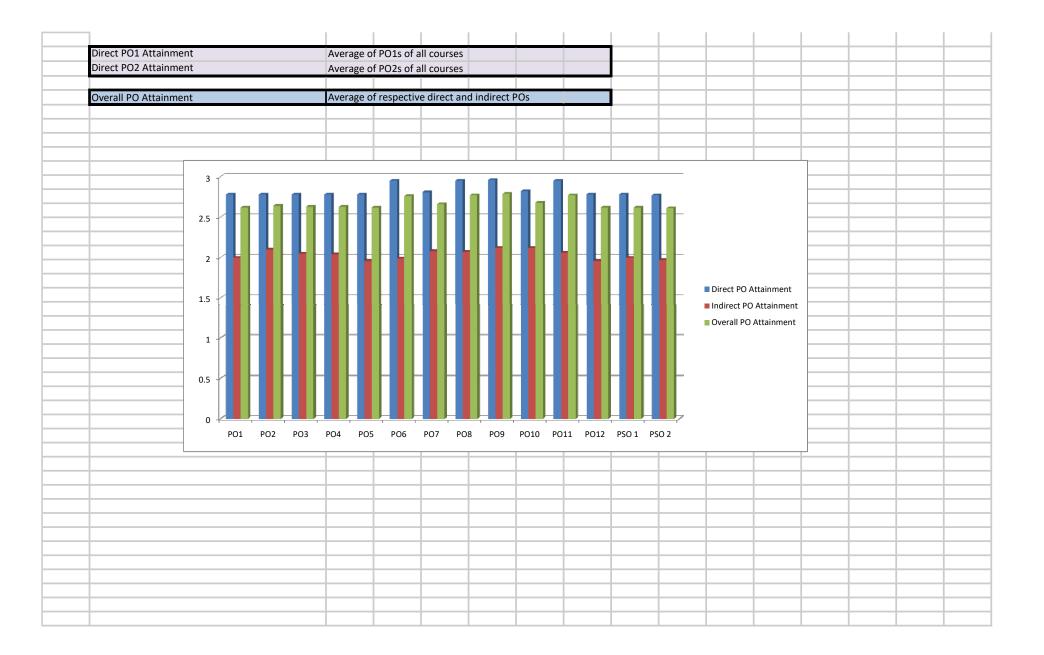
	MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
	(A Govt. Aided UGC Autonomous Institute Affiliated to RGPV, Bhopal)
	NAAC Accredited with A++ Grade
	Department of Information Technology
	Vision
"To crea	te world class quality Engineers and Technocrats capable of providing leadership in all spheres of life and society"
	<u>Mission</u>
To provi	de quality education
<u> </u>	ize and arrange innovative courses / training programs /Workshops in the field of Computer Science & Engineering and Information Technology
<u> </u>	ote research in the fields of Computer Science & Engineering and Information Technology
	Programme Educational Objectives
PEO1	Work productively as Information Technology professional including supportive and leadership roles on multidisciplinary teams.
PEO2	Communicate effectively, recognize and incorporate societal needs and constraints in their professional endeavors with high regard to legal and
DEGA	ethical responsibilities.
PEO3	Engage in life-long learning to remain current in their profession and be ready to undertake challenging problems.
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineeringfundamentals, and an engineering specialization to the solution of complex engineering problems
	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using
PO2	first principles of mathematics, natural sciences, and engineering sciences
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and
PO4	Conduct investigations of complex problems: Use research-based knowledge and researchmethods including design of experiments, analysis and interpretation of data, and synthesis of theinformation to provide valid conclusions
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assesssocietal, health, safety, legal and cultural issues and the consequentresponsibilities relevant to the professional engineering practice
PO7	Environment and sustainability: Understand the impact of the professional engineeringsolutions in societal and environmental contexts, and demonstrate the knowledge of, and needfor sustainable development
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice

PO9	Individual and team work: Function effectively as an individual, and as a member or leaderin diverse teams, and in multidisciplinary settings
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and writeeffective reports and design documentation, make effective presentations, and give and receiveclear instructions
PO11	Project management and finance: Demonstrate knowledge and understanding of theengineering and management principles and apply these to one's own work, as a member and Leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change
PSO1	Students are able to exhibit analytical & logical skills and apply knowledge of Information Technology.
PSO2	Students are able to identify, formulate and resolve real life/social problems by using current development in the field of information.

												Μ						ogy &	Scien	ce, Gv	valio	r														
						0	Attainn	oont					Depai		of Info Matrix (nology					1					PO Atta	inmont	(Jan-Jur	2023					
		Branch	Course			со	со	Overall						00-0		Jan-Jul	16 2023)											r o Alla	Innent	Jan-Jul	10 2023					
No.	Faculty Name	& Semest er	Code & Name		Course Outcomes	direct attainme nt levels	indirect attainme nt levels	CO attainme nt	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P011	PO12	PSO 1	PSO 2	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P011	PO12	PSO 1	PSO
				CO1	outline the basics of Algorithms and their performance criteria.	1	3	1.4	2	2	3	2	2							1	3	2	2.8	2.8	4.2	2.8	2.8							1.4	4.2	2.8
	Dr.		Data	CO2	explain the working of linear/Non Linear data structures.	2	3	2.2	1	3	2	3	1								1	3	2.2	6.6	4.4	6.6	2.2								2.2	6.6
ı ،	Abhilas	пп	Structur es	CO3	identify the appropriate data structure to solve specific problems.	2	3	2.2	2	2	3	1	2					1		1	2	2	4.4	4.4	6.6	2.2	4.4					2.2		2.2	4.4	4.
	h Sonker		(216022	CO4	analyze the performance of various Data Structures & their applications.	1	3	1.4	1	2	1	2	2		1			1			3	2	1.4	2.8	1.4	2.8	2.8		1.4			1.4			4.2	2.8
			1)	CO5	evaluate the time/space complexities of various data structures & their applications.	1	3	1.4	2	1	2	2	2								2	1	2.8	1.4	2.8	2.8	2.8								2.8	1.
				CO6	design the optimal algorithmic solutions for various problems.	1	3	1.4	2 Data Strue	2	1	2	1								2	1	2.8	2.8	1.4	2.8	1.4		1.4			1.0		18	2.8	1.
