



DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE
B.Tech Course Structure (R23 Regulation)

I B.Tech (ISem)

Branch/ Specialization:AI&DS

S.No	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	HS101	Matrices and Calculus,	3	1	0	4
2	HS103	Applied Physics	3	1	0	4
3	ES106	Programming for Problem Solving*	2	0	4	4
4	ES108	Computer Aided Engineering Graphics	1	0	4	3
5	HS104	Applied Physics Lab	0	0	3	1.5
6	ES113	Engineering Workshop Practice	1	0	3	1.5
7	ES115	IT Workshop	0	0	2	1
8	MC101	Environmental Science	1	0	0	0
Total			11	2	16	19

L: Lecture Hour

T: Tutorial Hour

P: Lab/Practice Hour

***Integrated Course (Theory & Lab)**

IB.Tech (IISem)

Branch/ Specialization:AI&DS

S.No	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	HS102	Multivariable and Vector Calculus	3	1	0	4
2	HS105	Engineering Chemistry	3	1	0	4
3	HS107	English for Skill Enhancement	2	0	0	2
4	ES101	Basic Electrical Engineering	2	0	0	2
5	ES103	Electronic Devices and Circuits	2	0	0	2
6	ES107	Python Programming*	2	0	2	3
7	HS106	Engineering Chemistry Lab	0	0	2	1
8	HS108	English Language and Communication Skills Lab	0	0	2	1
9	ES105	Electrical and Electronics Engg. Lab	0	0	2	1
10	MC102	Morals and Ethics	1	0	0	0
Total			15	2	8	20

L: Lecture Hour

T: Tutorial Hour

P: Lab/Practice Hour

***Integrated Course (Theory & Lab)**

IIB.Tech (I Sem)**Branch/ Specialization:AI&DS**

S.No	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	HS204	Mathematical and Statistical Foundations	3	1	0	4
2	CS203	Object Oriented Programming Through Java	3	0	0	3
3	CS201	Data Structures Using C++	3	0	0	3
4	CS223	Computer Organization	3	0	0	3
5	CS219	Introduction to Artificial Intelligence	3	0	0	3
6	CS202	Data Structures Using C++Lab	0	0	2	1
7	CS204	Object Oriented Programming Through Java Lab	0	0	2	1
8	CS207	Data Visualization Techniques using R / Power BI Lab	0	0	2	1
9	HS206	Verbal Communication and Soft Skills Lab	0	0	2	1
10	MC201	Constitution of India	1	0	0	0
Total			16	1	8	20

L: Lecture Hour**T: Tutorial Hour****P: Lab/Practice Hour****IIB.Tech (IISem)****Branch/ Specialization: AI&DS**

S.No	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	CS345	Introduction to Data Science	3	0	0	3
2	CS205	Discrete Mathematics	3	0	0	3
3	CS212	Design and Analysis of Algorithms	3	1	0	4
4	CS208	Operating Systems	3	0	0	3
5	CS210	Database Management Systems	3	0	0	3
6	CS211	Database Management Systems Lab	0	0	2	1
7	CS209	Operating Systems Lab	0	0	2	1
8	CS213	NodeJS/ ReactJS/Django Lab	0	0	2	1
9	CS222	Real time Research Project/Societal Related Project	0	0	4	2
10	MC202	Gender Sensitization Lab	0	0	2	0
Total			15	1	12	21

L: Lecture Hour**T: Tutorial Hour****P: Lab/Practice Hour**

IIIB.Tech (I Sem)**Branch/ Specialization:AI&DS**

S.No.	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	CS304	Data Mining	3	0	0	3
2	CS302	Computer Networks	3	0	0	3
3		Open Elective –1 (See Annexure –A)	3	0	0	3
4		Professional Elective–1	3	0	0	3
	CS301	(a) Software Engineering				
	CS312	(b) Web Programming				
	CS410	(c) Computer Vision and Robotics				
	CS321	(d) Information Retrieval Systems				
	CS406	(e) Full Stack Development				
5	HS207	Business Economics & Financial Analysis	3	0	0	3
6	CS303	Computer Networks Lab	0	0	2	1
7	CS305	Data Mining Lab	0	0	2	1
8	CS335	ETL-Kafka/ Talend Lab	0	0	2	1
9	HS301	Advanced English Communication Skills Lab	0	0	2	1
10	MC301	Intellectual Property Rights	1	0	0	0
Total			16	0	8	19

L: Lecture Hour**T: Tutorial Hour****P: Lab/Practice Hour****IIIB.Tech (II Sem)****Branch/ Specialization:AI&DS**

S.No.	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	CS315	Machine Learning	3	0	0	3
2	CS318	Big Data Analytics	3	0	0	3
3		Open Elective –2 (See Annexure –A)	3	0	0	3
4		Professional Elective–2	3	0	0	3
	CS401	(a) Cryptography and Network security				
	CS327	(b) Data Warehousing & Business Intelligence				
	CS415	(c) Mobile Application Development				
	CS350	(d) Graph Theory				
	CS310	(e) Distributed systems				
5	CS221	Automata Theory and Compiler Design	3	0	0	3
6	CS319	Big Data Analytics Lab	0	0	4	2
7	CS316	Machine Learning Lab	0	0	4	2
8	CS326	UI Design–Flutter Lab	0	0	2	1
9	CS343	Industrial Oriented Mini Project/ Summer Internship	0	0	4	2
Total			15	0	14	22

L: Lecture Hour**T: Tutorial Hour****P: Lab/Practice Hour**

IVB.Tech (I Sem)**Branch/ Specialization:AI&DS**

S.No.	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	CS430	Web and Social Media Analytics	3	0	0	3
2	CS423	Deep Learning	3	0	0	3
3		Professional Elective–3	3	0	0	3
	CS436	(a) Internet of Things				
	CS450	(b) Augmented Reality and Virtual Reality				
	CS407	(c) Scripting Languages				
	CS323	(d) Natural Language Processing				
	CS333	(e) Medical Image Data Analysis				
4		Open Elective –3 (See Annexure –A)	3	0	0	3
5		Professional Elective–4	3	0	0	3
	CS446	(a) Time Series Data Analysis				
	CS447	(b) Expert Systems				
	CS444	(c) Reinforcement Learning				
	CS480	(d) Game Theory				
	CS408	(e) Block Chain Technology				
6	CS431	Web and Social Media Analytics Lab	0	0	2	1
7	CS424	Deep Learning Lab	0	0	2	1
8	CS416	Project Work Stage–I	0	0	6	3
Total			15	0	10	20

L: Lecture Hour**T: Tutorial Hour****P: Lab/Practice Hour****IVB.Tech (II Sem)****Branch/ Specialization: AI&DS**

S.No.	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	CS417	MOOC :(Any subject which is not 70% same of previous subjects syllabus)	2	0	0	2
2		Professional Elective–5	3	0	0	3
	CS481	(a) Large Language Models				
	CS470	(b) Federated Machine Learning				
	CS458	(c) Web and Data Security				
	CS459	(d) Video Analytics				
	CS425	(e) Cyber Forensics				
3		Professional Elective–6	3	0	0	3
	CS482	(a) Cognitive Computing				
	CS472	(b) Robotic Process Automation				
	CS473	(c) Randomized Algorithms				
	CS474	(d) Conversational AI				
	CS428	(e) Quantum Computing				
4	CS478	Project Work Stage – II and Seminar	0	0	16	11
Total			8	0	16	19

L: Lecture Hour**T: Tutorial Hour****P: Lab/Practice Hour**