MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CO attainment with Gap Analysis and action taken for Jan-June. 2022

Sem	Faculty Name	Brabch & Section	Cource code & name		Course Outcome Statements	CO attainment from Quiz (%age)	CO attainment from Assignment (%age	CO attainment from Mid Sem (%age) Avg. of mid sem I & II	CO attainment from End Sem (%age)	CO direct attainment (%age)	CO direct attainment level	CO indirect attainment (%age) (Calculated using CO f/b, End Sem	CO indirect attainment level	Overall CO attainment	Target (To be set for Overall CO Attainment)	Attained/not attained	Action taken for Not Attained
II	Prof. Arun Kumar	CSE	150211-Data Structure	CO1	outline the basics of Algorithms and their performance criteria's.	87	92	87	83	85.625	3	87.68	3	3	2.5	Attained	-
				CO2	explain the working of linear/Non Linear data structures.	72	91	76	74	76.375	3	86.96	3	3	2.5	Attained	-
				CO3	identify the appropriate data structure to solve specific problems.	82	89	72	68	73.375	3	89.95	3	3	2.5	Attained	-
				CO4	analyze the performance of various Data Structures & their applications.	86	88	71	72	75.5	3	86.23	3	3	2.5	Attained	-
				CO5	evaluate the time/space complexities of various data structures & their applications.	68	88	68	64	68.5	3	84.78	3	3	2.5	Attained	-
				CO6	design the optimal algorithmic solutions for various problems.	71	75	76	81	77.75	3	86.23	3	3	2.5	Attained	-
II	Prof. Amit Kumar Manjhwar	CSE	150213-Digital Electronics	CO1	Explain the computer architecture for defining basic component and functional unit.	81.8	81.23	80.23	71.2	76.03625	3	97.5	3	3	3	Attained	-
				CO2	Recall different number system and solve the basic arithmetic operations.	91.92	81.23	81.2	77.6	80.74375	3	96.25	3	3	3	Attained	-
				CO3	Develop the understanding of combinational Circuits.	70.12	70.16	76.25	80	76.5975	3	96.25	3	3	3	Attained	-
				CO4	Analyze the basic concept of sequential circuits	81.2	80.21	78.88	83.2	81.49625	3	96.25	3	3	3	Attained	-
				CO5	Compare Various memories	70	70.47	74.6	70.6	71.50875	3	98.5	3	3	3	Attained	-
				CO6	Solve the boolean functions using logic gates	66	70	74.12	85.6	78.33	3	100	3	3	3	Attained	-
II	Prof. Khushboo Agarwal	CSD	290202-Data Structure	CO1	Outline the basics of algorithms and their performance criteria.	69.05	72.21	72.4	68.05	69.7825	3	65.38	3	2.5	2.7	Not Attained	Remedial classes are conducted and related assignments are given
				CO2	Explain the working of linear and non-linear data structures.	62.4	68.12	71.2	68.51	68.37	3	73.56	3	3	2.5	Attained	-
				CO3	Identify the appropriate data structure to solve the specific problems.	61	65.21	62.2	68.7	65.67625	3	70.11	3	3	2.5	Attained	-
				CO4	Analyse the performance of various data structures and their applications.	63.8	69.32	62.2	72.22	68.3	3	68.96	3	3	2.5	Attained	-
				CO5	Evaluate the time and space complexities of various data structures and their applications.	60.3	75.75	68.9	80.55	74.50625	3	78.16	3	3	3	Attained	-
				CO6	Design the optimal algorithmic solutions for various problems	58.6	65.51	71.2	69.4	68.01375	3	71.26	3	3	2.5	Attained	-

