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

	Se	econd Year Third Semester						
Category	Subject Code	Subject Name	Total Number of contact hours		ours	Credits		
rv		L	1	r				
Basic science Courses	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	d 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 6								
Total of Third Semester 21								
	Se	cond Year Fourth Semester						
	Subject		Total Number of					
Category		Subject Name				Credits		
•	DC 1C404	Floatwing 9 Floatwers: A Management - 1:1	2		0	12		
Core Courses						3		
Professional Core Courses		Sensor & Transducer		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	Category Subject Code ry Basic science Courses Professional Core Courses Professional Core Courses Professional Core Courses Engineering Science Courses Mandatory Courses Professional core Courses	Residence Courses BS-CS301 Numerical Methods Professional Core Courses PC-IC301 Electric Circuit Theory Professional Core Courses Professional Core PC-IC302 Analog Integrated circuits Professional Core Courses Professional Core PC-IC303 Digital Electronic Circuits Professional Core ES-CS301 Data Structure and algorithm Courses Mandatory MC- Environmental Science Courses ES301 Electric Circuit Lab Professional core PC-IC391 Electric Circuit Lab 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 Engineering Science ES-CS391 Data Structure and algorithm Lab Total Practical Total Practical Total of Third Semester Second Year Fourth Semester Second Year Fourth Semester 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 Try 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- Courses ES301 Environmental Science 2 Courses Total Theory tical Professional core Courses PC-IC391 Electric Circuit Lab 0 Professional core PC-IC392 Analog circuits Design Lab 0 Courses ES-CS391 Data Structure and algorithm Lab 0 Courses ES-CS391 Data Structure and algorithm Lab 0 Courses Es-CS391 Data Structure and algorithm Lab 0 Total Practical Total Practical Total Practical Professional Core Courses PC-IC401 Electrical & Electronic Measurement Saccord Courses 3 <	Category Subject Code Subject Name Total Numicontact he contact he cont	Category		

(Applicable from the academic session 2018-2019)

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

	Third Year Fifth Semester								
Sl No.	Catagory Subject Name		Total Number of contact hours			Credits			
Theo	MX.7			L	Т	P			
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								
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)

Theory 1 Professional Core Courses 2 Professional Core Courses 3 Professional Core Courses 3 Professional Core Courses 4 Courses Code L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P L T P Description: 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0							IC592				
Total of Fifth Semester	1.5					Seminar	IC581	Seminar	4		
Signature Subject Subject Subject Name Subje	6					Total Practical					
No. Category Subject Subject Name Contact hours L T P	24					Total of Fifth Semester					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						Third Year Sixth Semester					
Theory 1 Professional Core Courses 2 Professional Core Courses 3 Professional Core Courses 3 Professional Core Courses 4 Professional Elective Courses PC-IC603 Biomedical Instrumentation 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Credits	·s				Subject Name		Category			
Professional Core Courses PC-IC601 Process control 3		P	ſ	T	L		Couc				
Courses Professional Core Courses PC-IC602 Data Communication and Telemetry 3 0 0 0 0 0 0 0 0 0									Theor		
Courses Cour	3)		0					1		
Professional Elective PE- IC601/PE- IC602 Technology Open Elective Courses-2 IC601/OE- IC602 Mandatory Courses MC- ES601 Indian Constitution and culture ES601 Professional Core Courses PC-IC691 Process control Lab Professional core Courses Open Elective OE- IC602 Instrumentation system Design Lab Open Elective 2 OE- IC691/OE- IC691	3)		0	3	Data Communication and Telemetry	PC-IC602		2		
4 Courses-2 IC601/PE- IC602 Technology Open Elective OE- IC601/OE- IC602 Mandatory Courses MC- ES601 Indian Constitution and culture 1 0 0 Practical/ Sessional Professional core Courses PC-IC691 Process control Lab Professional core Courses OP-IC692 Instrumentation system Design Lab Open Elective 2 OE- IC691/OE- IC691/O	3)		0	3	Biomedical Instrumentation	PC-IC603		3		
Open Elective Courses-2	3)		0	3	Drivers/Microelectronics and VLSI	IC601/PE-		4		
Total Theory Practical/ Sessional 1 Professional core Courses 2 Professional core Courses Open Elective 2 Open Elective 2 October 10	3)		0	3		IC601/OE-	= -	5		
Practical/ Sessional 1 Professional core Courses 2 Professional core Courses Open Elective 2 Open Elective 2 PC-IC691 Process control Lab O 0 3 Instrumentation system Design Lab O 0 3 IOT Lab/Al lab O 0 3 O 3 O 0 3 O 0 3 O 0 3 O 0 3 O 0 3 O 0 3 O 0 3 O 0 3 O 0 3 O 0 0 3)		0	1	Indian Constitution and culture	1	Mandatory Courses	6		
1 Professional core Courses PC-IC691 Process control Lab 0 0 3 2 Professional core Courses PC-IC692 Instrumentation system Design Lab 0 0 3 3 Open Elective 2 OE- IC691/OE- IC691/OE- IOT Lab/AI lab 0 0 3	15			•		Theory	Total				
Courses Professional core Courses Open Elective 2 Courses Open Elective 2 Courses Open Elective 2 Courses Open Elective 2 OE- IC691/OE- IOT Lab/AI lab O 0 3 O 0 3					1			ical/ Sessional	Pract		
2 Courses IOT Lab/AI lab 0 0 3 3 IC691/OE- IOT Lab/AI lab 0 0 3	1.5	3		0	0	Process control Lab	PC-IC691		1		
3 IC691/OE-	1.5	3		0	0	Instrumentation system Design Lab	PC-IC692		2		
	1.5	3		0	0	IOT Lab/AI lab	IC691/OE-	Open Elective 2	3		
Total Practical	4.5					Total Practical					
Total of Sixth Semester	19.5					Total of Sixth Semester					

(Applicable from the academic session 2018-2019)

Fourth Year Seventh Semester							
SI No.	Category	Subject Code	Subject Name	Total Number of contact hours L T P		Credits	
Theo	orv				_		
1	Professional Elective Courses-3	PE- IC701/PE- IC702	Control System Design/Robotics and automation	3	0	0	3
2	Professional Elective Courses-4	PE- IC703/PE- IC704	Analytical Instrumentation/ Digital control system	3	0	0	3
3	Open Elective Courses-3	OE- IC701/OE -IC702	Non-Convectional Energy System/Non-destructive testing	3	0	0	3
4	Engineering Courses	ES-CS701	Computer Networks	3	0	0	3
		Total	Theory				12
	tical/ Sessional				T	1	
1	Project Stage-1	PW-IC791	Project I				4
2	Industrial Training	IC781	Industrial Training Evaluation				1
Total Practical							5
		T	Total of Seventh Semester				17
		Fo	ourth Year Eighth Semester				
Sl No.	Category	Subject Code	Subject Name			Credits	
Theo) Nrv			L	Т	P	
1	Professional Elective Courses-5	PE- IC801/PE- IC802	Power Plant Instrumentation/Nano Electronics	3	0	0	3
2	Open Elective Courses-4	OE- IC801/OE -IC802	Logic and Distributed control systems /Smart and Wireless instrumentation	3	0	0	3
3	Humanities and Social sciences including Management Courses	HM- HU801	Management Concept and Practice	2	0	0	2
V							8
	tical/ Sessional						
1	Project Stage-1	PW-IC891	Project II				8
2	Grand Viva	IC881	Grand Viva-Voce				1.5
	Total Practical						9.5
	Total of Eighth Semester 17.5					17.5	

(Applicable from the academic session 2018-2019)

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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