

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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

ANNEXURE – XI

CO Attainment & Gap Analysis July – December 2022

Table.1: CO Attainment & Gap Analysis of I Year, I SEM

Course Code & Name	Course Outcomes	Direct CO Attainment Level	Indirect CO Attainment Level	Overall CO Attainment	Target Attainment	Gap in Attainment	Status of CO Attainment	Action Taken
2110122: Engineering Mechanics	CO1	0.38	2.72	0.85	2.5	1.66	Not Attained	More Assignments and numerical problems to be given
	CO2	0.39	2.62	0.84	2.5	1.67	Not Attained	
	CO3	0.41	2.81	0.89	2.5	1.61	Not Attained	
	CO4	0.41	2.73	0.87	2.5	1.64	Not Attained	
	CO5	0.38	2.64	0.83	2.5	1.68	Not Attained	
2110121: Building Materials & Construction	CO1	1.59	2.69	1.81	2.5	0.7	Not Attained	More demonstration regarding building materials to be given
	CO2	0.63	2.82	1.07	2.5	1.44	Not Attained	
	CO3	2.28	2.81	2.39	2.5	0.12	Not Attained	Suitability of building material will be explain more.
	CO4	0.41	2.75	0.88	2.5	1.63	Not Attained	More explain the various types of concrete
	CO5	2.46	2.64	2.5	2.5	0.01	Not Attained	More demonstration of different techniques for finishing & protection works

Table.2: CO Attainment & Gap Analysis of II Year, III SEM

Course Code & Name	Course Outcomes	Direct CO Attainment Level	Indirect CO Attainment Level	Overall CO Attainment	Target Attainment	Gap in Attainment	Status of CO Attainment	Action Taken
110311: Building Materials & Construction	CO1	2.32	2.75	2.41	2.5	0.1	Not Attained	More demonstration regarding building materials to be given
	CO2	1.2	2.78	1.52	2.5	0.99	Not Attained	
	CO3	0.6	2.78	1.04	2.5	1.47	Not Attained	Suitability of building material will be explain more.
	CO4	0.6	2.78	1.04	2.5	1.47	Not Attained	More explain the various types of concrete
	CO5	0.6	2.75	1.03	2.5	1.48	Not Attained	More demonstration of different techniques for finishing & protection works

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110311: Building Materials & Construction (Practical)	CO1	3	2.52	2.91	2.5	-0.41	Attained	Rubrics for the level can be modified
	CO2	3	2.49	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO3	3	2.63	2.93	2.5	-0.43	Attained	Rubrics for the level can be modified
	CO4	3	2.54	2.91	2.5	-0.41	Attained	Rubrics for the level can be modified
	CO5	3	2.49	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
110312: Fluid Mechanics -I	CO1	1.12	2.7	1.44	2.5	1.07	Not Attained	More problems on fluid properties to be given
	CO2	0.6	2.69	1.02	2.5	1.49	Not Attained	.More assignments will be given to solve fluid flow, dimensional analysis, fluid measurement
	CO3	1.2	2.72	1.5	2.5	1.01	Not Attained	
	CO4	1.08	2.7	1.41	2.5	1.1	Not Attained	
	CO5	0.71	2.7	1.11	2.5	1.4	Not Attained	
110312: Fluid Mechanics-I (Practical)	CO1	3	2.48	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO2	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO3	3	2.44	2.89	2.5	-0.39	Attained	Rubrics for the level can be modified
	CO4	3	2.42	2.89	2.5	-0.39	Attained	Rubrics for the level can be modified
110314: Strength of Materials	CO1	1.66	2.51	1.83	2.5	0.68	Not Attained	Concept of stress, bending, deflection, buckling & torsion will be explain more
	CO2	1.62	2.49	1.8	2.5	0.71	Not Attained	various theories for determining stress and deflection will be explain more.
	CO3	0.42	2.48	0.83	2.5	1.68	Not Attained	Application of various theories will be elaborated more.
	CO4	0.5	2.47	0.9	2.5	1.61	Not Attained	More assignment will be given to analyse stress and strain.
	CO5	0.48	2.47	0.88	2.5	1.63	Not Attained	
110314: Strength of Materials (Practical)	CO1	3	2.39	2.88	2.5	-0.38	Attained	Rubrics for the level can be modified
	CO2	3	2.37	2.88	2.5	-0.38	Attained	Rubrics for the level can be modified
	CO3	3	2.31	2.87	2.5	-0.37	Attained	Rubrics for the level can be modified
	CO4	3	2.37	2.88	2.5	-0.38	Attained	Rubrics for the level can be modified
110315: Survey Practice Lab	CO1	3	2.66	2.94	2.5	-0.44	Attained	Rubrics for the level can be modified
	CO2	3	2.66	2.94	2.5	-0.44	Attained	Rubrics for the level can be modified
	CO3	3	2.69	2.94	2.5	-0.44	Attained	Rubrics for the level can be modified
	CO4	3	2.61	2.93	2.5	-0.43	Attained	Rubrics for the level can be modified
	CO5	3	2.64	2.93	2.5	-0.43	Attained	Rubrics for the level can be modified
	CO6	3	2.61	2.93	2.5	-0.43	Attained	Rubrics for the level can be modified