II	Prof. Mahesh Parmar	CSD	290203-Object Qriented Programming & Methodology	CO1	Tell the concepts of classes & objects and their significance in real world	65.6	87	83	82.5	81.075	3	86.11	3	3	3	Attained	-
				CO2	Explain the benefits of object oriented design.	63.6	76	74	77.5	74.7	3	83.33	3	3	3	Attained	-
				CO3	Build C++ classes using appropriate encapsulation and design principles.	58	72	68	93.25	79.875	3	83.33	3	3	3	Attained	-
				CO4	Analyze the utilization of inheritance and polymorphism in the solution of problems.	61	71	72	52	60.5	3	75.6	3	3	2.1	Attained	-
				CO5	Choose appropriate object orient programming concepts for solving real world problems	65	68	64	58	61.625	3	71	3	3	2.2	Attained	-
				CO6	demonstrating usage of control structures, modularity, I/O and other standard language constructs	66	76	81	80	78	3	91.67	3	3	3	Attained	-
II	Prof. Mahesh Parmar	CSD	290203-Object Qriented Programming & Methodology LAB	CO1	Select proper arithmetic, logical, relational, and string manipulation expressions to process data.	81.92	82.4	80.35	79.23	80.2425	3	87.68	3	3	2.5	Attained	-
				CO2	Demonstrate the use of various OOPs concepts with the help of programs.	81.92	82.4	84.7	79.23	81.33	3	86.96	3	3	2.5	Attained	-
				CO3	Apply validation techniques to build a reliable solution to a given problem.	70.16	70.16	77.58	76.07	74.97	3	89.95	3	3	2.1	Attained	-
				CO4	Analyze and write programs to solve more complicated problems using the concepts of Object Oriented Methodology.	81.28	81.28	78.2	92.49	86.115	3	86.23	3	3	2	Attained	-
				CO5	Choose appropriate programming concepts as and when required in the future application development.	69.07	71.47	74.65	72.11	72.285	3	84.78	3	3	2.2	Attained	-
				CO6	Construct a complete class definition with in the class definition, write class and instance methods including the constructor	75.16	79	73.66	95.58	85.475	3	86.23	3	3	2.3	Attained	-
II	Prof. Jaimala Jha	CSD	290201-Digital Electronics	CO1	explain the computer architecture for defining basic component and functional unit	90	78	78	88	84.5	3	76.34	3	3	2.5	Attained	-
				CO2	recall different number system and solve the basic arithmetic operations	87	96	96	36	64.875	3	76.34	3	3	2.5	Attained	-
				CO3	develop the understanding of combinational circuits.	74	94	94	60	74.5	3	75.26	3	3	2.5	Attained	-
				CO4	analyze the basic concept of sequential circuits.	81	92	84	88	86.625	3	75.26	3	3	2.5	Attained	-
				CO5	compare various memories.	76	86	76	72	75.25	3	70.96	3	3	2.5	Attained	-
				CO6	solve the boolean functions using logic gates.	79	72		68	52.875	3	66.67	3	2.5	2.8	Not Attained	Additional sessions for discussing, implementing and analysing the skill based mini projects were conducted.
IV	Dr. R.K. Gupta	CSE	150412-Database Managment System	CO1	Tell the terminology, features, classifications, and characteristics embodied in database systems.	65.6	87	83	82.5	81.075	3	86.11	3	3	3	Attained	-
				CO2	Explain different issues involved in the design and implementation of database system.	64	76	74	80	76	3	83.33	3	3	3	Attained	-
				CO3	Apply transaction processing concepts and recovery methods over real time data.	57	72	68	83	74.625	3	83.33	3	3	3	Attained	-
				CO4	Analyze database schema for a given problem domain.	63	71	72	55	62.25	3	75.6	3	3	2.1	Attained	-
				CO5	Justify principles for logical design of databases, including the E-R method and normalization approach.	70	68	64	65	65.75	3	71	3	3	2.2	Attained	-

