

Zagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra(GoM)

- Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. A.Y 2019-20 Among Top 250 Colleges in the Country where NIRF India Ranking 2020 in Engineering College category ISO 9001:2015 Certified Programmes Accredited by National Board of Accreditation (NBA), New Delhi
- Institute Accredited by National Assessment and Accreditation Council (NAAC), Bangalore

F.Y. Semester –I B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course		Teaching	g Scheme (A	cademic)		Examination scheme (Academic)					
	Des	scription	Mod	les of Teacl	hing / Learn	ing / Weighta	ige	Modes	of Continu	ous Assessment / I	Evaluation		
				Hours	s Per Week			Instruction Based (100)		Practical/ Capstone	Term Work		
Sr.	Course Code	Course Title	W. D. W.				50	50	project / Oral/ Presentation (25)	(25)	Total		
No.	Course coue	Course Title		Per Week		Contact	Credits	Continuous					
			Instruction Based Practice	Tutorial	Practical/ Capstone Project	Hours	Credits	Assessment (CA)	ESE	PR / OR	TW		
	General Ed	ucation Component											
1	BV-AIDS-GE11	IT Foundation & Programming Concepts	3	-	-	3	3	50	50	-	-	100	
2	BV-AIDS-GE12	Programming in C	3	-	-	3	3	50	50	-	-	100	
3	BV-AIDS-GE13	Presentation and Communication Skills	2	-	-	2	2	50	50	25(OR)	25	150	
	Non Credit Course												
1	1 BV- AIDS-NC11 Induction Training					2	-				25	25	
		Total	10	-	-	10	8			Tota	l marks	375	
	Skill (Component											
5	BV-AIDS-SC11	C Programming Lab			4	4	2	-	-	25(PR)	25	50	
6	BV- AIDS-SC12	Computer Assembling & Peripheral Installation	-	-	2	2	1	-	-	25(Oral)	25	50	
8	BV- AIDS-SC13	Office Automation		-	8	8	4	-	-	25(PR)	25	50	
9	BV- AIDS-SC14	Data Associate QP (SSC/Q0401)	2	-	6	8	5	-	-	-	50	50	
		Total	2	-	20	22	12	Total marks				200	
		Total	12	-	20	32	20	Grand Total marks				575	



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F.Y. Semester –II B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course			ng Scheme (A	cademic)		Examination scheme (Academic)					
	De	scription	Mo	des of Tead	ching / Learn	ing / Weight	age	Modes	of Continu	ous Assessment / l	Evaluation		
				Hou	rs Per Week			Instruction Based Practice (100)		Practical/ Capstone	Term Work		
Sr.	Course Code	Course Title						50	50	project / Oral/ Presentation (25)	(25)	Total	
No.	course coue	Course Title		rs Per Wee		Contact	Credits	Continuous					
			Instruction Based Practice	Tutorial	Practical/ Capstone Project	Hours		Assessment (CA)	ESE	PR / OR	TW		
	General Ed	ucation Component											
1	BV-AIDS-GE21	Database Management System	3	-	-	3	3	50	50	-	-	100	
2	BV-AIDS-GE22	Data Structures	3	-	-	3	3	50	50	-	-	100	
3	BV-AIDS-GE23	Aptitude Building and Soft Skill Development	2	-	-	2	2	50	50	25(OR)	25	150	
		Total	8	-	-	8	8	Total marks				350	
	Skill	Component											
1	BV-AIDS-SC21	SQL for Data Analysis	-	-	2	2	1	25(PR) 25			50		
2	BV-AIDS-SC22	Data Structures Lab	-	-	2	2	1			25(PR)	25	50	
3	BV-AIDS-SC23	Web Development – Front End	-	-	6	6	3			25(PR)	25	50	
4	BV-AIDS-SC24	Internship			4	4	2			-	50	50	
5	BV-AIDS-SC25	Data Associate QP (SSC/Q0401)	2	-	6	8	5	-	100	-	-	100	
		Total	2	-	20	22	12			То	tal marks	300	
		Total	10		20	30	20			Grand To	tal marks	650	

Dr. Harshali Patil	Dr. Sheetal Rathi	Dr. Kamal Shah
BOS Chairman	Dean Academics	Vice Principal



