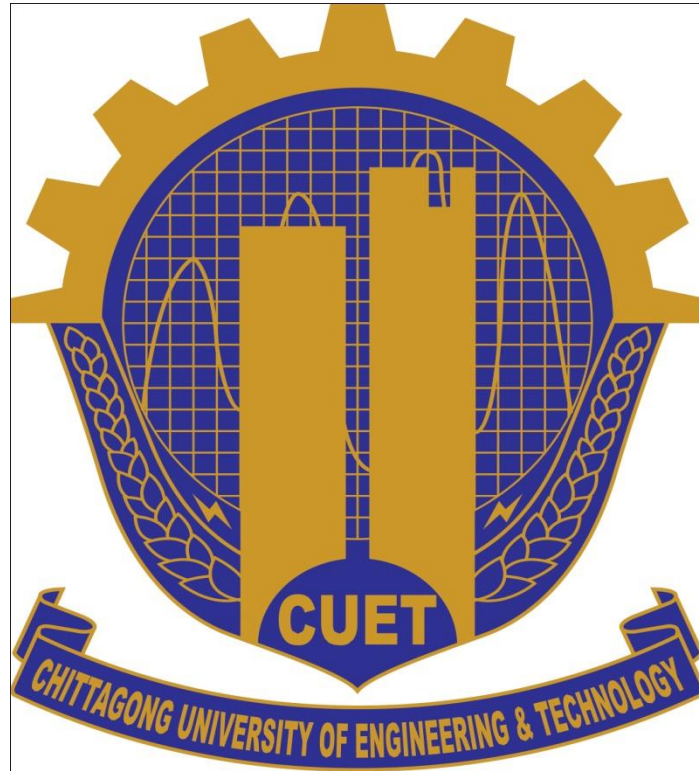


# **CE-204**

## **ENGINEERING MATERIALS**

### **(SESSIONAL)**



**Department of Civil Engineering**  
**Chittagong University of Engineering & Technology**

# INTRODUCTION

## General Instructions:

- Every student must be regular and active in the class. Tests should be completed during the assigned laboratory period. If a particular test is not performed or completed during an assigned laboratory period, the student must see the concerned course teacher within a week. The teacher may make special arrangements to make up the test if recommended by the “Course Coordinator”. Failure to report in such cases may result in cancellation of that particular test or even dismissal from the course.
- For the systematic performance of tests, the students will be divided into several groups and a group leader will be selected for each group.
- After roll call in each class, the students will submit their previous test reports to the teacher. Failure to do so may result in deduction of marks or cancellation of the particular test.
- The teacher will give any special instruction to the groups whenever needed by them.

## General Instructions (Continued):

For proper utilization of the limited time in the laboratory, the students are advised to come prepared in the class. The preparation should include:

- ❖ A thorough study of the assigned tests & laboratory procedures by all the students of the group.
- ❖ Preparation of the proposed data sheet by all the students for approval of the course teacher.
- ❖ Completion of previous test reports for submission to the teacher. Reports are to be prepared by each student individually.

## **General Instructions (Continued):**

- The teacher may call any or all the students from each group who might be required to answer questions regarding the test procedure, apparatus and other fundamentals of theory about the particular test. Their answers will add to the credit or discredit in their grading.
- Care should be taken so that no instrument is misplaced, broken or lost. Any breakage, damage or loss of apparatus must be reported immediately to the teacher. Damage or loss due to carelessness will be charged to the responsible group.
- No student shall handle or operate any instrument other than those assigned to his group without prior permission of the teacher.
- After completion of experiments, the instruments or apparatus are to be cleaned and returned to the laboratory assistant.
- No student is allowed to leave the laboratory without taking prior consent of the teacher.
- After each experiment is performed, the data sheet is to be signed by the teacher concerned.

# Report Writing

**The arrangement of report should be in the following sequence:**

- ☐ Objective (Significance of the test)
- ☐ Scope of the Test (Statement of the purpose of the test)/Theory
- ☐ Equipments
- ☐ Materials used or tested
- ☐ Procedure (Briefly)
- ☐ Data Sheet
- ☐ Calculation
- ☐ Graph
- ☐ Discussion
- ☐ Assignment (If Given)

# About Calculation & Discussion:

## Calculation:

- All equations or formulae used should be clearly stated with reference.
- All calculation should be submitted in concise form.

## Discussion:

- The test results must be compared with pertinent data given in any books or publications & definite conclusion should be drawn.
- Answer to the questions given at the end of each test should be submitted with the report.
- The limitation or drawback or shortcoming of the tests also should be mentioned.

## Report Writing (Continued)

- An *Index Sheet* must be provided at top of the report file. It should contain-
  - Experiment No.
  - Experiment Name
  - Date of Performance
  - Date of Submission
  - Remarks
  
- Separate *Top Sheet* should be attached with each report.

## Report Writing (Continued)

- The *Top Sheet* should contain the following:
  - Course No.
  - Course Name
  - Section & Group No.
  - Experiment No.
  - Experiment Name
  - Date of Performance
  - Date of Submission
  - Name & Student ID.
  - Level, Term.
  
- ❖ The report should be hand written by pen (black or blue) in *A4 size paper* in one side.



- The report should be brief but self-explanatory.
- In addition to the subject matter, clarity, conciseness, method of presentation, legibility & neatness of the report will receive consideration in the grading of a report.
- Lack of neatness shall be sufficient cause for rejection of report.
- Copying of any report will result in cancellation of all reports concerned.
- Students should be careful about their own safety & safety of the equipment.
- Care must be taken during handling of hazardous materials, chemicals, electricity, fire, etc. which may be in use during testing.

# LIST OF EXPERIMENTS

Sl. No.	Experiment Name
01	Sieve Analysis of Fine and Coarse Aggregate
02	Resistance to Abrasion of Small Size Coarse Aggregate by Using Los Angeles Machine
03	Determination of Aggregate Impact Value (AIV) and Aggregate Crushing Value (ACV)
04	Determination of Normal Consistency of Cement with Vicat Apparatus
05	Determination of Initial Setting Time and Final Setting Time of Cement with Vicat Apparatus
06	Determination of Fineness of Cement by Sieving
07	Direct Compressive Strength of Cement Mortar
08	Compressive Strength of Concrete Cylinders and Cubes
09	Specific Gravity and Absorption Capacity of Fine Aggregate
10	Specific Gravity and Absorption Capacity of Coarse Aggregate
11	Determination of Compressive Strength and Absorption Capacity of Brick

**THANKS for kind  
attention!**