Т				CO1	outline the basics of Algorithms and their performance criteria.	3	3	3	2	2	3	2	2							1	3	2	6	6	9	6	6		1.4			1.0		3	9	6
			Data	CO2	explain the working of linear/Non Linear data structures.	3	3	3	1	3	2	3	1								1	3	3	9	6	9	3								3	Ş
2	Dr. Abhilas	пп	Structur	CO3	identify the appropriate data structure to solve specific problems.	3	3	3	2	2	3	1	2					1		1	2	2	6	6	9	3	6					3		3	6	e
- I	h Sonker		es (216022	CO4	analyze the performance of various Data Structures & their applications.	3	3	3	1	2	1	2	2		1			1			3	2	3	6	3	6	6		3			3			9	e
			1 LAB)	CO5	evaluate the time/space complexities of various data structures & their applications.	3	3	3	2	1	2	2	2								2	1	6	3	6	6	6								6	3
				CO6	design the optimal algorithmic solutions for various problems.	3	3	3	2	2	1	2	1								2	1	6	6	3	6	3								6	3
Т				CO1	define basics syntax and features of python	3	3	3	2	2	LAB)	2	2				1	1		1	1	2	6	3 6	3	3 6	3 6		3			3		3	3	6
	Dr.		Python	CO2	programming language solve computational problem using python	3	3	3	1	3	2	3	1								1	1	3	9	6	9	3								3	3
3	Dhananj	IT (II)	Progra mming	CO3	take part in online coding platforms.	2.9	3	2.9	2	2	3	1	2					1		1	2	2	5.8	5.8	8.7	2.9	5.8					2.9		2.9	5.8	5.
	ay Bisen		(216022 2)	CO4 CO5	inspect the python program for errors. design a program using the features of object	3	3	3	1 2	2	1 2	2	2		1			1			2	2	3	6 3	3	6	6		3			3			6	6
			-″	CO6	oriented concept. construct the python code for real world	3	3	3	2	2	1	2	1								2	1	6	6	3	6	3							—	6	3
_					problem using the libraries.			P	ython Progr	ramming (21	60222)												2.98	2.98	2.98	2.99	2.98		3			2.95		2.95	2.98	2.9
				CO1 CO2	apply basic programming concepts. develop algorithms and flowchart for a given	3	3	3	2	2	3	2	2							1	1	2	6	6 9	9	6 9	6 3							3	3	6
	Dr.		Python - Progra	CO3	problem. illustrate the concepts of procedural	3	3	3	2	2	3	1	2					1		1	2	2	6	6	9	3	6					3		3	6	
4	Dhananj ay	IT (II)	mming LAB	CO4	programming. implement the concepts of object oriented	3	3	3	1	2	1	2	2		1			1			2	2	3	6	3	6	6		3			3			6	e
	Bisen		(216022 2)	CO5	design suitable programming solutions using procedural/object oriented programming	3	3	3	2	1	2	2	2								2		6	3	6	6	6								6	
			<i>-</i> /	CO6	paradigms. develop computer programs to solve real world	3	3	3	2	2	1	2	1								2	1	6	6	3	6	3								6	3
					problems.			Pyt	hon Program	nming LAB (2160222)										-		3	3	3	3	3		3			3		3	3	3
			Data	CO1	demonstrate the concepts of different types of database system. apply relational algebra concepts to design	3	3	3		2		2								2	2			6		6								6	6	
<u>ا</u>	Dr. Bhagat		Base Manage	CO2	apply relational algebra concepts to design database system. make use of queries to design and access	2.4	3	2.5		2		2								2	2			5		5								5	5	└──
5	Singh Raghuv	IT (II)	ment System	CO3	database system. analyze the evaluation of transaction processing	3	2.8	3		2		2								2				6		6								6	-	⊢
l.	anshi		(216022	CO4 CO5	and concurrency control determine the normal form of the relation.	3	2.9 2.8	3	2		3	2	2	1 2	1 2	1	1 2	2	2	2	2		6		9	6	6	3	3	3	3	6	6	6 6	6 9	⊢
			3)	CO6	design a ER diagram/database system for a real world application.	3	3	3	3		3	2	2	2	2	2	2	2	2	2	1		9		9	6	6	6	6	6	6	6	6	6	3	
				C01	demonstrate the concepts of different types of	3	3	Data I 3	Base Manag	ement Syster 2	a (2160223)	2								2	2		3	2.83 6	3	2.92 6	3	3	3	3	3	3	3	2.92 6	2.9 6	
			Data Base	C01	database system. apply relational algebra concepts to design	3	3	2.5		2		2								2	2	$\left \right $		5		5								5	5	\vdash
_ i	Dr. Bhagat		Manage ment	CO2	database system. make use of queries to design and access	3	2.8	3		2		2								2	2			6		6								6	5	⊢
	Singh Raghuv	IT (II)	System LAB	CO4	database system. analyze the evaluation of transaction processing	3	2.0	3	2	-	3	2	2	1	1	1	1	2	2	2	2		6	-	9	6	6	3	3	3	3	6	6	6	6	—
	anshi		(216022	CO5	and concurrency control determine the normal form of the relation.	3	2.8	3	2		3	2	2	2	2	2	2	2	2	2	3		6		9	6	6	6	6	6	6	6	6	6	9	
			3)	CO6	design a ER diagram/database system for a real world application.	3	3	3	3		3	2	2	2	2	2	2	2	2	2	1		9		9	6	6	6	6	6	6	6	6	6	3	
Т	1			CO1	Recall the basic building blocks of computer	3	3	Data Bas	e Managem	ent System I	AB (216022	3)									2		3	<u>2.83</u> 9	3	<u>2.92</u> 6	3	3	3	3	3	3	3	2.92	2.9 6	
			Comput	CO2	Architecture. Compare different memories.	3	3	3		2		2									2			6		6									6	
	Dr.		er System	CO3	Apply the concept of memory mapping, multiprocessor and pipelining in solving real	3	3	3		2		2												6		6										1
	lookala Venu	IT (II)	Organiz ation	CO4	world problems. Analyze various modes of Input-Output data transfer	2.5	3	2.6	2	3	3	2	5	1	1	1					2	2	5.2	7.8	7.8	5.2	13	2.6	2.6	2.6					5.2	5.
