



# D Y Patil Agriculture & Technical University, Talsande

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

Structure for First Year Odd Semester ( Semester I )									
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme		
							Exam	WT %	Min. Pass %
BEDS001101 Version: 1.0	Applied Mathematics – I	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001102 Version: 1.0	Engineering Physics	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001103 Version: 1.0	Operating System	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001104 Version: 1.0	Fundamentals of Electrical and Electronics Engineering	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001105 Version: 1.0	Basic Programming with C	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001106 Version: 1.0	Environment Science	2	-	-	1	Theory 50 Marks	ESE	50	40
BEDS001107 Version: 1.0	Basic Programming with C Lab				4	2	FEP	25	40
							POE	25	40
BEDS001108 Version: 1.0	Fundamentals of Electrical and Electronics Engineering Lab				2	1	FEP	25	40
							POE	25	40
BEDS001109 Version: 1.0	Engineering Physics Lab				2	1	FEP	25	40
							POE	25	40
<b>Total</b>		<b>17</b>	<b>-</b>	<b>8</b>	<b>20</b>	<b>700 Marks</b>	<b>Total Hours: 25, Total Credits: 20</b>		

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE - Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**



# D Y Patil Agriculture & Technical University, Talsande

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

Structure for First Year Even Semester ( Semester II )									
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme		
							Exam	WT	Min. Pass %
BEDS001201 Version: 1.0	Applied Mathematics – II	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001202 Version: 1.0	Engineering Chemistry	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001203 Version: 1.0	Computer Network & Communication	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001204 Version: 1.0	Discrete Mathematics	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001205 Version: 1.0	Problem solving using Advanced C Programming	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS001206 Version: 1.0	Communication Skills	2			2	Theory 50 Marks	ESE	50	40
BEDS001207 Version: 1.0	Engineering Chemistry			2	1	Practical 50 Marks	FEP	25	40
							POE	25	40
BEDS001208 Version: 1.0	Advanced C Programming Lab			2	1	Practical 50 Marks	FEP	25	40
							POE	25	40
BEDS001209 Version: 1.0	Communication Skills Lab			2	1	Practical 50 Marks	FEP	25	40
							POE	25	40
<b>Total</b>		<b>17</b>			<b>8</b>	<b>20</b>	<b>700 Marks</b>	<b>Total Hours: 25, Total Credits: 20</b>	

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE - Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**



# D Y Patil Agriculture & Technical University, Talsande

Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0

Structure for Second Year Odd Semester ( Semester III )									
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme		
							Exam	WT %	Min. Pass %
BEDS002301 Version: 1.0	Transform Calculus, Fourier Series and Numerical Techniques	3	1		4	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002302 Version: 1.0	Data Structure	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002303 Version: 1.0	Object-Oriented Programming using C++	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002304 Version: 1.0	Theory of Computation	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002305 Version: 1.0	Relational Database Management System	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002306 Version: 1.0	OOPS using C++ Lab			4	2	Practical 100 Marks	FEP	50	40
							POE	50	40
BEDS002307 Version: 1.0	RDBMS Lab			4	2	Practical 100 Marks	FEP	50	40
							POE	50	40
<b>Total</b>		<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>Total Hours: 24, Total Credits: 20</b>			
<b>FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE -Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course</b>									



# D Y Patil Agriculture & Technical University, Talsande

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

Structure for Second Year Even Semester ( Semester IV )									
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme		
							Exam	WT %	Min. Pass %
BEDS002401 Version: 1.0	Linear Algebra for Data Science	3	1		4	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002402 Version: 1.0	R Programming	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002403 Version: 1.0	Web Development for Data Science	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002404 Version: 1.0	Software Engineering	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS002405 Version: 1.0	Introduction to Data Science	3			3	Practical 100 Marks	FEP	50	40
							POE	50	40
BEDS002406 Version: 1.0	R Programming Lab			4	2	Practical 100 Marks	FEP	50	40
							POE	50	40
BEDS002407 Version: 1.0	Web Development Lab			4	2	Practical 200 Marks	FEP	50	40
							POE	50	40
<b>Total</b>		<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>Total Hours: 24, Total Credits: 20</b>			

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE - Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**



