Code No: **R1642011** **R16** **Set No. 1**

IV B.Tech II Semester Regular/Supplementary Examinations, July - 2021

ESTIMATION SPECIFICATIONS & CONTRACTS

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer any THREE questions from Part-A
Part-B is compulsory
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PART–A *(3x14=42 Marks)*

1. a) What is an approximate estimate of an item? How do you prepare an approximate estimate for (i) road and highways and (ii) Irrigation channels? [7]
   b) What is the detailed estimate of an item? Explain the two stages that contribute to prepare a detailed estimate. [7]

2 a) Explain the requirements and procedures involved in preparing a rate analysis for any typical civil engineering construction work. [7]
   b) How do you estimate unit quantities required for the (i) brickwork with standard bricks and (ii) Cement Mortar for the rate analysis purposes? [7]

3 a) What is meant by the economic depth of digging? Derive an expression to calculate it with the help of a neat sketch. [7]
   b) Explain any three typically used methods of estimating road construction earthwork with neat sketches. Which method is relatively more accurate and why? [7]

4 a) Define a contract? Differentiate different types of contracts with a brief description? [7]
   b) How is earnest money different from security money? Explain briefly with any typical example. [7]

5 a) Differentiate revised estimate and supplementary estimate? [7]
   b) Define the term rate analysis and mention its purposes. [7]

6 a) How do you determine standard hook and cranked bent-up bar (45^o and 30^o) lengths? Derive a generalized expression with the help of a neat sketch. [7]
   b) What is depreciation? Illustrate any three methods of calculating the depreciation of a property. [7]

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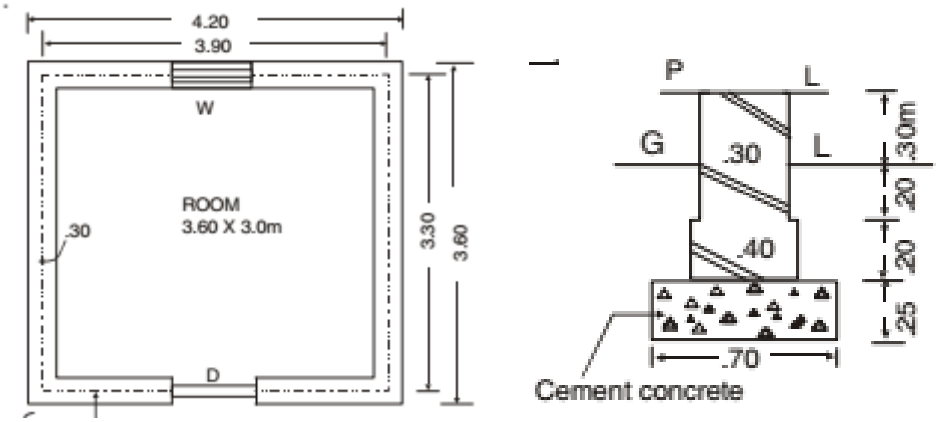
PART–B *(1x28 = 28 Marks)*

7. Estimate the quantities of (i) Earthwork in excavation in foundation (ii) Concrete in foundation (iii) Brickwork in foundation and plinth using the following two methods:
   (a) Individual wall method and
   (b) Centre line method



PlanCross-section

All units are in meters.