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110316: Self Learning / Presentation	CO1	3	2.6	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified
	CO2	3	2.63	2.93	2.5	-0.43	Attained	Rubrics for the level can be modified
	CO3	3	2.63	2.93	2.5	-0.43	Attained	Rubrics for the level can be modified
	CO4	3	2.6	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified
	CO5	3	2.6	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified
110317: SIP - I	CO1	3	0.67	2.54	2.5	-0.04	Attained	Rubrics for the level can be modified
	CO2	3	0.5	2.5	2.5	0	Attained	Rubrics for the level can be modified
	CO3	3	0	2.4	2.5	0.1	Not Attained	More practice problems to be given
	CO4	3	0	2.4	2.5	0.1	Not Attained	
	CO5	3	0	2.4	2.5	0.1	Not Attained	

Table.3: CO Attainment & Gap Analysis of III Year, V SEM

Course Code & Name	Course Outcomes	Direct CO Attainment Level	Indirect CO Attainment Level	Overall CO Attainment	Target Attainment	Gap in Attainment	Status of CO Attainment	Action Taken
110511: Water Supply Engineering	CO1	0.99	2.74	1.34	2.5	1.17	Not Attained	More problems on water demand calculation
	CO2	1.06	2.49	1.34	2.5	1.17	Not Attained	More practice on water quality analysis
	CO3	1.09	2.51	1.37	2.5	1.14	Not Attained	More design problems to be given
	CO4	1.01	2.14	1.23	2.5	1.28	Not Attained	More assignments should be given on analysis of water supply scheme
	CO5	0.86	2.24	1.14	2.5	1.37	Not Attained	More assignments should be given on design of water supply scheme
110511: Water Supply Engineering (Practical)	CO1	2.94	2.56	2.87	2.5	-0.37	Attained	Rubrics for the level can be modified
	CO2	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO3	3	2.67	2.94	2.5	-0.44	Attained	Rubrics for the level can be modified
	CO4	3	2.56	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified
110512: Theory of Structures-II	CO1	0.93	2.55	1.25	2.5	1.26	Not Attained	various methods for analysis of structures will be explain more.
	CO2	0.64	2.43	1	2.5	1.51	Not Attained	Various loads for analysis of Structures will be elaborated more.
	CO3	0.49	2.49	0.89	2.5	1.62	Not Attained	Analysis methods based practical hands on will be conducted more.

