

CONTENTS

Sr.NO.	Particulars	Page No(s)
-	Preface	(i)
-	Acknowledgements	(iii)
1.	Salient Features of the Diploma Programme in Instrumentation and Control	1
2.	Employment Opportunities	2
3.	Competency Profile	5
4.	Curriculum Areas derived from Competency Profile	7
5.	Abstract of Curriculum Areas/Subjects	10
6.	Horizontal and Vertical Organisation of the Subject	12
7.	Study and Evaluation Scheme	13
8.	Detailed Contents of various Subjects	19-145
FIRST SEMESTER		
1.1	Communication Skills-I	19
1.2	Applied Mathematics-I	22
1.3	Applied Physics – I	24
1.4	Applied Chemistry-I	29
1.5	Basics of Information Technology	32
1.6	Engineering Drawing-I	37
1.7	General Workshop Practice - I	40
SECOND SEMESTER		
2.1	Communication Skills –II	45
2.2	Applied Mathematics-II	49
2.3	Applied Physics – II	51
2.4	Applied Chemistry-II	54
2.5	Basic Electrical Engineering	57
2.6	Analog Electronics-I	61
2.7	General Workshop Practice-II	64
	<i>Ecology and Environmental Awareness Camp</i>	64-a

Sr.No	Particulars	Page No(s)
-------	-------------	------------

THIRD SEMESTER

3.1	Control Systems	65
3.2	Electronic Components and Materials(ECM)	67
3.3	Test and Measuring Instruments	69
3.4	Principles of Instrumentation	71
3.5	Electrical Machines	73
3.6	Fundamentals of Digital Electronics	77

FOURTH SEMESTER

4.1	Microprocessors and Applications	80
4.2	Transducers and Signal Conditioning	82
4.3	Computer Programming and Application	85
4.4	Advanced Control System	89
4.5	Principles of Telemetry	91
4.6	Instrumentation Workshop	93
	<i>Entrepreneurial Awareness Camp</i>	95

FIFTH SEMESTER

5.1	Bio-Medical Instrumentation	96
5.2	Power Electronics	99
5.3	Elective – I	
	a) Intelligent Instrumentation	103
	b) Advanced Microprocessors	105
	c) Opto Electronic Devices and Their Applications	107
	d) Advanced Measurement Techniques	109
5.4	Process Control	111
5.5	Process Instrumentation	114
5.6	Minor Project Work	116

SIXTH SEMESTER

6.1	Computer Aided Instrumentation	117
6.2	Micro- Controller and PLC Based Instrumentation	121

Sr.No	Particulars	Page No(s)
6.3	Elective II	
	a) Advanced Biomedical Instrumentation	123
	b) Quality and Reliability Techniques	125
6.4	Analytical and Environmental Instrumentation	126
6.5	Entrepreneurship Development and Management	128
6.6	Major Project Work	131
9.	Resource Requirements	136
10.	Recommendations for Effective Implementation of Curriculum	144
11.	List of Experts	145