



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



BRANCH NAME: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

SEMESTER – III

BRANCH CODE: 43

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
						Internal Assessment		External					
		Periods Per Week				Theory	Practical	Theory		Practical			
		Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.						
433001	Discrete Mathematics	4	0	0	4	50	0	50	2.5	0	-	100	4
433002	Computer System Organization	4	0	0	4	50	0	50	2.5	0	-	100	4
433003	Data Structure using 'C'	4	0	4	8	30	20	50	2.5	50	3.0	150	6
433004	'C ' Programming	4	0	4	8	30	20	50	2.5	50	3.0	150	6
433005	Web Technologies	4	0	4	8	30	20	50	2.5	50	3.0	150	6
433006	E-Governance	4	0	4	8	30	20	50	2.5	50	3.0	150	6
433007	Data Communication Lab	0	0	4	4	0	50	0	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	-
433052	Industrial Exposure	-	-	-	-	-	25	-	-	-	-	25	-
	Total	24	0	24	48	220	205	300	-	275	-	1000	36



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BRANCH NAME: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

SEMESTER – IV

BRANCH CODE: 43

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
						Internal Assessment		External					
		Periods Per Week				Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
434001	Algorithms	4	0	2	6	30	20	50	2.5	50	3.0	150	5
434002	Object Oriented Programming using C++	4	0	2	6	30	20	50	2.5	50	3.0	150	5
434003	Introduction to Operating Systems	4	0	2	6	30	20	50	2.5	50	3.0	150	5
434004	Artificial Intelligence	4	0	2	6	30	20	50	2.5	50	3.0	150	5
434005	Mathematical and Statistical Foundations	4	0	0	4	30	0	50	2.5	0	-	80	4
434006	Introduction to DBMS	4	0	2	6	30	20	50	2.5	50	3.0	150	5
434007	Elective: System Software or,	4	0	0	4	30	0	50	2.5	0	-	80	4
434008	Computer Networks												
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	-	25	0
434052	Industrial Exposure	0	0	0	0	0	25	0	-	0	-	25	0
	Total	30	0	18	48	210	170	400	-	320	-	1100	35



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BRANCH NAME: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

SEMESTER – V

BRANCH CODE: 43

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
						Internal Assessment		External					
		Periods Per Week				Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
435001	Scripting Languages (Python)	6	0	6	12	30	20	50	2.5	50	3.0	150	9
435002	Internet of Things	6	0	6	12	30	20	50	2.5	50	3.0	150	9
435003	Elective-1: Machine Learning or,	5	0	0	5	50	0	50	2.5	0	-	100	5
435004	Fundamentals of Cloud Computing												
435005	Elective-2: Data Sciences : Data Ware housing and Data Mining or,	5	0	0	5	50	0	50	2.5	0	-	100	5
435006	Multimedia Technologies												
435007	Open Elective: Smart Systems or,	4	0	0	4	50	0	50	2.5	0	-	100	4
435008	Renewable Energy Technologies												
435009	Machine Learning in Python Lab	0	0	4	4	0	30	0	-	70	3.0	100	2
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
435052	Industrial Exposure	0	0	0	0	0	25	0	-	0	-	25	0
	Total	26	0	22	48	210	220	250	-	320	-	1000	38



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BRANCH NAME: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

SEMESTER – VI

BRANCH CODE: 43

Course Code	Course Title	TH	T	P	T O T	EVALUATION SCHEME						Total Marks	Total Credit
						Internal Assessment		External					
		Periods Per Week				Theory	Practical	Theory		Practical			
						Max Marks	Max Marks	Max Marks	Duration in Hrs.	Max Marks	Duration in Hrs.		
436001	Deep Learning	8	0	4	12	30	20	100	2.5	50	3.0	200	10
436002	Open Elective-1: Operations Research or,	6	0	0	6	50	0	50	2.5	0	-	100	6
436003	Cyber Security Laws Standards and IPR												
436004	Open Elective-2: Virtual Reality or,	6	0	0	6	50	0	50	2.5	0	-	100	6
436005	Big Data Analytics												
436006	Program Elective: Information Security or,	6	0	0	6	50	0	50	2.5	0	-	100	6
436007	Mobile Computing												
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
436052	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.