COURSE TITLE : CONCRETE LAB
COURSE CODE : 3018
COURSE CATEGORY : B
PERIODS/WEEK : 3
PERIODS/SEMESTER: 45
CREDITS : 2

TIME SCHEDULE

Module	Topics	Period
1	Fineness Test on Cement Sp. Gravity of cement Consistency test on cement Setting time of cement Soundness test on cement	12
2	Workability test of Concrete Slump test. Compaction Factor Test . Compression Test on Cement Concrete Cubes. Design of concrete mix by IS code method	18
3	Bulking of sand. Void ratio of fine and coarse aggregates. Sieve analysis of fine and coarse aggregate. Flakiness test on aggregates	15
TOTAL		**45**

COURSE OUTCOME

Sl.	Sub	Student will be able to
1	1	Conduct tests on cement
	2	Conduct tests on concrete
	3	Conduct tests on fine & coarse aggregate

SPECIFIC OUTCOME

Upon completion of the study, the student should be able to:

1.1.0 Conduct and interpret the test results of cement with IS codes
Specific outcomes

1.1.1 Find the fineness of given sample of cement by 90 micron sieve
1.1.2 Find the Specific gravity of given sample of cement by specific gravity bottle
1.1.3 Find the consistency of cement by Vicat apparatus
1.1.4 Find the setting time of cement by Vicat apparatus
1.1.5 Find the soundness of cement by Vicat apparatus

1.2.0 Conduct and interpret the test results of concrete with IS codes

1.2.1 Measure consistency of concrete by slump test by slump cone

1.2.2 Find the workability of concrete by compaction factor test

1.2.3 Find the compressive strength of concrete cubes

1.3.0 Design of concrete mix by IS code method and Produce concrete mix

1.3.1 Design the concrete mix by IS code method

1.3.2 Prepare the concrete mix

1.3.3 Compare the test results

1.4.0. Conduct and Interpret the test results of Course and fine aggregates with IS codes

1.4.1 Find the bulking of sand

1.4.2 Find the Void ratio, Bulk density (loose & compacted), Porosity, Specific gravity of fine and Course aggregates

1.4.3 Measure the grading of aggregate by conducting sieve analyse test and draw the Gradation curve

1.4.4 Measure the Flakiness Index of aggregates

1.4.5 Measure the Elongation index of aggregate

CONTENT DETAILS

Test on Cements –Fineness-Specific gravity-Consistency-Setting time-Soundness

Test on Concrete-Slump test-Compaction factor test-Test on cube strength-design the mix-Prepare the mix-test and compare

Test on Aggregate-Bulking of sand-void ratio-bulk density-porosity-Specific gravity (course & Fine).