				CO6	Formulate, using relational algebra and SQL, solutions to a broad range of query problems	69	76	81	80	78.375	3	91.67	3	3	3	Attained	-
IV	Prof. Jaimala Jha	CSE	150413-Software Engineering	CO1	Explain the various fundamental concepts of software engineering.	82	90	78	88	85	3	90	3	3	3	Attained	-
				CO2	Develop the concepts related to software design & analysis.	76	87	96	36	62.375	3	80	3	2.8	2.9	Not Attained	Additional sessions for analyzing the skill-based mini-projects were conducted.
				CO3	Compare the techniques for software project management & estimation.	70	74	94	60	71.5	3	73	3	3	3	Attained	-
				CO4	Choose the appropriate model for real life software project.	73	81	92	88	86.25	3	79	3	3	3	Attained	-
				CO5	Design the software using modern tools and technologies.	69	76	86	72	75.625	3	75	3	3	3	Attained	-
				CO6	Test the software through different approaches.	73	79	72	68	71	3	68	3	3	3	Attained	-
IV	Dr. Manish Dixit	CSE A+B	150414-Theory of Computation	CO1	Judge various model of computation.	60.01	77.77	80.25	80.97	77.77	3	76.34	3	3	2.5	Attained	-
				CO2	Construct abstract models of computing.	56.21	78.31	62.96	83.19	74.15	3	76.34	3	3	2.5	Attained	-
				CO3	Infer the power of abstract models in computing to recognize the languages.	53.69	86.11	67.85	85.14	77.0075	3	75.26	3	3	2.1	Attained	-
				CO4	Demonstrate analytical thinking and intuition for problem solving situations in related areas of theory of computation.	64.23	87.14	65.62	70.14	70.39625	3	75.26	3	3	2.1	Attained	-
				CO5	Explain the limitations of computation in solving problems.	48.63	85.65	69.42	77.6	72.94	3	70.96	3	3	2.3	Attained	-
				CO6	Define set of rules for syntax verification	50.62	86.72	64.52	51.65	59.1225	3	72.5	3	2.3	2.5	Not Attained	Extra classes are conducted and related assignments are given
IV	Dr. Ranjeet Kumar Singh	CSE A	150415-Programming LAB Python Programming	CO1	Demonstrate the fundamentals of computer programming	84	88	80	78	80.5	3	88	3	3	2.5	Attained	-
				CO2	Read, understand and trace the execution of program	81	89	84	81.23	82.865	3	89	3	3	2.5	Attained	-
				CO3	Develop Conditional and Iterative Statements	79	78	76	76.07	76.66	3	86	3	3	2.5	Attained	-
				CO4	Design the program using functions	71	81	78	75.29	76.145	3	78	3	3	2.5	Attained	-
				CO5	Implement the programs using Derived and User defined data types	66	67	74	72.11	71.18	3	77	3	3	2.5	Attained	-
				CO6	Design program for a given problem using computer programming	65	69	74	74028	37049.25	3	71	3	3	2.5	Attained	-
VI	Prof. Mahesh Parmar	CSE A+B	150601-Compiler Design	CO1	language translation and compiler design and acquire the knowledge of modern compiler & its features	63.6	76	74	80.45	76.175	3	90	3	3	2.5	Attained	-
				CO2	Identify the similarities and differences among various parsing techniques and grammar transformation techniques.	58	72	68	80.26	73.38	3	88.33	3	3	2.5	Attained	-
				CO3	tool to develop a scanner & parser and apply ideas and techniques discussed to various software designs.	61	71	72	81.23	75.115	3	90	3	3	2.5	Attained	-
				CO4	Implement various parsing, conversion, optimization and code generation algorithms for the design of a compiler	65	68	64	76.05	70.65	3	73.6	3	3	2.5	Attained	-
				CO5	problems in compiler and learn the new code optimization techniques to improve the performance of a program in terms of	66	76	81	72.05	74.025	3	85	3	3	2.5	Attained	-

