



UTTARAKHAND BOARD OF TECHNICAL EDUCATION
INSTITUTE OF RESEARCH DEVELOPMENT & TRAINING
(STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME)



BRANCH NAME: MECHATRONICS

SEMESTER – III

BRANCH CODE: 45

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
						Internal Assessment		External					
						Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
453001	Manufacturing Engineering	4	0	4	8	30	20	50	2.5	50	3.0	150	6
453002	Electrical Machines	4	0	4	8	30	20	50	2.5	50	3.0	150	6
453003	Digital Electronics	4	0	0	4	50	0	50	2.5	0	-	100	4
453004	Analog Electronics & Devices	4	0	4	8	30	20	50	2.5	50	3.0	150	6
453005	Basic Concepts of Mechatronics	4	0	0	4	50	0	50	2.5	0	-	100	4
433004	'C' Programming	4	0	4	8	30	20	50	2.5	50	3.0	150	6
453006	Computer Aided Machine Drawing Practice	0	0	4	4	0	50	0	-	50	3.0	100	2
AS301	Summer Internship-I (3-4 Week duration After II sem)	-	-	-	-	-	25	-	-	25	3.0	50	2
013054	General Proficiency	0	0	4	4	-	25	-	-	-	-	25	-
453052	Industrial Exposure	-	-	-	-	-	25	-	-	-	-	25	-
	Total	24	0	24	48	220	205	300	-	275	-	1000	36



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BRANCH NAME: MECHATRONICS

SEMESTER – IV

BRANCH CODE: 45

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
		Periods Per Week				Internal Assessment		External					
						Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
454001	Strength of Material	4	0	2	6	30	20	50	2.5	50	3.0	150	5
454002	Electronic Instrumentation & Sensors	4	0	2	6	30	20	50	2.5	50	3.0	150	5
454003	Micro Controller & Applications	4	0	2	6	30	20	50	2.5	50	3.0	150	5
454004	Theory of Machines & Mechanisms	4	0	2	6	30	20	50	2.5	50	3.0	150	5
454005	Advance Manufacturing Process	4	0	2	6	30	20	50	2.5	50	3.0	150	5
454006	Fluid Mechanics & Hydraulic Machinery	4	0	0	4	30	0	50	2.5	0	-	80	4
454007 454008	Elective: Artificial Intelligence & Machine Learning or, Soft Computing	4	0	0	4	30	0	50	2.5	0	-	80	4
AS401	Essense of Indian Traditional Knowledge (Audit Course)	2	0	0	2	0	0	50	2.5	0	-	50	0
AS402	Minor Project	0	0	4	4	0	20	0	-	70	3.0	90	2
014054	General Proficiency	0	0	4	4	0	25	0	0	0	-	25	0
454052	Industrial Exposure	-	-	-	-	0	25	0	0	0	-	25	0
	Total	30	0	18	48	210	170	400	-	320	-	1100	35



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BRANCH NAME: MECHATRONICS

SEMESTER – V

BRANCH CODE: 45

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
		Periods Per Week				Internal Assessment		External					
						Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
455001	Design of Machine Elements	6	0	8	14	30	20	75	2.5	75	3.0	200	10
455002	Embedded System	6	0	8	14	30	20	75	2.5	75	3.0	200	10
455003	Elective-1: Thermal Engineering or,	5	0	0	5	50	0	50	2.5	0	-	100	5
455004	Material Science & Engineering												
455005	Elective-2: Total Quality Management or,												
455006	Computer Integrated Manufacturing (C I M)	5	0	0	5	50	0	50	2.5	0	-	100	5
	Open Elective:												
455007	Industrial Automation Concepts or,												
435002	Internet of Things	4	0	0	4	50	0	50	2.5	0	-	100	4
AS501	Summer Internship-II (4-6 week duration after IV Sem)	-	-	-	-	0	50	0	-	50	3.0	100	3
AS502	Major Project-I	0	0	2	2	0	50	0	-	100	3.0	150	1
015054	General Proficiency	0	0	4	4	0	25	0	-	0	-	25	0
455052	Industrial Exposure	0	0	0	0	0	25	0	-	0	-	25	0
	Total	26	0	22	48	210	190	300	-	300	-	1000	38



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BRANCH NAME: MECHATRONICS

SEMESTER – VI

BRANCH CODE: 45

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
		Periods Per Week				Internal Assessment		External					
						Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
456001	Robotics	8	0	4	12	30	20	100	2.5	50	3.0	200	10
456002	Open Elective-1: Control System & PLC or,	6	0	0	6	50	0	50	2.5	0	-	100	6
456003	Web Design & Multimedia												
456004	Open Elective-2: Material Handling Systems or,	6	0	0	6	50	0	50	2.5	0	-	100	6
456005	Project Management												
456006	Program Elective: Industrial Engineering & Management or,	6	0	0	6	50	0	50	2.5	0	-	100	6
456007	Product Design												
AS601	Indian Constitution (Audit Course)	2	0	0	2	0	0	50	2.5	0	-	50	0
AS602	Entrepreneurship And Starts-Ups	4	0	0	4	50	0	100	2.5	0	-	150	4
AS603	Major Project-II	0	0	6	6	0	50	0	-	150	3.0	200	3
AS604	Seminar	2	0	0	2	0	50	0	-	0	-	50	1
016054	General Proficiency	0	0	4	4	0	25	0	-	0	-	25	0
456052	Industrial Exposure	0	0	0	0	0	25	0	-	0	-	25	0
	Total	34	0	14	48	230	170	400	-	200	-	1000	36

General Proficiency : will comprise of various co-curricular activities like games, hobby clubs, seminars, declamation contests, extension lectures, NCC, NSS, cultural activities and discipline etc.

Industrial Exposure : compulsory at minimum 2 Industries or Departments.

Major Project: It is divided in to two parts (Major Project-I & Major Project-II). Major Project will be initiated in V Semester and will get complete in VI Semester.

Note :-

1. Each period will be of 50 minutes.
2. Each session will be of 16 weeks.
3. Effective teaching will be at least 12.5 weeks.