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	CO4	0.5	2.49	0.9	2.5	1.61	Not Attained	Influence line diagram will be more explain
	CO5	0.47	2.41	0.86	2.5	1.65	Not Attained	More assignments should be given on plastic analysis
110513: S.D.D. (RCC)	CO1	0.95	2.44	1.25	2.5	1.26	Not Attained	More explanation on design philosophy
	CO2	0.64	2.52	1.02	2.5	1.49	Not Attained	More hands on session will be conducted
	CO3	0.68	2.52	1.05	2.5	1.46	Not Attained	More assignments will be given to analyze the RC elements.
	CO4	0.81	2.59	1.16	2.5	1.35	Not Attained	More assignments will be given to design the RC elements.
	CO5	0.48	2.59	0.9	2.5	1.61	Not Attained	Hands on will be conducted for design sketch.
110514: Fluid Mechanics-II	CO1	0.8	2.63	1.16	2.5	1.35	Not Attained	Types of fluid flow & machinery will be elaborated more.
	CO2	0.81	2.63	1.18	2.5	1.33	Not Attained	Principles of analysis of fluid flow will be explain more.
	CO3	0.55	2.63	0.97	2.5	1.54	Not Attained	Measurement of different forces acting on fluid body will be demonstrate more.
	CO4	0.57	2.63	0.98	2.5	1.53	Not Attained	More assignments will be given to analyze various problems
	CO5	0.58	2.65	1	2.5	1.51	Not Attained	Design of open & closed conduit systems will be explain more.
110515: Minor Project - I	CO1	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO2	3	2.57	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified
	CO3	3	2.44	2.89	2.5	-0.39	Attained	Rubrics for the level can be modified
	CO4	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO5	3	2.57	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified
110516: Self Learning / Presentation	CO1	0	2.59	0.52	2.5	1.99	Not Attained	Better speaking skills to be developed
	CO2	3	2.67	2.94	2.5	-0.44	Attained	Rubrics for the level can be modified
	CO3	0	2.67	0.54	2.5	1.97	Not Attained	Better speaking skills to be developed
	CO4	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO5	0	2.67	0.54	2.5	1.97	Not Attained	Better speaking skills to be developed
110520: Data Science (P)	CO1	3	2.3	2.86	2.5	-0.36	Attained	Rubrics for the level can be modified
	CO2	3	2.24	2.85	2.5	-0.35	Attained	Rubrics for the level can be modified

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	CO3	3	2.24	2.85	2.5	-0.35	Attained	Rubrics for the level can be modified
	CO4	3	2.12	2.83	2.5	-0.33	Attained	Rubrics for the level can be modified
	CO5	3	2.18	2.84	2.5	-0.34	Attained	Rubrics for the level can be modified
	CO6	3	2.18	2.84	2.5	-0.34	Attained	Rubrics for the level can be modified

Table.4: CO Attainment & Gap Analysis of IV Year, VII SEM

Course Code & Name	Course Outcomes	Direct CO Attainment Level	Indirect CO Attainment Level	Overall CO Attainment	Target Attainment	Gap in Attainment	Status of CO Attainment	Action Taken
110701: Software Application for Civil Engineering Problems	CO1	3	3	3	2.5	-0.5	Attained	Rubrics for the level can be modified
	CO2	3	3	3	2.5	-0.5	Attained	Rubrics for the level can be modified
	CO3	3	3	3	2.5	-0.5	Attained	Rubrics for the level can be modified
	CO4	3	3	3	2.5	-0.5	Attained	Rubrics for the level can be modified
	CO5	3	3	3	2.5	-0.5	Attained	Rubrics for the level can be modified
110703: Creative Problem Solving	CO1	3	2.47	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO2	3	2.38	2.88	2.5	-0.38	Attained	Rubrics for the level can be modified
	CO3	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
	CO4	3	2.5	2.9	2.5	-0.4	Attained	Rubrics for the level can be modified
110713: Advanced Structural Design-I (RCC)	CO1	2.32	2.89	2.43	2.5	0.08	Not Attained	More assignments for determining the forces in water retaining structures
	CO2	2.17	2.78	2.3	2.5	0.21	Not Attained	
	CO3	0.49	2.56	0.9	2.5	1.61	Not Attained	More problems to be given for analyzing different structures
	CO4	0.5	2.66	0.94	2.5	1.57	Not Attained	More assignments will be given to design different structures
	CO5	2.02	2.45	2.11	2.5	0.4	Not Attained	
110714: Hydraulic Structure	CO1	2.02	2.39	2.09	2.5	0.42	Not Attained	Different components of hydro project will be demonstrate more.
	CO2	0.52	2.29	0.87	2.5	1.64	Not Attained	Principles of designing hydropower plant & cross drainage work will be explain more.
	CO3	0.84	2.43	1.16	2.5	1.35	Not Attained	
	CO4	1.54	2.53	1.74	2.5	0.77	Not Attained	Suitability of hydraulic structures will be more explain,
	CO5	0.54	2.39	0.91	2.5	1.6	Not Attained	Hands on design of hydraulic structure

