

B.Tech Artificial Intelligence and Machine Learning – Curriculum & Syllabus

REGULATIONS - 2020
CHOICE BASED CREDIT SYSTEM
B.Tech. ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
I TO VIII SEMESTERS CURRICULUM AND SYLLABUS

SEMESTER I								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UHS1151	Technical English-I	HS	3	3	0	0	3
2	UMA1151	Mathematics –I	BS	4	3	1	0	4
3	UPH1151	Engineering Physics – I	BS	3	3	0	0	3
4	UCY1151	Engineering Chemistry	BS	3	3	0	0	3
5	UGE1151	Python Programming and Problem Solving	ES	3	3	0	0	3
THEORY CUM PRACTICAL								
6	UBE1161	Basic Civil and Mechanical Engineering (Theory + Lab)	ES	5	3	0	2	4
PRACTICALS								
7	UBS1161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
8	UGE1161	Python Programming and Problem Solving Laboratory	ES	4	0	0	4	2
TOTAL				29	18	1	10	24
SEMESTER II								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UHS1251	Technical English-II	HS	3	3	0	0	3
2	UMA1251	Mathematics –II	BS	4	3	1	0	4
3	UPH1251	Engineering Physics –II	BS	3	3	0	0	3
4	UGE1251	Environmental Science and Engineering	HS	3	3	0	0	3
5	UGE1252	C Programming	ES	3	3	0	0	3
6	UGE1253	Engineering Graphics	ES	5	1	0	4	3
7	UHS1252	Professional skills – I	EEC	2	0	0	2	1
THEORY CUM PRACTICAL								
8	UBE1261	Basic Electrical and Electronics Engineering (Theory + Lab)	ES	4	2	0	2	3
PRACTICALS								
9	UGE1261	C Programming Laboratory	ES	4	0	0	4	2
TOTAL				31	18	1	12	25

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SEMESTER III								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UMA1353	Linear Algebra and Discrete Mathematics	BS	4	3	1	0	4
2	UAM1301	Design and Analysis of Algorithms	PC	3	3	0	0	3
3	UEC1352	Digital Principles and Systems Design	EC	3	3	0	0	3
4	UAM1302	Data Structures in Python	PC	3	3	0	0	3
5	UAD1303	Object Oriented Programming	PC	3	3	0	0	3
6	UAD1302	Computer Organization and Architecture	PC	3	3	0	0	3
7	UHS1351	Professional Skills – II	EEC	2	0	0	2	1
PRACTICALS								
8	UEC1362	Digital Principles and Systems Design Laboratory	EC	4	0	0	4	2
9	UAM1311	Data Structures in Python Laboratory	PC	4	0	0	4	2
10	UAD1312	Object Oriented Programming Laboratory	PC	4	0	0	4	2
TOTAL				33	18	1	14	26
SEMESTER IV								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UMA1456	Probability and Statistics	BS	4	3	1	0	4
2	UAM1401	Machine Learning – I	PC	3	3	0	0	3
3	UAD1401	Artificial Intelligence – I	PC	3	3	0	0	3
4	UAD1402	Operating System Concepts	PC	3	3	0	0	3
5	UCS1403	Software Engineering	PC	3	3	0	0	3
6	UAD1403	Database Design and Management	PC	3	3	0	0	3
7	UHS1451	Professional Skills – III	EEC	2	0	0	2	1
PRACTICALS								
8	UAM1411	Machine Learning - I Laboratory	PC	4	0	0	4	2
9	UAD1412	Database Design and Management Laboratory	PC	4	0	0	4	2
10	UHS1361	Interpersonal Skills Laboratory	HS	2	0	0	2	1
TOTAL				31	18	1	12	25

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SEMESTER V								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UAD1501	Artificial Intelligence – II	PC	3	3	0	0	3
2	UAD1502	Data Communications and Networking	PC	3	3	0	0	3
3	UAD1503	Optimization Techniques	PC	3	3	0	0	3
4	UAM1501	Machine Learning – II	PC	4	4	0	0	4
5	UAM1502	Data Mining and Analytics	PC	3	3	0	0	3
6		Professional Elective I	PE	3	3	0	0	3
7	UHS1551	Professional Skills – IV	EEC	2	0	0	2	1
PRACTICALS								
8	UAM1511	Machine Learning – II Laboratory	PC	4	0	0	4	2
9	UAM1512	Data Mining and Analytics Laboratory	PC	4	0	0	4	2
MANDATORY COURSE								
10	UAD1581	MOOC Certificate Course	MC	2	2	0	0	0
TOTAL				31	21	0	10	24
SEMESTER VI								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UAD1601	Web Technology	PC	3	3	0	0	3
2	UAM1601	Big Data Management	PC	3	3	0	0	3
3	UAM1602	Data Exploration and Visualization	PC	3	3	0	0	3
4	UAM1603	Health Care Analytics	PC	3	3	0	0	3
5		Professional Elective – II	PE	3	3	0	0	3
6		Professional Elective – III	PE	3	3	0	0	3
PRACTICALS								
7	UAD1611	Web Technology Laboratory	PC	4	0	0	4	2
8	UAM1611	Data Visualization Laboratory	PC	4	0	0	4	2
9	UHS1561	Professional Communication Laboratory	HS	4	0	0	4	2
MANDATORY COURSE								
10	UAD1691	Yoga for Health Care	MC	2	0	0	2	0
TOTAL				32	18	0	14	24