			(216022 4)	CO5	Evaluate the arithmetic related to the number system.	3	3	3	2	3	3	3	2	2	2	2					3	2	6	9	9	9	6	6	6	6					9	
				CO6	Develop the skill of writing low level programming.	2.6	3	2.7	3	3	3	2	2	2	2	2					1	2	8.1	8.1	8.1	5.4	5.4	5.4	5.4	5.4					2.7	5
T				664	Explore various display devices and	3		Comp 3	uter System 2	Organizatio 1	n (2160224)			3	3	2	1	1		3	3	3	2.76	2.87	2.77	2.89	2.71	2.8	2.8 9	2.8	3	3		9	2.89	2.
			Comput	CO1	applications of computer graphics. Illustrate various scan conversion techniques		3					2	2	3	3	2		1				3	9	3		6	6	9	9	6		3			9	F
			er Graphic	CO2	like line, circle, curve and shape drawing algorithms.	3	3	3	3	3	3	3	3				3		3	3	3		9	9	9	9	9				9		9	9	9	
в	Ms. Bulbul	IT (IV)	s and Multime	CO3	Apply 2-dimensional, 3-dimensional transformations and projections on images.	2.8	3	2.8	3	3	3		3	3		2	1			3	3	1	8.4	9	9		9	9		6	3			9	9	:
	grawal		dia	CO4	Classify methods of image clipping and various algorithms for line and polygon clipping.	3	3	3	3	3	3	3	3						3	3	1		9	9	9	9	9						9	9	3	
			(160411)	CO5	Apply appropriate filling algorithms, hidden	2	3	2.2	3	3	2	2	3		İ	1	2	1		1	2	2	6.6	9	6	6	9	3		3				3	6	6

				CO6	Summarize various color models, shading methods and multimedia system.	2.4	3	2.5	3	3	3	3	3	3	1	2	3	1	2	3	2	2	7.5	9	9	9	9	9	3	6	9	3	6	9	6	6
	1	1	-	C01	Understand the basic concepts of computer	3		Comput	ter Graphics	and Multim	edia (160411) 3	2		1		1		.		3		9	<u>3</u> 9	<u>3</u> 9	3 9	3 6	3	3	3	3	3	3	<u>3</u> 9	<u>3</u> 9	3
			Comput	C01	graphics. Demonstrate scan conversion problems using	-	3	3	3	3	3			1	1	1			1	3	-	1	9	9	9	9	9	3 9	3	3	9		3	9		_
	Ms.		er Graphic		programming language. Implement the concepts of geometric	3	3	3	3	3	3	3	3	3			3			3	3	2	-		-			-			-			-	9	6
9	Bulbul	IT (IV)	a and	CO3	transformation of 2D and 3D objects.	3	3	3	3	3	3	3	3	2			2		1	2	3	3	9	9	9	9	9	6			6		3	6	9	9
	Agrawa	ıl	dia LAB	C04	Apply clipping and filling techniques for modifying an object. Understand the practical implementation of	3	3	3	3	3	3	3	3	2	1		2			3	2	2	9	9	9	9	9	6	3		6			9	6	6
			(160411	CO5	modelling and rendring.	3	3	3	3	3	3	3	3	2	1		2	1		3	3	3	9	9	9	9	9	6	3		6	3		9	9	9
			,	CO6	Demonstrate the concept of viewing of 2D objects.	3	3	3	3	3	3	3	3	3	1	1		1	2	2	2	1	9	9	9	9	9	9	3	3		3	6	6	6	3
	<u> </u>	1	T	C01	explain the fundamental concepts of computer	2.8	3	2.9	Graphics ar	1d Multimed	a LAB (1604	2							- 1	2	2		3	5.8	3	3 5.8	3	3	3	3	3	3	3	3 5.8	3 5.8	3
				CO2	network. illustrate the basic taxonomy & terminologies	2.0	3	2.3		2		2								2	2			4.6		4.6								4.6	4.6	<u> </u>
			Comput er	C02	of computer network. identify various parameter for affecting the	3		3		2		2								2	2		_	6		4.0							<u> </u>	4.0	4.0	
10	Dr. Vibha	IT (IV)	Networ	CO3 CO4	performance of computer network. analyze the concepts of communication using	2.2	3		2	2	3	2			1	1	1						4.6	0		4.6	4.0		2.3			4.6	4.0	4.6	4.6	<u> </u>
	Tiwari	. ,	/ ks (160413		various laver of OSI model. evaluate the performance of computer network		3	2.3					2	1			<u> </u>	2	2	2	2				6.9		4.6	2.3		2.3	2.3		4.6			
)	CO5	in congestion and Internet. design the network environment and	2.9	3	2.9	2		3	2	2	2	2	2	2	2	2	2	3		5.8		8.7	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	8.7	
				CO6	applications for implementation of computer networking concept.	3	3	3	3		3	2	2	2	2	2	2	2	2	2	1		9		9	6	6	6	6	6	6	6	6	6	3	
		-		-	I am able to define the concepts of finite		-		Computer !	Networks (16	0413)												2.77	2.73	2.73	2.73	2.73	2.82	2.82	2.82	2.82	2.73	2.73	2.73	2.67	
				C01	automata and context free grammar.	1	3	1.4	2	2	3	2	2							1	3	2	2.8	2.8	4.2	2.8	2.8							1.4	4.2	2.8
		1	Compile	CO2	I am able to build the concept of working of compiler.	1	3	1.4	1	3	2	3	1								1	3	1.4	4.2	2.8	4.2	1.4								1.4	4.2
	Dr. Abhilas		r	CO3	I am able to examine various parsing techniques and their comparison.	2	3	2.2	2	2	3	1	2					1		1	2	2	4.4	4.4	6.6	2.2	4.4					2.2		2.2	4.4	4.4
11	h Sonker	* IT (VI)) Design (160611	CO4	I am able to compare various code generation and code optimization techniques.	2	3	2.2	1	2	1	2	2		1			1			3	2	2.2	4.4	2.2	4.4	4.4		2.2			2.2			6.6	4.4
	Sourcer	1)	CO5	I am able to analyze different tools and	1	3	1.4	2	1	2	2	2								2	1	2.8	1.4	2.8	2.8	2.8								2.8	1.4
				CO6	techniques for designing a compiler. I am able to design various phases of compiler.	1	3	1.4	2	2	1	2	1								2	1	2.8	2.8	1.4	2.8	1.4								2.8	1.4
							-		Compiler	Design (1600	11)		-								-	-	1.64	1.67	1.67	1.6	1.72		2.2			2.2		1.8	1.71	1.69
				C01	discuss the knowledge of patterns, tokens & regular expressions in programming for	3	3	3	2	2	3	2	2							1	3	2	6	6	9	6	6							3	9	6
	Dr.		Compile	CO2	nroblem solving. design and Implement various parsing	3	3	3	1	3	2	3	1								1	3	3	9	6	9	3								3	9