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110715: Advanced Structural Analysis	CO1	2.66	2.75	2.68	2.5	-0.18	Attained	Rubrics for the level can be modified
	CO2	1.01	2.25	1.26	2.5	1.25	Not Attained	More assignments to be given for structural analysis using different methods.
	CO3	1.11	2.75	1.44	2.5	1.07	Not Attained	
	CO4	1.09	2.75	1.42	2.5	1.09	Not Attained	
	CO5	1.1	2.75	1.43	2.5	1.08	Not Attained	
100008: Intellectual Property Rights	CO1	1.17	2.5	1.44	2.5	1.07	Not Attained	Concepts of IPR to be demonstrated through case study, expert lectures etc
	CO2	1.18	2.62	1.47	2.5	1.04	Not Attained	
	CO3	1.19	2.5	1.45	2.5	1.06	Not Attained	
	CO4	1.18	2.56	1.46	2.5	1.05	Not Attained	
	CO5	0.56	2.39	0.93	2.5	1.58	Not Attained	
900201: Integrated Waste Management for Smart City	CO1	2.96	2.37	2.84	2.5	-0.34	Attained	Rubrics for the level can be modified
	CO2	2.45	2.37	2.44	2.5	0.07	Not Attained	More Assignments regarding waste management to be given
	CO3	2.89	2.37	2.79	2.5	-0.29	Attained	Rubrics for the level can be modified
	CO4	2.87	2.42	2.78	2.5	-0.28	Attained	Rubrics for the level can be modified
900202: Project Planning & Control	CO1	2.94	2.37	2.82	2.5	-0.32	Attained	Rubrics for the level can be modified
	CO2	2.99	2.39	2.87	2.5	-0.37	Attained	Rubrics for the level can be modified
	CO3	1.87	2.31	1.95	2.5	0.56	Not Attained	More practice problems on CPM, PERT, Cost Analysis etc to be given
	CO4	1.46	2.35	1.63	2.5	0.88	Not Attained	
	CO5	2.36	2.32	2.35	2.5	0.16	Not Attained	
900213: Urban Planning & Transportation Systems	CO1	2.6	2.34	2.55	2.5	-0.05	Attained	Rubrics for the level can be modified
	CO2	2.7	2.3	2.62	2.5	-0.12	Attained	Rubrics for the level can be modified
	CO3	2.49	2.26	2.45	2.5	0.06	Not Attained	More explain on Urban Planning techniques
	CO4	2.55	2.38	2.52	2.5	-0.02	Attained	Rubrics for the level can be modified
	CO5	2.29	2.26	2.29	2.5	0.22	Not Attained	More assignments to be given
900226: Safety & Quality Management	CO1	1.07	2.56	1.37	2.5	1.14	Not Attained	More assignments to be given
	CO2	2.89	2.67	2.85	2.5	-0.35	Attained	Rubrics for the level can be modified
	CO3	2.87	2.59	2.81	2.5	-0.31	Attained	Rubrics for the level can be modified
	CO4	2.89	2.88	2.89	2.5	-0.39	Attained	Rubrics for the level can be modified
	CO5	2.95	2.81	2.92	2.5	-0.42	Attained	Rubrics for the level can be modified