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S.Y. Semester –III B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course		Teachir	ng Scheme (A	cademic)		F	Examinatio	on scheme (Acader	nic)	
	De	escription	Mo	des of Tead	ching / Learn	ing / Weight	age	Modes	of Continu	ous Assessment / l	Evaluation	
				Hou	rs Per Week			Instruction Based Practice (100)		Practical/ Capstone	Term Work	
Sr.	Course Code	Course Title						50	50	project / Oral/ Presentation (25)	(25)	Total
No.		Course Title		rs Per Wee		Contact	Credits	Continuous				
			Instructio n Based Practice	Tutorial	Practical/ Capstone Project	Hours	Creates	Assessment (CA)	ESE	PR / OR	TW	
	General Ed	ucation Component										
1	BV-AIDS-GE31	Python Programming	3	-	-	3	3	50	50	-	-	100
2	BV-AIDS-GE32	Probability and Statistics for Data Analysis	2	-	-	2	2	50	50	-	-	100
3	BV-AIDS-GE33	Indian Knowledge System	3	-	-	3	3	50	50	-	-	100
		Total	8	-	-	8	8	8 Total marks			l marks	300
	Skill Component											
5	BV-AIDS-SC31	Python Programming Lab	-	-	2	2	1	-	-	25(PR)	25	50
6	BV-AIDS-SC32	Linux Operating System Lab	-	-	2	2	1	-	-	25(PR)	25	50
7	BV-AIDS-SC33	Business Analytics with Excel	-	-	4	4	2	-	-	25(PR)	25	50
8	BV-AIDS-SC34	Python for Data Analysis Lab			4	4	2			25(PR)	25	50
9	BV-AIDS-SC35	Business Intelligence Analyst QP (SSC/Q8102)	2	-	8	10	6	-	-	-	50	50
		Total								To	tal marks	250
			2	-	20	22	12					
		Total	10		20	30	20					550



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S.Y. Semester –IV B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course		Teaching	g Scheme (A	cademic)		E	xaminatio	n scheme (Acader	nic)	
	De	scription	Mo	des of Teacl	hing / Learn	ing / Weight	age	Modes	of Continu	ous Assessment / l	Evaluation	
				Hours	s Per Week			Instruction Based Practice (100)		Practical/ Capstone	Term Work	
Sr.	Course Code	Course Title						50	50	project / Oral/ Presentation (25)	(25)	Total
No.		Course Title		s Per Week		Contact	Credits	Continuous				
			Instruction Based Practice	Tutorial	Practical/ Capstone Project	Hours		Assessment (CA)	ESE	PR / OR	TW	
	General Ed	ucation Component										
1	BV-AIDS-GE41	R Programming	3	-	-	3	3	50	50	-	-	100
2	BV-AIDS-GE42	Machine Learning	3	-	-	3	3	50	50	-	-	100
3	BV-AIDS-GE43	Software Engineering	2	-	-	2	2	50	50	-	-	100
		Total	8	-	-	8	8			Tota	l marks	300
	Skill (Component										
4	BV-AIDS-SC41	R Programming Lab	-	-	4	4	2	25(PR) 25				50
5	BV-AIDS-SC42	Machine Learning Lab	-	-	4	4	2	-	1	25(PR)	25	50
6	BV-AIDS-SC43	Web Development II- Backend Web Development	-	-	4	4	2	-	ı	25(PR)	25	50
7	BV-AIDS-SC44	Internship			4	4	2			-	50	50
8	BV-AIDS-SC45	Business Intelligence Analyst QP (SSC/Q8102)	2	-	4	6	4	-	100	-	-	100
		Total								То	tal marks	300
			2	-	20	22	12					
		Total	10	-	20	30	20					600



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T.Y. Semester –V B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course		Teachin	g Scheme (A	cademic)		E	Examinatio	n scheme (Acader	nic)	
	Des	scription	Mo	des of Teac	hing / Learn	ing / Weight	age	Modes	of Continu	ous Assessment / I	Evaluation	
				Hou	rs Per Week			Instruction Based Practice (100)		Practical/ Capstone	Term Work	
Sr.	Course Code	Course Title	Hours Per Week Contact					50	50	project / Oral/ Presentation (25)	(25)	Total
No.		304130 1101				Contact	Credits	Continuous				
			Instructio n Based Practice	Tutorial	Practical/ Capstone Project	Hours		Assessment (CA)	ESE	PR / OR	TW	
	General Ed	ucation Component										
1	BV-AIDS-GE51	Natural Language Processing	3	-	-	3	3	50	50	-	-	100
2	BV-AIDS-GE52	Artificial Intelligence	3	-	-	3	3	50	50	-	-	100
3	BV-AIDS-GE53	Data Analytics	2	-	-	2	2	50 50			100	
		Total	8	-	-	8	8	Total marks				300
	Skill (Component										
4	BV-AIDS-SC51	Artificial Intelligence Lab		-	2	2	1	50 50 25(PR) 25				50
5	BV-AIDS-SC52	Data Analytics Lab	-		2	2	1			25(PR)	25	50
6	BV-AIDS-SC53	Natural Language Processing Lab			4	4	2			25(PR)	25	50
7	BV-AIDS-SC54	Data Visualization using Tableau			6	6	3			25(PR)	25	50
8	BV-AIDS-SC55	AI-Data Scientist QP(SSC/Q8104)	2	-	6	8	5				50	50
		Total	3	-	18	22	12	Total marks				250
		Total	11	-	18	30	20			Grand To	tal marks	550