12	Abhilas	IT (VI)	Design	C02	techniques. operate different types of compiler tools.	3	3	3	2	2	3	1	2					1		1	2	2	6	6	9	3	6					3		3	6	6
	h Sonker		LAB (160611	CO4	develop programs for implementing code optimization techniques	3	3	3	1	2	1	2	2		1			1			3	2	3	6	3	6	6		3			3			9	6
)	CO5	build symbol table and intermediate codes.	3	3	3	2	1	2	2	2								2	1	6	3	6	6	6								6	3
				CO6	demonstrate the functionalities of different phases of the compilation process.	3	3	3	2	2	1	2	1								2	1	6	6	3	6	3								6	3
	1	T	1	C01	explain various basic concept of data mining	3	3	3	2	2	3	2	2		<u> </u>				1	1	3	2	6	6	9	6	6		3			3		3	<u>3</u> 9	6
				C02	and data warehousing. classify various database systems and data	3	3	3	1	3	2	3	1								1	3	3	9	6	9	3							Ŭ	3	9
	Dr.		Data	<u> </u>	models / schemas of data warehouse. compare various methods for storing &			<u> </u>																												<u> </u>
13		IT (VI)) Mining (160612	CO3	retrieving data from different data sources/repository.	2	3	2.2	2	2	3	1	2					1		1	2	2	4.4	4.4	6.6	2.2	4.4					2.2		2.2	4.4	4.4
	Rajpoot	t	(CO4	apply data mining techniques for knowledge		3	3	1	2	1	2	2		1			1			3	2	3	6	3	6	6		3			3			9	6
					extraction from large amount of data.	3																													5	2.5
				CO5	analyze data for knowledge discovery & prediction using appropriate algorithms.	2.3	3	2.5	2	1	2	2	2								2	1	5	2.5	5	5	5								-	
				CO5 CO6			3	2.5 3	2	1 2	2	2	2								2	1	5	2.5 6	5 3	5 6	5 3								6	3
	 			C06	analyze data for knowledge discovery & nrediction using appropriate algorithms, develop real world application using data mining techniques.	2.3 3	3	3	2 Data M	2 ining (16061	1	2	1								2	1	6 2.74	6 2.83	3 2.72	6 2.85	3 2.74		3			2.6		2.6	2.8	2.81
				CO6 CO1	analyze data for knowledge discovery & nrediction using anoronriate alworithms. develop real world application using data mining techniques. write, test, and debug simple Data mining models	2.3 3 3	3	3	2 Data M 2	2 ining (16061 2	1 2) 3	2	1							1	2	1	6 2.74 6	6 2.83 6	3 <u>2.72</u> 9	6 2.85 6	3 2.74 6		3			2.6		2.6 3	2.8 9	2.81 6
	Dr.		Data	CO6 CO1 CO2	analyze data for knowledge discovery & medicition using amorprinte alexicitim. develop real world application using data mining techniques. write, test, and debug simple Data mining models. solve computational problem using Weaka tool, familiar with basics syntax and features of	2.3 3 3	3 3 3	3 3 3	2 Data M 2 1	2 ining (16061 2 3	1 2) 3 2	2 2 3	1 2 1							1	2 3 1	1 2 3	6 2.74 6 3	6 2.83 6 9	3 2.72 9 6	6 2.85 6 9	3 2.74 6 3		3			2.6			2.8 9 3	2.81 6 9
14	Vikram		Data Mining) LAB	CO6 CO1 CO2 CO3	analyze data for kanowledge tincovery & metricitien units amovariate absorbitms. develop real world application using data mining techniques. write, toet, and debug simple Data mining models. sidve computational problem using Weaka tool, familiar with basicy systax, and factures of weaka language. use Weaka lists, tuples, dictionaries for	2.3 3 3 3 3 3	3 3 3 3	3 3 3 3	2 Data M 2 1 2	2 ining (16061) 2 3 2	1 2) 3 2 3	2 2 3 1	1 2 1 2					1		1	2 3 1 2	1 2 3 2	6 2.74 6 3 6	6 2.83 6 9 6	3 2.72 9 6 9	6 2.85 6 9 3	3 2.74 6 3 6		3			2.6		2.6 3 3	2.8 9 3 6	2.81 6 9 6
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14	Vikram		Data Mining LAB (160612	CO6 CO1 CO2 CO3 CO4 CO5	analyze data for kanowledge dinevery & erecticien units amortaine almostratims. develop real world application using data mining techniques. write, test, and debug simple Data mining models were computational problem using Weaks tool. formiliar with basics syntax and features of a starbal language. we Weaks hists, tuples, dictionaries for representing compound data. design a programs utilizing the features of Chastrican Alexentime.	2.3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3	3 3 3 3 3 3 3	2 Data M 2 1 2 1 2 1 2	2 ining (16061) 2 3 2 2 1	1 3 2 3 1 2	2 2 3 1 2 2	1 2 1 2 2 2 2		1					1	2 3 1 2 3 2	1 2 3 2 2 1	6 2.74 6 3 6 3 6 3	6 2.83 6 9 6 6 6 3	3 2.72 9 6 9 3 6	6 2.85 6 9 3 6 6 6	3 2.74 6 3 6 6 6 6		3						2.8 9 3 6 9 6	2.81 6 9 6 6 3
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14	Vikram		Data Mining LAB (160612)	CO6 CO1 CO2 CO3 CO4 CO5 CO6	analyze data for kanowledge dinewery & metrolician units amornarias alexitims. develop real world application using data mining techniques. write, test, and debug simple Data mining models solve computational problem using Weaka tool. familiar with basics systex and features of meaka hungarge. we Weaka husts, taples, dicidantis for representing compound data. design a programs utilizing the features of Clusterion Alexiteritims. utilize some of the libraries available for solving problems.	2.3 3 3 3 3 3 3 3 3 2 3 2 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3	2 Data M 2 1 2 1 2 1 2	2 ining (16061 2 3 2 2 1 2 1 2 ng LAB (160	1 3 2 3 1 2	2 2 3 1 2 2 2 2 2	1 2 1 2 2 2 2							1	2 3 1 2 3 2 2 2 2	1 2 3 2 2 1	6 2.74 6 3 6 3 6 3	6 2.83 6 9 6 6 6 3	3 2.72 9 6 9 3 6	6 2.85 6 9 3 6 6 6	3 2.74 6 3 6 6 6 6		3						2.8 9 3 6 9 6	2.81 6 9 6 6 3
