

Course Modules of The Subject Taught For The Session 2025-26 (Even Semester)
**Course Syllabus with
CO's**

Faculty Name: Likhit M L		Academic Year: 2025-26					
Department: Civil Engineering							
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours		Total Hrs of Pedagogy	
				L	T	P	
BCV657D	Quality Control and Quality Assurance	AEC		1	-	-	15 hours
Objectives	Course objectives: This course will enable students to; <ol style="list-style-type: none"> 1. Appreciate the concept of Quality 2. Articulate the Implication of Quality in construction 3. Implement QA & QC Programs 4. Realise the importance of QMS in Civil Engineering. 						

Topics Covered as per Syllabus
Module-1

Overview of Quality: Quality History, Quality Definition, Quality Inspection, Quality Control, Quality Assurance, Quality Engineering, Quality Management, Quality Gurus: Philip B. Crosby, W. Edwards Deming etc, PDCA Cycle, Costs associated with Quality, Reasons for Poor Quality

Module-

Quality Management: Management Practices: TQM, Vision and Quality policy, Quality Function Deployment, Benchmarking and performance evaluation, ISO 9000 Quality Management System, ISO 14000 Environmental Management System

Module-3

Statistical Quality Control: Importance of SQC in construction, Statistical parameters: sampling, population and sampling, measure of variability, measure of central tendency, Recommendations of IS 456:2000 on sampling, testing and acceptance criteria for concrete.

Module-4

QA and QC in Construction: Errors in concrete construction; Frequency of material testing and reporting of basic construction materials (cement, sand, coarse aggregate, bricks, steel), Norms for accepting and rejecting criteria of basic construction materials as per relevant IS codes.

Module-5

On-Site Quality: Achieving quality at different stages of construction: Conceptual Design, Preliminary Design, Detailed Design, Construction, Testing, Commissioning, and Handover. Quality assessment of concrete through NDT: rebound hammer and USPV tests and guidelines for accepting and rejecting.

Suggested Learning Resources
Books

1. Juran J M and Gryna F M, Quality Planning and Analysis
2. Hutchins G, John L Ashford, The Management of Quality in Construction
3. Mohamed A. El-Reedy, "Concrete and Steel Construction, Quality Control and Assurance", CRC Press, Taylor and Francis Group
4. M. S. Shetty, Concrete Technology, S Chand Publications
5. Relevant IS Codes

Web links and Video Lectures (e-Resources):

- Online study material
- You Tube videos.

Course Outcomes	At the end of the course the student will be able to:
	1. Realize the importance of quality in construction
	2. Apply SQC techniques in different aspects of construction

3. Implement QMS programs at different levels of construction

For the Assignment component of the CIE, there are 25 marks and for the Internal Assessment Test component, there are 25 marks. The first test will be administered after 40-50% of the syllabus has been covered, and the second test will be administered after 85-90% of the syllabus has been covered.

Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

Subject Code:	BCV657 D	Title: Quality Control and Quality Assurance							Faculty Name:	Likhit M L					
List of Course Outcomes	Program Outcomes														
	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	
CO-1	3									3		3			
CO-2	3										3				
CO-3	3	3	2												
CO-4	3					2									
CO-5	3														3

Note: 3 = Strong Contribution
 Contribution - = No Contribution

2 = Average Contribution 1 = Weak