

Annexure 3

Tentative Curriculum – BTech in AI and DS

First Year				
SEMESTER I			SEMESTER II	
Sl.No.	Course Name	Credit	Course Name	Credit
1.	Math - I	3	Math – II	3
2.	Introduction to C Programming	3	Object Oriented Programming using JAVA	3
3.	Introduction to Computer Science	2	Discrete Mathematics	3
4.	Introduction to AI and Data Science	2	Introduction to Data Structure	3
5.	Introduction to digital logic design	2	Theory of Computation	3
6.	Professional Communication and Written English	2	Finance & Accounting	1
7.	LA / CA Elective	2		
Total Credit		16	Total Credit 16	

Second Year				
Semester III			Semester IV	
Sl.No.	Course Name	Credit	Course Name	Credit
1.	Probability and random process	2	Statistics for Data Science	3
2.	Operating Systems	3	Linear Algebra and Matrix Theory	3
3.	Computer Architecture	3	Design & Analysis of Algorithm	3
4.	Artificial Intelligence	3	Database Management Systems	3
5.	Foundation of	3	Data Science	3

	Machine Learning			
6.	Python for Engineers	3	Data Analytics	2
	Total Credit	17	Total Credit	17

Third Year						
Semester V			Semester VI			
			Without Internship		With Internship	
Sl. No.	Course Name	Credit	Course Name	Credit	Course Name	Credit
1.	Python for AI	2	Python for Data Science	2	Internship	6
2.	Cloud Computing	3	Data Warehousing and Data Mining	3		
3.	AI Elective 1	3	DS Elective 1	3		
4.	AI Elective 2	3	DS Elective 2	3		
5.	Ethics in AI	2	Ethics in DS	2		
6.	Free Elective 1	3	Free Elective 2	3		
7			Science Elective 1	1		
	Total Credit	16	Total Credit	17	Total Credit	6

Fourth Year								
Semester VII					Semester VIII			
Without Internship			With Internship		Without Internship		With Internship	
Sl. No.	Course Name	Credit	Course Name	Credit	Course Name	Credit	Course Name	Credit
1.	Minor Project 1	3	Minor Project 2	3	Major Project	9	AI Elective 5	3
2.	AI Elective	3	AI Elective 4	3			DS Elective	3

	3					5		
3.	DS Elective 3	3	DS Elective 4	3		Free Elective 7	3	
4.	Free Elective 3	3	Free Elective 5	3		Science Elective	1	
5.	Free Elective 4	3	Free Elective 6	3				
Total Credit		15	Total Credit		15	Total Credit		10

List of Elective Courses in Artificial Intelligence:

1. Deep Learning.
2. Image and Video Processing.
3. Neuromorphic Computing.
4. Pattern Recognition.
5. Biomedical Signal and Image Processing.
6. AI in Health Care.
7. Natural Language Processing.
8. Reinforcement Learning.
9. Computational Geometry.
10. Text Mining.

List of Elective Courses in Data Science:

1. Time Series Analysis.
2. Financial Management & Accounting.
3. Business Analytics.
4. Data Engineering.
5. Cyber Security.
6. Graph and Social Networking.
7. Machine learning.
8. Deep Learning.
9. Big Data for Data Science.
10. Information Retrieval.