14	Vikram Rajpool		Data Mining LAB (160612) Artificial Intellige	C06 C01 C02 C03 C04 C05 C06 C06	analyze data for kanowledge dinewery & metageticine units amovering a denvitims. develop real world application using data mining techniques. write, test, and debug simple Data mining models were computational problem using Weaks tool. formilar with basics syntax and features of a star-basic syntax and features of metagetic syntax and features of the star of the star syntax and the star syntax design a program utilize the features of the star of the star syntax and the star syntax utilize some of the libraries available for solving problems. define basic concepts of AL& ML libustrate various techniques for search and processing	2.3 3 3 3 3 3 3 3 3 3 2 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3	2 Data M 2 1 2 1 2 2 2 Data Mini	2 ining (16061) 2 3 2 2 1	1 2) 3 2 3 1 2 1 2 1 612)	2 2 3 1 2 2 2 2	1 2 1 2 2 2 2		1					1	2 3 1 2 3 2 2	1 2 3 2 2 1	6 2.74 6 3 6 3 6 6 6 6 3	6 2.83 6 9 6 6 6 3	3 2.72 9 6 9 3 6 3 3 6 3 6	6 2.85 6 9 3 6 6 6 6 3 6 6 6	3 2.74 6 3 6 6 6 6		3						2.8 9 3 6 9 6 6 6 6 6	2.81 6 9 6 6 6 3 3 3 3
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15	Vikram Rajpool Dr. Sunil Kumar Shukla Dr.	t . IT (VI) . IT (VI)	Data Mining LAB (160612) Artificial Intellige nce and Machine Learnin g (160613) Artificial Intellige nce and Machine Learnin g Artificial Intellige nce and Machine Learnin g	CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4	mabye data for kanoledge dinewry & medyce data for kanoledge dinewry & merekcien units amorenizat alexitims. develop real world application using data mining rechniques. weite icot, and debug simple Data mining models. Mele computational problem using Weala tool. familiar with basics syntax and features of weither icot, and debug simple Data mining models. Mele computational problem using Weala tool. familiar with basics syntax and features of computational problem is and features of Classificity Acarillum. Mele computational data. There is a syntax and the features of Classificity Acarillum. Meleting the structure of the Ibraries available for solving problems. Meleting the structure of the Ibraries available for solving problems. Meleting the structure of the Ibraries available for solving problems. Meleting the structure of the Ibraries available for solving problems. Instruct various topped on machine learning problems. Ibstrate the concepts of Python programming language and world problems. Ibstrate the concepts of Python programming languages. Capaber different AI and MI, Inchaing Pitch Machine Learning techniques over various replaced different AI and MI, Inchain Iprice. Machine Learning techniques over various techniques over various techniques for knowledge implement various techniques for knowledge Machine Learning techniques over various meleformance canceuters.	2.3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 2.8 3 3 3 4 rtificial In 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2 Data M 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 ining (16061 2 3 2 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3 2 3 1 2 1 2 1 2 2 3 2 2 2 2 2 2 2 3 2 2 2 2	2 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 2 2 2 2 1 1 2 2 3 2 2 3 2 2 2 3 2 2 2 2	2 2 2			1	2	2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 3 1 2 2 2 2 2 2 2 2 2 2 3 3 2 2 2 2 2	1 2 3 2 1 1 1 3 3 3 3 3 3 3 3 3 2 2	6 2.74 6 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 2.83 6 9 6 6 3 3 6 3 6 6 6 5.6 6 6 6 2.95 6 6	3 2.72 9 6 9 3 6 3 6 6 6 8.4 6 6 6 8.4 6 6 9	6 2.85 6 9 3 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3 2.74 6 3 3 6 6 6 3 3 3 6 5.6 9 6 6 9 9 9 9 9	5.6 6 2.95 3	3		3 2.9 3	3 3 6 6	5.6 6 2.95 6 6 6	3 3 6 5.6 6 6 6 6 6 6 6 6 6 6	2.8 9 3 6 9 9 6 6 6 6 6 6 5.6 6 6 6 6 6 6 6 6 6	281 6 9 6 3 3 3 3 3 9 5.6 9 9 9 2.96
