

2007 COCHIN UNIVERSITY OF SCIENCE & TECHNOLOGY

**B.TECH CIVIL ENGINEERING
FUNDAMENTALS OF ENGINEERING**

MAY 2007

**TIME: 3 HOUR
MARK: 90**

**ANSWER ANY FOUR QUESTION
ALL QUESTIONS CARRY EQUAL MARKS**

MARK [4*15]

- 1a. With neat sketches explain any six structural steel sections used in construction
- b. What are the requirements of good quality aggregates?
- 2a. Write notes on any six types of cement
- b. Explain the Indian Standard Classification of bricks
- 3a. Explain the conditions in which pile foundations is adopted
- b. Compare English bond and Flemish bond
4. Draw the plan of the alternate courses of a 1 1/2 brick thick English bond wall. Also draw the elevation. Make sketches of the typical bricks used and mark their dimensions
- 5a. Explain the main principles of surveying
- b. With the help of sketches explain the uses of cross-staff and optical square
- c. Explain any one method of indirect ranging
6. The following consecutive readings were taken with the help of a Dumpy level. 2.550, 3.760, 3.900, 2.100, 1.870, 1.550, 1.250, 2.540, 2.050, 3.150. The instrument was shifted after the third and seventh readings. The first reading was taken on the staff held on the bench mark of reduced levels 100.000m. Enter the above readings in a level book form and work out the reduced levels of the point by height of collimation method