ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Shobhavana Campus, Mijar, Moodabidri, Mangalore Taluk, D.K – 574225

Phone: 08258-262725, Fax: 08258-262726

DEPARTMENT OF CIVIL ENGINEERING

SEMESTER--5

Course Code: 21CV53	Course Name: DESIGN OF RC STRUCTURAL ELEMENTS

Course Teacher: Ms. Anusha B Rao

Course Outcomes: After studying this course, students will be able to,

CO Numbers	Course Outcomes	Bloom s Level	Target Level
21CV53.1	Explain different philosophy and principles for the RCC design with respect to material property.	2	50%
21CV53.2	Determine and analyse the deflection and cracking of the beams subjected to different set of loadings	3	50%
21CV53.3	Determine the singly and doubly reinforced beams under the action of flexure and shear.	4	50%
21CV53.4	Design singly, doubly and flanged beams under the action of shear, bending or any of these combinations.	4	50%
21CV53.5	Design the one way and two way slabs, dog legged and open well staircases.	4	50%
21CV53.6	Analyse and design short columns and design rectangular and square footings.	4	50%

CO-PO/PSO Mapping Matrix:

CO Numbers	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3	PSO 4
21CV53.1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
21CV53.2	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0
21CV53.3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21CV53.4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21CV53.5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21CV53.6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM	6	5	2	0	0	0	0	0	0	0	0	0	1	0	0	0
AVG	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0

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CO	POs	Level	Justification
21CV53.1	PO1	1	In the different philosophy and principles of Rcc design the Basic mathematics and engineering fundamentals will be applied. There for PO1 is slightly matches to CO1
	PO3	1	Design solution for complex engineering problems and design system component processes are applied in design of structure. There for PO2 is slightly matches to CO1
21CV53.2	PO1	1	For analysis and determine the different structural members with different loadings basic mathematics and engineering problems are needed, there for PO1 is slightly matches to CO2
	PO2	1	Principle of mathematics and analyse complex engineering problem is applicable for determine and analysis of deflection and cracking of beams at different set of loadings. Therefore PO2 is slightly matches to CO2
	PO3	1	Design solution for complex engineering problems and design system component process is applied in analysis of deflection for different structure with different loadings..Therefore PO3 is slightly matches to CO2
	PSO1	1	The ability to prepare plan , analysis and design is required for the application of various deflection problems in civil engineering structure. Therefore PSO1 is slightly matches to CO2
21CV53.3	PO1	1	Basic mathematics , complex engineering problems are required for the determination of singly and doubly reinforced beams under the action of flexure and shear. Therefore PO1 is slightly matches to CO3
	PO2	1	Due to the action of flexure and shear in singly and doubly reinforced beams are analysed for that Principle of mathematics and analyse complex engineering problem are required. Hence PO2 is slightly matches to CO3
21CV53.4	PO1	1	For the design of singly , doubly and flanged beams under the action of shear , bending and torsion or any other combinations it requires basic mathematics and complex engineering problems. Therefore PO1 is slightly matches to CO4
	PO2	1	Principle of mathematics and analyse complex engineering problem are required For the design of singly, doubly and flanged beams under the action of shear, bending and torsion or any other combinations. Therefore PO1 is slightly matches to CO4

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21CV53.5	PO1	1	Based on the deflection, the slabs are designed and analysed with their application and requirements, for that knowledge of mathematics, engineering fundamentals, and complex engineering problems are required. Therefore PO1 is slightly matches to CO5
	PO2	1	Due to the action of deflection in slabs it must required to analyse and design the structures. For this condition have to know about principles of mathematics, and how to analyse the complex engineering problems. Therefore PO2 is slightly matches to CO5
21CV53.6	PO1	1	The compression members are designed and analysed based on the different types of moments with supports in different soil condition. Hence for this calculation basic mathematics and engineering problems are must. There for PO1 is slightly matches to CO6
	PO2	1	The principle of mathematics, and analyse complex engineering problems are applicable in the design of different types of moments with different supports in various soils types. hence PO2 is slightly matches to CO6

25/4/23

Course Teacher
Signature with date

IQAC Member
Signature with date

IQAC Chairman
Signature with date

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