15	Vikram Rajpool Dr. Sunil Kumar Shukla Dr. Sunil Kumar	t . IT (VI) . IT (VI)	Data Mining LAB (160612) Artificial intellige nce and Machine (160613) g (160613) g (160613) hachine ce and machine backing hachine ce and hachine hac	CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO4 CO5 CO4 CO5	mabye data for kanoledge dincovery & medician unit anomeriate alteritims. develop real world application using data mining rechniques. write, test, and debug simple Data mining models advec computational problem using Wealas tool. familiar with basics syntax and features of weaka language. use Weala hist, tuples, dictionaries for representing compand data. design a program utilizing the features of representing compand data. design a program utilizing the features of relative the structure of the Bravier available for solving problems. define basic concepts of AL. & ML. Historite vision stypes of machine learning models and the Bravier available for solving problems and techniques for avarch and processing iterative visions types of machine learning models and the thereing structure and the processing hield AL canabed intelligent systems for ashving problems and techniques to avarch and processing hield Ale canabed intelligent systems for ashving manyles visions types of nachule learning models and the turbingers for knowledge representation and processing and systems Artificial land ML tools in Python malysis visions krifterial land ML tools in Python malysis wisions krest tools wisions krifterial land has a krif	2.3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2 Data M 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 ining (16061 2 3 2 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3 2 3 1 2 1 5 1 2 2 2 3 3 2 2 2 2 3 2 2 3 3 2 2 3 3 3 3 3	2 2 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1 2 2 2 2 1 1 2 2 3 2 2 3 2 2 2 3 2 2 2 2	2 2 2		2	1	1 2 2	2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 2 3 2 1 1 3 3 2 3 3 3 2 3 3 2 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	6 2.74 6 3 6 6 6 6 6 6 6 6 6 6 6 6 6	6 2.83 6 9 6 6 3 3 6 3 6 6 6 5.6 6 6 6 2.95 6 6	3 2.72 9 6 9 3 6 3 3 6 6 8.4 6 6 6 6 2.95 6 9 9 9	6 2.85 6 9 3 6 6 6 6 6 9 9 9 5.6 6 6 6 6 6 6 6 6 2.97 7 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3 2.74 6 3 6 6 6 3 3 3 6 5.6 9 9 6 6 2.96 6 9 9 9 6 6 6 6 6 6 7 7 8 7 8 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	5.6 6 2.95 3 6	3	6	3 2.9 	3 3 6 3 6 6 6 6	5.6 6 2.95 6 6 6 6	3 3 6 5.6 6 6 6 6 6 6 6 6 6 6	2.8 9 3 6 9 9 6 6 6 6 6 6 6 6 9 9 2.97 6 6 6 6 9 9 9 9 9 9	281 6 9 6 6 3 3 3 3 9 9 5.6 9 9 9 5.6 9 9 9 5.6 9 9 6 6 6
15	Vikram Rajpool Dr. Sunil Kumar Shukla Dr. Sunil Kumar	t . IT (VI) . IT (VI)	Data Mining LAB (160612) Artificial Intellige nce and Machine Learnin Intellige nce and Artificial Intellige nce and Machine Learnin g LAB (160613)	CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4	analyze data for kanowledge dincovery & methylic and for knowledge dincovery & develop real world application using data mining techniques, write, test, and debug simple Data mining models wite, test, and debug simple Data mining models side computational problem using Weaka tool. familiar visit basics syntax and features of weaka language. use Weaka language, test and the side of the side of the side of the mercenting compound data. design a program utilizing the features of clustering Alexenthema. and the side of the side of the side of the methyle of the side of the side of the methyle of the side of the side of the design a program utilizing the features of the side of the side of the side of the methyle of the side of the side of the side of the methyle of the side of the side of the side of the methyle of the side of the side of the side of the methyle of the side of the side of the side of the methyle of the side of the side of the side of the methyle of the side o	2.3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 2.8 3 3 3 4 rtificial In 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2 Data M 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 ining (16061 2 3 2 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3 2 3 1 2 1 2 1 2 2 3 2 2 2 2 2 2 2 3 2 2 2 2	2 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 2 2 2 2 1 1 2 2 3 2 2 3 2 2 2 3 2 2 2 2	2 2 2			1	2	2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 3 1 2 2 2 2 2 2 2 2 2 2 3 3 2 2 2 2 2	1 2 3 2 1 1 1 3 3 3 3 3 3 3 3 3 2 2	6 2.74 6 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 2.83 6 9 6 6 3 3 6 3 6 6 6 5.6 6 6 6 2.95 6 6	3 2.72 9 6 9 3 6 3 6 6 6 8.4 6 6 6 8.4 6 6 9	6 2.85 6 9 3 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3 2.74 6 3 3 6 6 6 3 3 3 6 5.6 9 6 6 9 9 9 9 9	5.6 6 2.95 3	3		3 2.9 3	3 3 6 6	5.6 6 2.95 6 6 6	3 3 6 5.6 6 6 6 6 6 6 6 6 6 6	2.8 9 3 6 9 9 6 6 6 6 6 6 9 2.97 6 6 6 6 6	281 6 9 6 3 3 3 3 3 9 5.6 9 9 9 2.96
