



D Y PATIL

DEEMED TO BE

UNIVERSITY

SCHOOL *of* ENGINEERING
& MANAGEMENT
KOLHAPUR

B. Tech. Data Sciences Engineering Structure

w. e. f. A.Y.: 2024-25

F.Y. B. Tech Data Sciences Engineering Structure 2024-25

SEMESTER – I												
Course Category	Course Type	Course Name	Credits	Teaching Scheme			Theory			Practical		Total Marks
				L	P	T	ISE	MSE	ESE	INT	OE/ PoE	
Basic Sciences	BSC	Linear Algebra & Calculus	4	3	-	1	20	30	50	25	-	125
	BSC	Applied Physics	4	3	2	-	20	30	50	25	-	125
Engineering Science	ESC	Problem Solving through Programming	4	3	2	-	20	30	50	25	-	125
	ESC	Digital Logic Design	4	3	2	-	20	30	50	25	-	125
Vocational Skills Enhancement Course	VSEC	Design Thinking Through Innovation	2	1	2	-	25	-	-	25	-	50
Indian Knowledge System	IKS	Historical Places in and Around Kolhapur District	2	2	-	-	20	30	-	-	-	50
Co-Curricular Activities	CCA	Liberal Learning - I	2	-	4	-	-	-	-	50	-	50
Mandatory Course	MC	Finishing School Training - I	-	3	-	-	50	-	-	-	-	Grade
		Rural/Social Internship	-	-	-	-	-	-	-	50	-	Grade
		Total	22	15	12	1	175	150	200	225	-	650
SEMESTER – II												
Basic Sciences	BSC	Differential Equations & Numerical Techniques	4	3	-	1	20	30	50	25	-	125
	BSC	Applied Chemistry	4	3	2	-	20	30	50	25	-	125
Engineering Science	ESC	Generative AI	4	3	2	-	20	30	50	25	-	125
Ability Enhancement Course	AEC	Professional Communication	2	1	2	-	25	-	-	25	-	50
Co-Curricular Activities	CCA	Liberal Learning - II	2	-	4	-	50	-	-	-	-	50
Program Core Courses	PCC	Data Analytics with Spreadsheet	2	2	-	-	-	-	50	-	-	50
Vocational Skills Enhancement Cours	VSEC	Python Programming	2	1	2	-	25	-	-	25	-	50
Mandatory Course	MC	Capstone Project	-	-	-	-	-	-	-	50	-	Grade
		Finishing School Training - II	-	3	-	-	50	-	-	-	-	Grade
		Total	20	13	12	1	210	90	200	175	-	575

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SCHOOL OF ENGINEERING AND MANAGEMENT
Teaching and Evaluation Scheme from Year 2024-25 (as per NEP-2020)
B. Tech. Data Science Engineering (SEMESTER- III)

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	Contact Hrs			ISE	MSE	ESE	INT	OE/ PoE	
					L	P	T						
1	24DSEU3P01	PCC	Probability & Statistics	3	3	-	-	20	30	50	-	-	100
2	24DSEU3P02	PCC	Data Structures	3	3	-	-	20	30	50	-	-	100
3	24DSEU3P03	PCC	Data Structures Laboratory	1	-	2	-	-	-	-	25	25	50
4	24DSEU3P04	PCC	Programming Lab - I	3	2	2	-	-	-	-	50	50	100
5	24DSEU3M05	MDM-I	Fundamentals of Data Science	2	2	-	-	-	-	50	-	-	50
6	24DSEU3O06	OEC-I \$	Data Science for Engineers	3	3	-	-	20	30	50	-	-	100
7	24DSEU3O07	OEC-I \$	Data Science for Engineers Lab	1	-	2	-	-	-	-	25	-	25
8	24DSEU3F08	CEP/FP	Domain Specific Mini Project	2	-	4	-	-	-	-	25	25	50
9	24DSEU3V09	VEC	Environmental Studies-I	2	2	-	-	-	-	50	-	-	50
10	24DSEU3H10	HSSM	Economics and Management for IT	2	2	-	-	-	-	50	-	-	50
11	24DSEU3D11	AC	Liberal Learning	-	2*	-	-	-	-	-	50*	-	
12	24DSEU3D12	AC	Finishing School Training - III	-	2*	-	-	-	-	-	50*	-	
			Total	22	17	10	0						675

Note:

\$ - Open & Distance Learning

* - Values are not included in total marks

Min. Marks for Passing: 40% of total marks of individual course



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SCHOOL OF ENGINEERING AND MANAGEMENT
Teaching and Evaluation Scheme from Year 2024-25 (as per NEP-2020)
B. Tech. Data Science Engineering (SEMESTER- IV)

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	Contact Hrs			ISE	MSE	ESE	INT	OE/ PoE	
					L	P	T						
1	24DSEU4P01	PCC	Discrete Mathematical Structure	3	3	-	-	20	30	50	-	-	100
2	24DSEU4P02	PCC	Design and Analysis of Algorithm	3	3	-	-	20	30	50	-	-	100
3	24DSEU4P03	PCC	Programming Lab - II	4	2	4	-	-	-	-	50	50	100
4	24DSEU4M04	MDM-II	Data Analysis and Visualization	2	2	-	-	-	-	50	-	-	50
5	24DSEU4O05	OEC-II	Introduction to Data Engineering	2	2	-	-	-	-	50	-	-	50
6	24DSEU4A06	AEC	Soft Skill	2	-	4	-	-	-	-	25	25	50
7	24DSEU4N07	VSEC	Web Application Development - I	2	1	2	-	-	-	-	25	25	50
8	24DSEU4V08	VEC	Environmental Studies-II	2	2	-	-	-	-	50	-	-	50
9	24DSEU4H09	HSSM	Leveraging Technologies for Project Management and Startup Ventures	2	1	2	-	-	-	-	50	-	50
10	24DSEU4D10	AC	Liberal Learning	-	2*	-	-	-	-	-	50*	-	
11	24DSEU4D11	AC	Finishing School Training - IV	-	2*	-	-	-	-	-	50*	-	
			Total	22	16	12	0						600