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T.Y. Semester –VI B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course		Teachin	ng Scheme (A	cademic)		F	Examinatio	n scheme (Acader	nic)	
	De	scription	Mo	odes of Teac	ching / Learn	ing / Weight	age	Modes	of Continu	ous Assessment / 1	Evaluation	
				Hou	rs Per Week			Instruction Based Practice (100)		Practical/ Capstone	Term Work	
Sr.	Course Code	Course Title							(25)	Total		
No.	Course coue	Course Title		rs Per Wee		Contact	Credits	Continuous				
			Instructio n Based Practice	Tutorial	Practical/ Capstone Project	Hours	Credits	Assessment (CA)	ESE	PR / OR	TW	
	General Ed	ucation Component										
1	BV-AIDS-GE61	Big Data Analytics	3	-	-	3	3	50	50	-	-	100
2	BV-AIDS-GE62	Cloud Computing	3	-	-	3	3	50	50	-	-	100
3	BV-AIDS-GE63	Deep Learning	2	-	-	2	2	50	50	-	-	100
		Research Methodology	2				2					
		Total	8	-	-	8	8	Total marks			300	
	Skill	Component										
4	BV-AIDS-SC61	Big Data Analytics Lab	-	-	2	2	1			25(PR)	25	50
5	BV-AIDS-SC62	Deep Learning Lab	-	-	2	2	1			25(PR)	25	50
6	BV-AIDS-SC63	AI and Machine learning with Cloud Computing Lab			6	6	3			25(PR)	25	50
7	BV-AIDS-SC64	Database Server Administration Lab			4	4	2				25	25
8	BV-AIDS-SC65	AI-Data Scientist QP(SSC/Q8104)	1	-	8	8	5		100			100
		Total	1	-	22	22	12			To	tal marks	300
		Total	9	-	22	30	20			Grand To	tal marks	400



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Final Year Semester -VII B. Voc (Artificial Intelligence and Data Science) **Choice Based Credit Grading Scheme (CBCGS 2023)** TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

		Course		Teachin	ng Scheme (A	cademic)		F	Examinatio	on scheme (Acader	nic)	
	Des	scription	Mo	des of Teac	ching / Learn	ing / Weighta	age	Modes of Continuous Assessment / Evaluation				
			Hours Per Week Contact					Instruction Based Practice (100)		Practical/ Capstone	Term Work	
Sr.	Course Code	Course Title						50	50	project / Oral/ Presentation (25)	(25)	Total
No.						Contact	Credits	Continuous				
			Instructio n Based Practice	Tutorial	Practical/ Capstone Project	Hours	010010	Assessment (CA)	ESE	PR / OR	TW	
	General Edi	ucation Component										
		Total	0	-	-	0	0			Tota	ıl marks	-
	Skill (
1	BV-AIDS-SC71	Project on Business Intelligence	-	-	8	8	4	-	-	50(OR)	50	100
2	BV-AIDS-SC72	Project on Data Analytics	-	-	8	8	4	-	-	50(OR)	50	100
3	BV-AIDS-SC73	Project on Machine Learning	-	-	8	8	4	-	-	50(OR)	50	100
4	BV-AIDS-SC74	Project on Artificial Intelligence	-	-	8	8	4	-	-	50(OR)	50	100
5	BV-AIDS-SC75	Project on Big Data Analytics	-	-	8	8	4	-	-	50(OR)	50	100
		Total	0	-	40	40	20	Total marks			500	
	I	Total	0	-	40	40	20	Grand Total marks			500	



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Final Year Semester –VIII B. Voc (Artificial Intelligence and Data Science) Choice Based Credit Grading Scheme (CBCGS 2023)

Col	urse Description			Teaching Sch	neme (Academic)				Examina	tion scheme (Academ	ic)	
000	arse bescription		Mode	Modes of Teaching / Learning / Weightage					des of Conti	nuous Assessment / E	valuation	
				Hours Per We	ek			Instruction Base (100)	d Practice	Practical/ Capstone Project	Term Work (50)	T-1-1
Sr.	0							50 50		/Oral/ Presentation (25)		Total
No.	Course Code	Course Title	Hours Per	Week		Contact Hours	Credits	Continuous Assessment	ESE	PR / OR	TW	
			Instruction Based Practice	Tutorial	Practical/ Capstone Project			(CA)				
		Description		Contact Hrs. during the Semester							Non-Grant Term Work (based on the presentatio n and Report)	
1	BV-AIDS -OJT1	On Job Training	-	-	-	600	20		-	100(OR)	200	300

TCET Autonomy Scheme (w.e.f. A.Y. 2023-24)

GE- General Education, S: Skill Component, CA: Continuous Assessment, ESE- End Semester Examination, PR- Practical Examination, TW - Term Work Examination, OR- Oral Examination

• The certification level will lead to Diploma/Advanced Diploma/B.Voc. Degree/B.Voc with Honours in Data Analytics and will be offered by respective affiliating University/Board of Technical education.

• Students may be awarded Level Certificate/Diploma/Advance Diploma/degree as outlined in the table below.

Award	Duration after class XII	Corresponding NSQF Level/OJT
Diploma	1 Year	5
Advanced Diploma	2 Year	6
B.Voc. Degree	3 Year	7



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B.Voc. Degree with Honours	4 Year	OJT	