15	Vikram Rajpool Dr. Sunil Kumar Shukla Dr. Sunil Kumar	t . IT (VI) . IT (VI)	Data Mining LAB (160612) Artificial Intellige nce and Machine Learnin Intellige nce and Artificial Intellige nce and Machine Learnin g LAB (160613)	CO6 CO1 CO2 CO3 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO4 CO5 CO6 CO1 CO2 CO3 CO4 CO5 CO4 CO5 CO4 CO5	mabye data for kanoledge dinewry & ureicician unia morrariae aboritom. develop real world application using data mining rechniques. write, ten, and debug simple Data mining models. with computational problem using Weaka tool. familiar with basic syntax and features of weaka language. weaka language. Meaka language. M	2.3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2 Data M 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 ining (16061 2 3 2 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3 2 3 1 2 1 5 1 2 2 2 3 3 2 2 2 2 3 2 2 3 3 2 2 3 3 3 3 3	2 2 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1 2 2 2 2 1 1 2 2 3 2 2 3 2 2 2 3 2 2 2 2	2 2 2		2	1	1 2 2	2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 2 3 2 1 1 3 3 2 3 3 3 2 3 3 2 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	6 2.74 6 3 6 6 6 6 6 6 6 6 6 6 6 6 6	6 2.83 6 9 6 6 3 3 6 3 6 6 6 5.6 6 6 6 2.95 6 6	3 2.72 9 6 9 3 6 3 3 6 6 8.4 6 6 6 6 2.95 6 9 9 9	6 2.85 6 9 3 6 6 6 6 6 9 9 9 5.6 6 6 6 6 6 6 6 6 2.97 7 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3 2.74 6 3 6 6 6 3 3 3 6 5.6 9 9 6 6 2.96 6 9 9 9 6 6 6 6 6 6 7 7 8 7 8 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	5.6 6 2.95 3 6	3	6	3 2.9 	3 3 6 3 6 6 6 6	5.6 6 2.95 6 6 6 6	3 3 6 5.6 6 6 6 6 6 6 6 6 6 6	2.8 9 3 6 9 9 6 6 6 6 6 6 6 6 9 9 2.97 6 6 6 6 9 9 9 9 9 9	281 6 9 6 6 3 3 3 3 9 9 5.6 9 9 9 5.6 9 9 9 5.6 9 9 6 6 6

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			Session:	Jan- Jun	e 2023										
S.No.	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2
1	Data Structures (2160221)	1.64	1.73	1.73	1.67	1.64		1.4			1.8		1.8	1.58	1.76
2	Data Structures LAB (2160221)	3	3	3	3	3		3			3		3	3	3
3	Python Programming (2160222)	2.98	2.98	2.98	2.99	2.98		3			2.95		2.95	2.98	2.98
4	Python Programming LAB (2160222)	3	3	3	3	3		3			3		3	3	3
5	Data Base Management System (2160223)	3	2.83	3	2.92	3	3	3	3	3	3	3	2.92	2.9	
6	Data Base Management System LAB (2160223)	3	2.83	3	2.92	3	3	3	3	3	3	3	2.92	2.9	1
7	Computer System Organization (2160224)	2.76	2.87	2.77	2.89	2.71	2.8	2.8	2.8					2.89	2.77
8	Computer Graphics and Multimedia (160411)	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9	Computer Graphics and Multimedia LAB (160411)	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	Computer Networks (160413)	2.77	2.73	2.73	2.73	2.73	2.82	2.82	2.82	2.82	2.73	2.73	2.73	2.67	
11	Compiler Design (160611)	1.64	1.67	1.67	1.6	1.72		2.2			2.2		1.8	1.71	1.69
12	Compiler Design LAB (160611)	3	3	3	3	3		3			3		3	3	3
13	Data Mining (160612)	2.74	2.83	2.72	2.85	2.74		3	1		2.6		2.6	2.8	2.81
14	Data Mining LAB (160612)	3	3	3	3	3		3			3		3	3	3
15	Artificial Intelligence and Machine Learning (160613)	3	2.95	2.95	2.97	2.96	2.95			2.9	3	2.95	2.95	2.97	2.96
16	Artificial Intelligence and Machine Learning LAB (160613)	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Direct PO Attainment	2.78	2.78	2.78	2.78	2.78	2.95	2.81	2.95	2.96	2.82	2.95	2.78	2.78	2.77
	INDIRECT PO ATTAINMENT	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	P011	P012	PSO 1	PSO 2
Survey 1	(Exit Survey)	2.06	2.26	2.19	2.23	2.26	2.23	2.32	2.19	2.39	2.26	2.23	2.35	2.19	2.23
Survey 2	(Alumni Survey)	2.1	2.1	2.06	2.14	2.01	2.08	2.06	2.12	2.14	2.19	2.26	2.23	2.15	2.1
Survey 3	(Employer Survey)	1.84	1.93	1.9	1.74	1.61	1.66	1.87	1.89	1.82	1.9	1.68	1.31	1.66	1.58
	Indirect PO Attainment	2	2.1	2.05	2.04	1.96	1.99	2.08	2.07	2.12	2.12	2.06	1.96	2	1.97
	PO ATTAINMENT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2
	Direct PO Attainment	2.78	2.78	2.78	2.78	2.78	2.95	2.81	2.95	2.96	2.82	2.95	2.78	2.78	2.77
	Indirect PO Attainment	2.70	2.1	2.05	2.04	1.96	1.99	2.01	2.07	2.12	2.12	2.06	1.96	2.70	1.97
	Overall PO Attainment	2.62	2.64	2.63	2.63	2.62	2.76	2.66	2.77	2.79	2.68	2.00	2.62	2.62	2.61



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous Institute Affiliated to RGPV, Bhopal)

NAAC Accredited with A++ Grade

Department of Information Technology

Batch 2019-2023 Exit Survey

		.J-2023 LA		•	1				1	1				
														PSO2. Students are able to
	PO1.						PO7.				PO11.	PO12.	PSO1. Students are able	identify, formulate and
	Engineeri		PO3.	PO4. Conduct	PO5.		Environme		PO9.		Project	Life-	to exhibit analytical &	resolve real-life/social
	-	PO2.		investigations	Modern	PO6. The	nt and		Individual	PO10.	managem	long	logical skills and apply	problems by using current
Response	U		<u> </u>	of complex	tool	engineer	sustainabili	PO8.	and team		ent and	u o	knowledge of	development in the field of
number	ge:	analysis:	solutions:	problems:		and society:	ty:	Ethics:	work:	ication:	finance:	:	Information Technology.	information technology.
