Quality Assurance Technician

01CI1201

Objective of the Course:

- To understand testing procedure as per standard.
- To interpret the testing results.
- To learn onsite inspection of construction material.
- To maintain the field laboratory.

Credit Earned: 01

Student's learning outcomes:

After successful completion of the course, it is expected that students will be able to,

1. Perform testing of construction materials according to IS standards and compute test results.
2. Maintain and ensure the quality of the construction site laboratory.
3. Conduct and verify site inspections to ensure the quality of structure, finishing, waterproofing and road works.
4. Supervise, monitor, and evaluate the performance of subordinates at the workplace.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
00	00	02	01	00	00	00	50	00	50

Detailed Syllabus

Sr. No.	Title of the unit	Number of Hours
1	**Conduct testing of construction material as per IS standards/work method statement and compute test result**	**08**
1.1	Read and understand standard test procedure for testing of cement, aggregate, bitumen, brick, in the site laboratory **Cement:** Consistency, Initial and final setting ,**Aggregate** :Gradation, crushing value, impact value, abrasion value	04

1.2	**Bitumen:** Penetration, softening point, specific gravity, ductility **Brick :** Compressive strength, Water absorption	04
2	**Carry out inspection of construction material, work quality at site**	**09**
2.1	Carry out inspection of construction material in field (cement, sand, aggregate, bitumen, brick, blocks) : check to assure only approved materials	04
2.2	Carry out visual/physical inspection of materials , report to superior in case any substandard quality material is observed	05
3	**Site Inspections**	**06**
3.1	site quality plan related to construction work	01
3.2	check quality of structural works, finishing works, waterproofing works, road laying works	02
3.3	identification of bad workmanship related to shuttering, reinforcements, concreting, water proofing, road laying, anti-termite treatment, finishing works	03
4	**Maintain construction site laboratory**	**03**
4.1	check proper functioning of testing instrument and equipment, report to superior/manufactures in case of break down/non-functioning of test instruments and equipment	03
5	**Supervise, monitor and evaluate performance of subordinates at workplace**	**04**
5.1	Discuss the procedures and policies regarding the performance evaluation and appraisal of the construction workers / subordinates. Explain the methods to assign and track the work targets given to the various worker's gangs and subordinates. Describe the checks/ procedures to ensure the quality/ accuracy of the completed work/ task as per standard practices.	02
5.2	Discuss the inclusion of activities and practices into the construction work which are sensitive towards PWD (Person with disabilities), Cultural diversity and gender equality.	02
	Total	**30**

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve an effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	30%	30%	15%	10%

Instructional Method and Pedagogy:

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Laboratories will be taken in the dual mode: within lab as well as on the field.
3. Oral examination will be conducted at the end of the semester as a part of overall evaluation.
4. The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.