	
Professional Core Courses	PC-IC303	Digital Electronic Circuits	3	0	0	3	
Engineering Science Courses	ES-CS301	Data Structure and algorithm	3	0	0	3	
Mandatory Courses	MC- ES301	Environmental Science	2	0	0	0	
	Tota	l Theory				15	
tical							
Professional core Courses	PC-IC391	Electric Circuit Lab	0	0	3	1.5	
Professional core Courses	PC-IC392	Analog circuits Design Lab	0	0	3	1.5	
Professional core Courses	PC-IC393	Digital Circuits Design Lab	0	0	3	1.5	
Engineering Science Courses	ES-CS391	Data Structure and algorithm Lab	0	0	3	1.5	
Total Practical							
Total of Third Semester 2							
	Se	cond Year Fourth Semester					
	Cubiast		Total Number of				
Category		Subject Name				Credits	
	0000		L	T	P		
Theory							
Core Courses				0		3	
Professional Core Courses	PC-IC402	Sensor & Transducer	3	0	0	3	
Professional Core Courses	PC-IC403	Microprocessor and Microcontroller	3	0	0	3	
Professional Core Courses	PC-IC404	Control System I	3	0	0	3	
Basic Science Courses	BSC-401	Biology	3	0	0	3	
Humanities and	HM-	Values and Ethics in Profession	2	0	0	2	
	Professional Core Courses Professional Core Courses Professional Core Courses Professional Core Courses Engineering Science Courses Mandatory Courses Professional core Courses Engineering Science Courses Professional Core Courses	Category  Professional Core Courses Professional Core Courses Professional Core Courses Professional Core Courses Engineering Science Courses Mandatory Courses Professional core Courses	Residual Core Courses BS-CS301 Numerical Methods Professional Core Courses PC-IC301 Electric Circuit Theory Courses Professional Core PC-IC302 Analog Integrated circuits Courses Professional Core PC-IC303 Digital Electronic Circuits Courses Professional Core ES-CS301 Data Structure and algorithm Courses Mandatory MC- Environmental Science Courses Mandatory MC- Environmental Science Courses Professional core PC-IC391 Electric Circuit Lab Courses Professional core PC-IC392 Analog circuits Design Lab Courses Professional core PC-IC393 Digital Circuits Design Lab Courses Professional core ES-CS391 Data Structure and algorithm Courses Professional core PC-IC392 Analog circuits Design Lab Courses Professional core ES-CS391 Data Structure and algorithm Lab Total Practical  Total Of Third Semester  Second Year Fourth Semester  Category Subject Code Subject Name  Professional PC-IC401 Electrical &Electronic Measurement Core Courses Professional PC-IC402 Sensor & Transducer Core Courses Professional PC-IC403 Microprocessor and Microcontroller Core Courses Professional PC-IC404 Control System I Core Courses Basic Science Courses BSC-401 Biology	Category     Subject Code     Subject Name     Tot cd       ry     Basic science Courses     BS-CS301     Numerical Methods     2       Professional Core Courses     PC-IC301     Electric Circuit Theory     3       Professional Core Courses     PC-IC302     Analog Integrated circuits     3       Professional Core Courses     PC-IC303     Digital Electronic Circuits     3       Engineering Science Courses     ES-CS301     Data Structure and algorithm     3       Mandatory     MC- Environmental Science     2       Courses     ES301     Environmental Science     2       Courses     Total Theory     1       Itical     Professional core     PC-IC391     Electric Circuit Lab     0       Courses     PC-IC392     Analog circuits Design Lab     0       Professional core     PC-IC393     Digital Circuits Design Lab     0       Courses     ES-CS391     Data Structure and algorithm     0       Courses     Lab     Total Practical       Total Prac	Category     Subject Code     Subject Name     Total Numicontact he contact he code       ry     Professional Core Courses     BS-CS301     Numerical Methods     2     1       Professional Core Courses     PC-IC301     Electric Circuit Theory     3     0       Professional Core Courses     PC-IC302     Analog Integrated circuits     3     0       Professional Core Courses     PC-IC303     Digital Electronic Circuits     3     0       Engineering Science Courses     ES-CS301     Data Structure and algorithm     3     0       Courses     ES-CS301     Data Structure and algorithm     3     0       Courses     ES-Mandatory     MC-Environmental Science     2     0       Courses     Forld Theory     0     0       Total Theory       Total Theory       Drofessional core Courses     PC-IC391     Electric Circuit Lab     0     0       Courses       Professional core     PC-IC392     Analog circuits Design Lab     0     0       Courses       Professional core     ES-CS391     Data Structure and algorithm     0     0       Courses       Foul Practical	Category	

(Applicable from the academic session 2018-2019)

1				,	1	1	1
	Social Sciences	HU401					
	including						
	Management						
	Courses						
		Tota	l Theory				17
Prac	tical						
	Professional core	PC-IC491	Electrical & Electronic Measurement	0	0	3	
1	Courses		Lab				1.5
	Professional core	PC-IC492	Sensor & Transducer	0	0	3	1.5
2	Courses						1.5
2	Professional core	PC-IC493	Microprocessor and Microcontroller	0	0	3	1.5
3	Courses		Lab				1.5
4	Professional core	PC-IC494	Control system I Lab	0	0	3	1.5
4	Courses						1.5
		Total Practical			•	•	6
	Total of Fourth Semester						23