	Adequate	,	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good		3/Good	3/Good	3/Good		Good
				4/Very Good		4/Very Good	•		-				-	Excellent
			2/Average	2/Average				2/Averag			1/Below Av			Below Average
	Moderate		3/Good	3/Good		3/Good	3/Good	3/Good		·	3/Good	3/Good		Good
			-,	5/Excellent		-,	-,						5/Excellent	Excellent
	0,		2/Average	2/Average	2/Average		3/Good	2/Averag			2/Average		•	Good
				4/Very Good	-	4/Very Good	,	·		• •	. 0			Very Good
	-	-	5/Excellent			5/Excellent								Excellent
				4/Very Good		4/Very Good	-	-			3/Good		4/Very Good	Good
			2/Average	2/Average	2/Average		3/Good	2/Averag		4/Very Go			2/Average	Very Good
				4/Very Good	4/Very Go	4/Very Good	4/Very Good	4/Very G	4/Very Go	4/Very Go	4/Very God	4/Very G	4/Very Good	Very Good
12	Substantia	4/Very Go		4/Very Good	4/Very Go	4/Very Good	4/Very Good	4/Very G	4/Very Go	4/Very Go	4/Very God	4/Very G	4/Very Good	Very Good
13	Substantia	3/Good	3/Good	3/Good	4/Very Go	4/Very Good	4/Very Good	5/Excelle	4/Very Go	5/Exceller	4/Very God	5/Excelle	4/Very Good	Very Good
14	Moderate	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	Good
15	Substantia	3/Good	3/Good	4/Very Good	4/Very Go	4/Very Good	4/Very Good	4/Very G	5/Excellen	5/Exceller	4/Very Goo	4/Very G	4/Very Good	Good
16	Moderate	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	2/Average	Average
17	Highly Sul	5/Exceller	5/Excellent	5/Excellent	5/Exceller	5/Excellent	5/Excellent	5/Excelle	5/Excellen	5/Exceller	5/Excellent	5/Excelle	5/Excellent	Excellent
18	Low (Sligh	4/Very Go	4/Very Good	3/Good	1/Below A	2/Average	1/Below Ave	1/Below	2/Average	2/Average	2/Average	4/Very G	3/Good	Below Average
19	Moderate	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	Good
20	Adequate	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	3/Good	Average
21	Adequate	3/Good	2/Average	2/Average	3/Good	2/Average	2/Average	2/Averag	2/Average	1/Below A	3/Good	3/Good	2/Average	Average
22	Low (Sligh	1/Below A	1/Below Ave	1/Below Avera	2/Average	2/Average	2/Average	1/Below	3/Good	2/Average	2/Average	1/Below	1/Below Average	Average
23	Adequate	4/Very Go	3/Good	5/Excellent	2/Average	2/Average	3/Good	2/Averag	4/Very Go	2/Average	2/Average	3/Good	3/Good	Very Good
24	Low (Sligh	1/Below A	1/Below Ave	1/Below Avera	1/Below A	1/Below Aver	3/Good	3/Good	1/Below A	1/Below A	1/Below Av	1/Below	1/Below Average	Below Average
25	Highly Sul	5/Exceller	5/Excellent	5/Excellent	5/Exceller	5/Excellent	5/Excellent	5/Excelle	5/Excellen	5/Exceller	5/Excellent	5/Excelle	5/Excellent	Excellent
	Moderate	-	3/Good	3/Good		3/Good	3/Good	3/Good	-		3/Good	3/Good	•	Good
27	Moderate	3/Good	3/Good	3/Good		3/Good	3/Good	3/Good	-		3/Good	3/Good	-	Good
				4/Very Good	5/Exceller	4/Very Good	4/Very Good			5/Exceller	5/Excellent	5/Excelle	5/Excellent	Excellent
29	Moderate	2/Average	2/Average	2/Average			3/Good	2/Averag		2/Average			2/Average	Good
30	Substanti	4/Very Go	4/Very Good	4/Very Good	4/Very Go	4/Very Good	4/Very Good	4/Very G	4/Very Go	4/Very Go	4/Very Goo	4/Very G	4/Very Good	Very Good
31	Highly Sul	5/Excelle	5/Excellent	5/Excellent	5/Exceller	5/Excellent	5/Excellent	5/Excelle	5/Excellen	5/Exceller	5/Excellent	5/Excelle	5/Excellent	Excellent
													-	

				TECHNOLO				
	(A G	ovt. Aided L		mous Institu			Bhopal)	
		De	-	of Informat	-			
	Assessment & Action Taken Report of Overall Progr					07		
POs	PO Statement	Direct PO Attainme nt	РО	Overall PO Attainme nt	Target	Gap	Status of PO Attainment	Action Taken Report
PO 1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems	2.78	2	2.62	2.6	-0.02	Attained	Highlighted the significance of foundational sciences in the Information Technology field through virtual tours of domain-specific labs.
PO 2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences	2.78	2.1	2.64	2.6	-0.04	Attained	Importance of conducting a literature survey was underscored for the students. Hackathon events are conducted, where the students are exposed to latest technologies.
PO 3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations	2.78	2.05	2.63	2.6	-0.03	Attained	Students are motivated to develop mini-projects focusing on real world problems. Organized Expert Lectures from leading R & D organizations.
PO 4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions	2.78	2.04	2.63	2.6	-0.03	Attained	Leveraging the Industry Institute labs, students were shown practical solutions to engineering problems. Additionally, students were tasked with self-study projects, break down in various levels.
PO 5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations	2.78	1.96	2.62	2.6	-0.02	Attained	Students are exposed to different open source software during their lab sessions and students do projects using modern tools like Android programming, Internet of things in design & Thinking lab sessions.

ir		2.95	1.99	2.76	2.6	-0.16	Attained	to be the part of BoS and different departmental & Institute level bodies.
tł ki	Environment and sustainability: Understand the mpact of the professional engineering solutions in ocietal and environmental contexts, and demonstrate he mowledge of, and need for sustainable development			• ((0.07		The e waste management and disposal were outlined through videos. The awareness of the role of IT in ecological sustainability was created through eco club.
p	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of he engineering practice	2.81	2.08	2.66	2.6	-0.06	Attained	The molding of an individual's personality traits by engineers, guided by ethics, is crucial for instilling discipline in students and fostering responsible citizenship. This principle is underscored by both the Constitution of India and the curriculum on business ethics.
ir te	ndividual and team work: Function effectively as an ndividual, and as a member or leader in diverse eams, and in multidisciplinary ettings	2.96	2.12	2.79	2.6	-0.19	Attained	As a component of the self-study assessment, students were tasked with small group projects. Collaborating in these groups allowed them to grasp the complexities of teamwork and the decision-making process.
cu au su ai n cl	Communication: Communicate effectively on complex engineering activities with the engineering community and with ociety at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	2.82	2.12	2.68	2.6	-0.08	Attained	Effectively communicate intricate engineering activities within the engineering community and society at large. This includes the ability to comprehend and compose effective reports and design documentation, deliver compelling presentations, and provide and receive clear instructions.
ki u	Project management and finance: Demonstrate enowledge and understanding of the engineering and management principles and apply these to	2.95		2.77	2.6	-0.17		Actively participating in curricular, co-curricular and technical clubs gives students practical experience on small group tasks and management of related finances. Technically also, students were assigned small projects in groups as part of self- study assessment, which taught them the nuances of project management.

PO 12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change	2.78	1.96	2.62	2.6	-0.02	Attained	Establishing a Centre for Soft Skills and Life Long Learning for conduction of various activities.
PSO 1	Students are able to exhibit analytical & logical skills and apply knowledge of Information Technology.	2.78	2	2.62	2.6	-0.02	Attained	More focus is required on problem solving methods for solving existing problem of IT industry.
PSO 2	Students are able to identify, formulate and resolve real life/social problems by using current development in the field of information technology.	2.77	1.97	2.61	2.6	-0.01	Attained	Conduction of industrial /professional training/ internship for the students