HONORS

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	L	P	T	ISE	MSE	ESE	INT	OE/	
3	23DSEU4Z01	Honors	Fundamentals of Cyber Security	3	3	-	-	20	30	50	-	-	100
4	23DSEU4Z02	Honors	Fundamentals of Cyber Security	1	-	2	-	-	-	-	25	-	25

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SCHOOL OF ENGINEERING AND MANAGEMENT
Teaching and Evaluation Scheme from Year 2023-24 (as per NEP-2020)
B. Tech. Data Science Engineering (SEMESTER- V)

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	Contact Hrs			ISE	MSE	ESE	INT	OE/ PoE	
					L	P	T						
1	23DSEU5P01	PCC	Operating Systems	3	3	-	-	20	30	50	-	-	100
2	23DSEU5P02	PCC	Computer Network	2	1	2	-	-	-	-	25	25	50
3	23DSEU5P03	PCC	Database Engineering	3	3	-	-	20	30	50	-	-	100
4	23DSEU5P04	PCC	Database Engineering Laboratory	1	-	2	-	-	-	-	25	25	50
5	23DSEU5P05	PCC	Programming Lab - III	3	2	2	-	-	-	-	50	50	100
6	23DSEU5M06	MDM-III	Data Mining and Warehousing	3	3	-	-	20	30	50	-	-	100
7	23DSEU5M07	MDM-III	Data Mining and Warehousing Laboratory	1	-	2	-	-	-	-	25	-	25
8	23DSEU5E08	PEC-I	Information Security	3	3	-	-	20	30	50	-	-	100
9	23DSEU5E09		Theory of Computation										
10	23DSEU5E10		Generative AI										
11	23DSEU5E11	PEC-I	Information Security Lab	1	-	2	-	-	-	-	25	-	25
12	23DSEU5E12		Theory of Computation Lab										
13	23DSEU5E13		Generative AI Lab										
14	23DSEU5O14	OEC-III	Business Analytics using Python	2	2	-	-	-	-	50	-	-	50
15	23DSEU5D15	AC	Liberal Learning	-	2*	-	-	-	-	-	50*	-	
16	23DSEU5D16	AC	Finishing School Training - V	-	2*	-	-	-	-	-	50*	-	
Total				22	17	10	-						700

HONORS

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	L	P	T	ISE	MSE	ESE	INT	OE/	
1	23DSEU5Z01	Honors	Data Security Systems	3	3	-	-	20	30	50	-	-	100
2	23DSEU5Z02	Honors	Data Security Systems Lab	1	-	2	-	-	-	-	25	-	25

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Teaching and Evaluation Scheme from Year 2023-24 (as per NEP-2020)
B. Tech. Data Science Engineering (SEMESTER- VI)

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	Contact Hrs			ISE	MSE	ESE	INT	OE/ PoE	
					L	P	T						
1	23DSEU6P01	PCC	Data Engineering	3	3	-	-	20	30	50	-	-	100
2	23DSEU6P02	PCC	Machine Learning	3	3	-	-	20	30	50	-	-	100
3	23DSEU6P03	PCC	Data Engineering Lab	1	-	2	-	-	-	-	25	25	50
4	23DSEU6P04	PCC	Machine Learning Lab	1	-	2	-	-	-	-	25	-	25
5	23DSEU6P05	PCC	Data Analytics Tools	2	1	2	-	-	-	-	25	25	50
6	23DSEU6M06	MDM-IV	Fundamentals of Business Intelligence	2	2	-	-	-	-	50	-	-	50
7	23DSEU6E07	PEC-II	Cyber Security and Forensics	3	3	-	-	20	30	50	-	-	100
8	23DSEU6E08		Software Architecture										
9	23DSEU6E09		Internet of Things										
10	23DSEU6E10	PEC-II	Cyber Security and Forensics Tutorial	1	-	-	1	-	-	-	25	-	25
11	23DSEU6E11		Software Architecture Tutorial										
12	23DSEU6E12		Internet of Things Tutorial										
13	23DSEU6E13	PEC-III	Blockchain Technology	3	3	-	-	20	30	50	-	-	100
14	23DSEU6E14		Cloud Computing										
15	23DSEU6E15		High Performance Computing										
16	23DSEU6E16	PEC-III	Blockchain Technology Lab	1	-	2	-	-	-	-	25	-	25
17	23DSEU6E17		Cloud Computing Lab										
18	23DSEU6E18		High Performance Computing Lab										
19	23DSEU6N19	VSEC	Web Application Development - II	2	1	2	-	-	-	-	25	50	75
20	23DSEU6D20	AC	Liberal Learning	-	2*	-	-	-	-	-	50*	-	
21	23DSEU6D21	AC	Finishing School Training - VI	-	2*	-	-	-	-	-	50*	-	
Total				22	16	10	1						700

HONORS

Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	L	P	T	ISE	MSE	ESE	INT	OE/	
1	23DSEU6Z01	Honors	Ethical Hacking	3	3	-	-	20	30	50	-	-	100
2	23DSEU6Z02	Honors	Ethical Hacking Lab	1	-	2	-	-	-	-	25	-	25

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