	Third Year Fifth Semester							
Sl No.	Category	Subject Code	Subject Name	Total Number of contact hours			Credits	
				L	T	P		
Theo	Theory							
1	Professional Core Courses	PC-IC501	Industrial Instrumentation	3	0	0	3	
2	Professional Core Courses	PC-IC502	Digital Signal Processing	3	0	0	3	
3	Professional Core Courses	PC-IC503	Control System II	3	0	0	3	
4	Professional Elective Courses-1	PE- IC501/PE- IC502	Optical Instrumentation/Introduction to MEMS	3	0	0	3	
5	Open Elective Courses-1	OE- IC501/OE- IC502	Embedded System/DBMS	3	0	0	3	
6	Humanities and Social Sciences including Management Courses	HM- HU501	Economics for Engineers	3	0	0	3	
Total Theory						•	18	
Pract	Practical/ Sessional							
1	Professional core Courses	PC-IC591	Industrial Instrumentation Lab	0	0	3	1.5	
2	Professional core Courses	PC-IC592	Control System II	0	0	3	1.5	
3	Open Elective-1	OE- IC591/OE-	Embedded System/DBMS Lab	0	0	3	1.5	

# Maulana Abul Kalam Azad University of Technology, West Bengal (Formerly West Bengal University of Technology) Syllabus for B. Tech in Instrumentation and Control Engineering (ICE) (Applicable from the academic session 2018-2019)

		IC592					
4	Seminar	IC581	Seminar				1.5
		Total Practical					6
		Total of Fifth Semester					24
		T	hird Year Sixth Semester				
SI No.	Category	Subject Code	Subject Name		Total Number of contact hours		
				L	T	P	
Theor		ı			1		1
1	Professional Core Courses	PC-IC601	Process control	3	0	0	3
2	Professional Core Courses	PC-IC602	Data Communication and Telemetry	3	0	0	3
3	Professional Core Courses	PC-IC603	Biomedical Instrumentation	3	0	0	3
4	Professional Elective Courses-2	PE- IC601/PE- IC602	Power Electronics & Drivers/Microelectronics and VLSI Technology	3	0	0	3
5	Open Elective Courses-2	OE- IC601/OE- IC602	IOT/Artificial Intelligence	3	0	0	3
6	Mandatory Courses	MC- ES601	Indian Constitution and culture	1	0	0	
		Tota	l Theory	15			
Practi	ical/ Sessional			'			
1	Professional core Courses	PC-IC691	Process control Lab	0	0	3	1.5
2	Professional core Courses	PC-IC692	Instrumentation system Design Lab	0	0	3	1.5
3	Open Elective 2	OE- IC691/OE- IC692	IOT Lab/AI lab	0	0	3	1.5
					4.5		
	Total of Sixth Semester						19.5

(Applicable from the academic session 2018-2019)

	Fourth Year Seventh Semester							
Sl		Subject		Total Number of				
No.	Category	Code	Subject Name	contact hours			Credits	
				L	T	P		
Theo	Professional Elective	PE-	Control System Design/Robotics and	3	0	0	3	
1	Courses-3	IC701/PE-	automation	J			3	
1	6001363 3	IC702	datomation					
	Professional Elective	PE-	Analytical Instrumentation/	3	0	0	3	
2	Courses-4	IC703/PE-	Digital control system					
		IC704						
	Open Elective	OE-	Non-Convectional Energy	3	0	0	3	
3	Courses-3	IC701/OE	System/Non-destructive testing					
		-IC702						
4	Engineering	ES-CS701	Computer Networks	3	0	0	3	
	Courses		_					
D		Total	Theory				12	
	tical/ Sessional	DV4 16704	Duning at 1				1	
2	Project Stage-1	PW-IC791	Project I				1	
	Industrial Training	IC781	Industrial Training Evaluation  Practical				-	
		1 otat 1	Total of Seventh Semester				5 17	
		Fo	ourth Year Eighth Semester				17	
			Eighth Semester	To	tal Nun			
SI	Category	Subject	Subject Name	contact hours  L T P			Credits	
No.		Code	Subject (unit					
Theo	ory			-				
	Professional Elective	PE-	Power Plant Instrumentation/Nano	3	0	0	3	
1	Courses-5	IC801/PE-	Electronics					
		IC802						
	Open Elective	OE-	Logic and Distributed control systems	3	0	0	3	
2	Courses-4	IC801/OE	/Smart and Wireless instrumentation					
		-IC802						
	Humanities and Social	HM-	Management Concept and Practice	2	0	0	2	
3	sciences including	HU801						
	Management Courses							
Total Theory 8								
	tical/ Sessional	DV4/10001	I Bushada				0	
1	Project Stage-1	PW-IC881	Project II				8	
2	Grand Viva	IC882	Grand Viva-Voce				1.5	
	Total Practical						9.5 17.5	
	Total of Eighth Semester 17.5							

(Applicable from the academic session 2018-2019)

	<u> </u>		•
SI No.	Category	Suggested	Suggested Breakup of
		Breakup of Credits	Credits (160)
		(Dept. of ICE)	(As per AICTE)
1	Humanities and	10	12
	Social sciences		
	including		
	Management		
	Courses		
2	Basic Science	22	25
	course		
3	Engineering	23.5	24
	Science courses		
4	Professional core	55.5	48
	Courses		
5	Professional	15	18
	Elective Courses		
6	Open Elective	18	18
	Courses		
7	Project work	16	15
	Seminar and		
	internship in		
	industry		
8	Mandatory Courses		(NON-CREDIT)
	TOTAL	160	160