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SEMESTER VII								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UAD1701	Deep Learning Techniques	PC	3	4	0	0	4
2	UAM1701	Artificial Intelligence and Robotics	PC	3	4	0	0	4
3	UAD1005	Natural Language Processing	PC	3	3	0	0	3
4		Professional Elective – IV	PE	3	3	0	0	3
5		Open Elective – I	OE	3	3	0	0	3
PRACTICALS								
6	UAD1711	Deep Learning Techniques Laboratory	PC	4	0	0	4	2
7	UAM1711	Project Phase - I	EEC	8	0	0	8	4
TOTAL				27	17	0	12	23
SEMESTER VIII								
S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
THEORY								
1	UCS1020	Software Project Management	PC	3	3	0	0	3
2		Professional Elective – V	PE	3	3	0	0	3
3		Open Elective – II	OE	3	3	0	0	3
PRACTICALS								
4	UAM1811	Project Phase - II	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

TOTAL NO OF CREDITS:186

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PROFESSIONAL ELECTIVE – I (SEMESTER V)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
1	UAM1001	Cryptography and Network Security	PE	3	3	0	0	3
2	UAM1002	Business Analytics	PE	3	3	0	0	3
3	UCS1003	R Language	PE	3	3	0	0	3
4	UMG1052	Total Quality Management	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – II (SEMESTER VI)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
1	UCS1011	Distributed System	PE	3	3	0	0	3
2	UCS1019	Soft Computing	PE	3	3	0	0	3
3	UAM1004	Pervasive Computing	PE	3	3	0	0	3
4	UAM1005	Embedded Systems and Programming	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – III (SEMESTER VI)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
1	UCS1504	Mobile Computing	PE	3	3	0	0	3
2	UAD1006	Virtual Reality	PE	3	3	0	0	3
3	UMG1053	Principles of Management	PE	3	3	0	0	3
4	UAM1006	Cognitive Science and Analytics	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – IV (SEMESTER VII)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
1	UAD1008	Software Testing and Quality Assurance	PE	3	3	0	0	3
2	UMG1054	Professional Ethics in Engineering	PE	3	3	0	0	3
3	UAD1702	Internet Of Things	PE	3	3	0	0	3
4	UAD1007	Cyber Security	PE	3	3	0	0	3

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PROFESSIONAL ELECTIVE – V (SEMESTER VIII)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
1	UCS1704	Human Computer Interaction	PE	3	3	0	0	3
2	UAD1010	Predictive Analysis	PE	3	3	0	0	3
3	UAM1007	Information Extraction and Retrieval	PE	3	3	0	0	3
4	UGE1051	Human Rights	PE	3	3	0	0	3

OPEN ELECTIVE – I (SEMESTER VII)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
1.	OEE1752	Microprocessors, Microcontrollers and Applications	OE	3	3	0	0	3
2.	OEC1754	Wireless Sensor Networks	OE	3	3	0	0	3
3.	OME1753	Industrial Safety Engineering	OE	3	3	0	0	3
4.	OEE1753	Fundamentals of Electric and Hybrid Vehicles	OE	3	3	0	0	3
5.	OMG1752	Intellectual Property Rights	OE	3	3	0	0	3

OPEN ELECTIVE – II (SEMESTER VIII)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	TOTAL CONTACT PERIODS	PERIODS PER WEEK			CREDITS
					L	T	P	
6	OIT1851	Block Chain	OE	3	3	0	0	3
7	OEC1852	Bio-Medical Electronics	OE	3	3	0	0	3
8	OME1852	Product Design and Development	OE	3	3	0	0	3
9	OME1853	Robotics	OE	3	3	0	0	3
10	OMG1856	Self Development and Entrepreneurship	OE	3	3	0	0	3