				CO6	modern compiler and learn & use the new tools and technologies used for designing a compiler.				72.11	36.055	3	88.33	3	3	2.5	Attained	-
VI	Prof. Mahesh Parmar	CSE A+B	150601-Compiler Design LAB	CO1	Generate the machine code by considering all the functionalities involved in different phases of the compilation process	74	82	84	83.33	82.165	3	89	3	3	2.5	Attained	-
				CO2	Demonstrate the knowledge of patterns, tokens & regular expressions in programming for solving a problem	75	89	79	79.55	80.025	3	85.5	3	3	2.5	Attained	-
				CO3	Operate different types of compiler tools to meet the requirements of the realistic constraints of compilers.	64	74	75	74.2	73.1	3	86.4	3	3	2.5	Attained	-
				CO4	Design and Implement the parsing techniques including Bottom-up and Top-down parsing.	61	76	68	67	67.625	3	75.6	3	3	2.3	Attained	-
				CO5	Develop program for implementing code optimization techniques and apply it to improve the performance of a program.	65	68	66	71.58	68.915	3	71	3	3	2.5	Attained	-
				CO6	Build symbol table and intermediate code.	62	71	64	60	62.625	3	74	3	2.2	2.5	Not Attained	Additional sessions for discussing, concept of symbol table and intermediate code
VI	Prof. Amit Kumar Manjhvar	CSE	150611-Network & Web Security	CO1	explain cryptographic algorithms, hash algorithms and authentication mechanisms	68	70.98	78.9	80.45	77.3225	3	83.68	3	3	2.5	Attained	-
				CO2	illustrate fundamentals of number theory, attacks and security principles.	60	72.23	80.23	80.26	76.71625	3	85.68	3	3	2.5	Attained	-
				CO3	apply number theory and various algorithms to achieve principles of security	65	80.2	79.45	81.23	78.6275	3	85.26	3	3	2.5	Attained	-
				CO4	analyse the cause for various existing network attacks and describe the working of	62.3	78.23	80.21	76.05	75.64375	3	83.68	3	3	2.5	Attained	-
				CO5	examine the vulnerabilities in IT infrastructure.	70	78.23	80.21	72.05	74.60625	3	83.15	3	3	2	Attained	-
				CO6	predict the attacks and controls associated with IP, transport-level, web and e-mail	70.53	70.56	72	72.11	71.69125	3	83	3	3	2.2	Attained	-
VI	Prof. Amit Kumar Manjhvar	CSE	150613-Mobile Computing	CO1	Explain the basic concepts of mobile telecommunication system.	80.56	89.11	80.65	79.56	81.15125	3	66	3	3	2.5	Attained	-
				CO2	Demonstrate the infrastructure to develop mobile communication system	80.12	89.11	84.36	79.56	82.02375	3	81.78	3	3	2.5	Attained	-
				CO3	classify the different generation and technology for mobile communications.	81.88	81.2	77.58	76.11	77.835	3	80.23	3	3	2.5	Attained	-
				CO4	Examine the working of different protocols of wireless mobile communication Technology.	70.24	81.2	76.2	92.45	84.205	3	81.56	3	3	2.5	Attained	-
				CO5	Determine the importance of each technology suitable for different situation of mobile and wireless communications.	80.26	70.16	78.2	72.11	74.4075	3	74.55	3	3	2.5	Attained	-
				CO6	Develop protocols for adhoc and infrastructure based wireless networks.	69.11	81.11	75.65	72.1	73.74	3	86.11	3	3	2.5	Attained	-
VI	Prof. Ankita Sengar	CSE A+B	100007-Disaster Managment	CO1	Identify disaster prevention and mitigation approaches	90.7	90	90.4	67.3	78.8375	3	84.13	3	3	2.5	Attained	-
				CO2	Classify global and national disaster,their trends and profiles	62.2	68.2	75.2	74	72.1	3	83.28	3	3	2.5	Attained	-
				CO3	determine impact of various disaster	85.4	74.8	82.1	76.5	78.8	3	80.12	3	3	2.2	Attained	-
				CO4	Apply disaster risk reducation in management	78.1	70.8	85.4	71.7	75.8125	3	75.6	3	3	2.5	Attained	-

				CO5	Infer the linkage between disaster, enivronment and development	79.4	74.8	77	73.9	75.475	3	74.3	3	3	2.5	Attained	-
				CO6	Infer the linkage between disaster, enivronment and development	85.4	74.8	82.1	76.5	78.8	3	80.12	3	3	2.5	Attained	-

	Excellent (3)	Very Good (2)	Good (1)
Attainment Levels	70	60	50

Total CO Attainment = 80% of Direct CO Attainment + 20% of Indirect CO Attainment

Direct CO Attainment = 12.5% of Weekly Quiz Score + 12.5% of Weekly Assignment Score + 25% of Mid Sem Exam Score + 50% of End Sem Exam Score

For **Indirect CO attainment:** CO feedback from the students, by respective course instructor, was collected (via Institute's MOODLE), along with the course end seminar and one minutes paper writing.