# D Y Patil Agriculture & Technical University, Talsande

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

Structure for Third Year Odd Semester ( Semester V )									
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme		
							Exam	WT %	Min. Pass %
BEDS003501 Version: 1.0	Statistics for Data Science	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS003502E_ Version: 1.0	Big Data Analytics (Unstructured Data)	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS003503 Version: 1.0	Cloud Computing for Data Science	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS003506 Version: 1.0	Machine Learning	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS003507 Version: 1.0	Python Programming	3			3	Theory 100 Marks	FET	20	40
							MSE	30	
							ESE	50	40
BEDS003508 Version: 1.0	Big Data Analytics Lab			4	2	Practical 100 Marks	FEP	50	40
							POE	50	40
BEDS003509 Version: 1.0	Python Programming Lab			4	2	Practical 100 Marks	FEP	50	40
							POE	50	40
BEDS003510 Version: 1.0	Mini Project using R			2	1	Practical 100 Marks	FEP	50	40
							POE	50	40
Total		15			10	20	Total Hours: 25, Total Credits: 20		

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE - Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**



# D Y Patil Agriculture & Technical University, Talsande

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

Structure for Third Year Even Semester ( Semester VI )										
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme			
							Exam	WT %	Min. Pass %	
BEDS003601 Version: 1.0	Data Visualization with matplotlib	3	1		4	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS0036023 Version: 1.0	Deep Learning	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS003603 Version: 1.0	Julia Programming	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS003604E_ Version: 1.0	Elective - I	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS003605 Version: 1.0	Formal Languages and Automata Theory	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS003606 Version: 1.0	Data Visualization Lab				4	2	Practical 100 Marks	FEP	50	40
								POE	50	40
BEDS003607 Version: 1.0	Julia Programming Lab				4	2	Practical 100 Marks	FEP	50	40
								POE	50	40
<b>Total</b>		<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>Total Hours: 24, Total Credits: 20</b>				

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE - Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**



# D Y Patil Agriculture & Technical University, Talsande

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

Structure for Final Year Odd Semester ( Semester VII )										
Course Code	Course Title	L	T	P	C	Component	Evaluation Scheme			
							Exam	WT %	Min. Pass %	
BEDS004701 Version: 1.0	Optimization in Data Science	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS004702E_ Version: 1.0	Decision Analytics in Deep Learning	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS004703 Version: 1.0	TensorFlow for Deep Learning Research	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS004704 Version: 1.0	Visualization Techniques- TABLEAU	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS004705E_ Version: 1.0	Elective - II	3			3	Theory 100 Marks	FET	20	40	
							MSE	30		
							ESE	50	40	
BEDS004706 Version: 1.0	TensorFlow Lab				4	2	Practical 100 Marks	FEP	50	40
							POE	50	40	
BEDS004707 Version: 1.	TABLEAU Lab				4	2	Practical 100 Marks	FEP	50	40
							POE	50	40	
BEDS004708 Version: 1.0	Mini Project				2	1	Practical 100 Marks	FEP	50	40
							POE	50	40	
Total		15			10	20	Total Hours: 25, Total Credits: 20			

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE - Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**



**D Y PATIL**  
AGRICULTURE  
& TECHNICAL  
UNIVERSITY  
TALSANDE

# **D Y Patil Agriculture & Technical University, Talsande**

**Structure & Contents for B. Tech Data Science in School of Engineering and Technology  
Program (AY 2021-22) R0**

**Structure for Third Year Even Semester ( Semester VIII )**

## **Internship/ Capstone Project 20 Credits**

**FET – Faculty Evaluation Theory; FEP - Faculty Evaluation Practical; MSE : Mid Semester Examination; ESE – End Semester Examination; Au - Audit Course**

Electives are to be decided by the students based on their personal choice, academic requirements and in consultation with mentor and HOD. Following electives are offered by the department:

<b>Program Elective – I (for Semester V) BEDS003604E_</b>	<b>Program Elective – II (for Semester VI) BEDS003705E_</b>
Business Data Analytics	Time Series Analysis
Healthcare Data Analytics	Predictive Modelling
Web Analytics	Analyze unstructured textual data
Data Analysis for Security	Text Mining and Analysis