

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Backlog), November-December 2015

B. Tech in Civil Engineering, Semester VI

Roll No.....

CE605: Estimating & Costing

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1 Objective type multiple choice questions (10 questions @ 1 mark) 10

- i. Estimate expected to be least accurate is
(a) Supplementary estimate (b) Plinth area estimate (c) Detailed estimate
(d) Revised estimate
- ii. In specifications of earthwork in foundation trenches and drains specified lead is ;
(a) 30m (b) 50m (c) 15m (d) 100m
- iii. In analysis of rates contractor's profit is taken at the rate of
(a) 1% (b) 5% (c) 10% (d) 20%
- iv. Number of bricks of size 20x10x10cm required for 100cum of masonry wall is
(a) 500 (b) 5000 (c) 50000 (d) 500000
- v. In analysis of rates the quantity of dry mortar for 10cum of brickwork is taken as
(a) 5cum (b) 3cum (c) 0.3cum (d) 1cum
- vi. In a detailed estimate provision for contingencies is usually
(a) 15 (b) 3% (c) 10% (d) 12%
- vii. The valuation of a building depends upon
(a) Structure and durability (b) Size, shape and type (c) Quality of material used
(d) All the above
- viii. The total estimated cost of building electrification usually accounts for
(a) 1% (b) 2% (c) 8% (d) 15%
- ix. Any treasure or valuables found during excavation shall be property of
(a) Contractor (b) Owner of the building (c) Government
- x. Capacity of a flushing cistern is usually
(a) 10 litres (b) 25 litres (c) 12 litres (d) 20 litres

Q.2 Short answer type questions (4 questions @ 2.5 marks)

10

- i Enumerate and Sketch various types of brick masonry bonds.
- ii Discuss how will you give layout of a residential building on ground.
- iii State units of measurement of following items of works:

- (a) Damp proof course
- (b) R.C.C slab
- (c) Rainwater pipes
- (d) Skirting
- (e) Half brick masonry wall

iv Give multiplying factors as per IS:1200 partXV for converting flat areas into girthed surface areas

1. Flush joinery
2. Steel rolling shutters
3. Collapsible gates
4. Fully glazed joinery
5. Panelled and glazed joinery

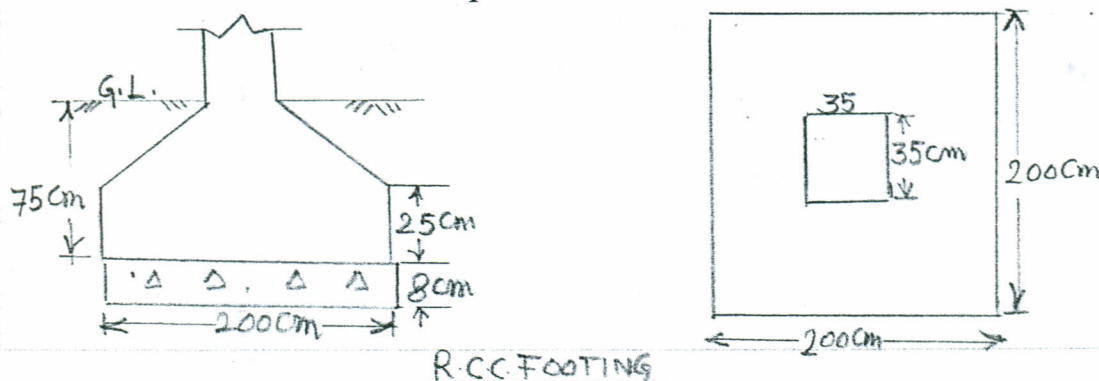
Q.3A Enumerate various types of tenders. Discuss in detail item rate tender. 05

Q.3B What is the use of bill of quantities in inviting tenders. Draw a format of bill of quantities with sample details in various columns of the format. 05

Q.4A Write short notes on
(a) Year's purchase
(b) Salvage Value 05

Q.4B Work out the quantities of RCC footing for the given diagram 05

1. Earthwork in excavation
2. CC 1:4:8 below footing
3. RCC in M20 concrete except reinforcement



Q.5A Calculate the present cost of a structure constructed 25 years back at the cost of Rs1, 50,000. Assume the rate of depreciation at 1% per year and the total life of the structure as 100 years. 05

Q.5B Write short notes on; 05
 (a) Measurement Book
 (b) Contingencies and Workcharge Establishment
 (c) Basic Schedule of rates

Q.6A List various items of water supply and sanitary fittings in a residential building. 05
 Q.6B What is valuation? What are the factors on which value of a building depends? 05

OR

Q.6B Discuss comparative merits and demerits of centreline and long wall- short wall methods of estimation of buildings. 05

Q.7A Write down detailed specifications of 100 mm damp proof course of cement concrete M20 05

Q.7B State and explain various types of estimates. Give one example each. 05

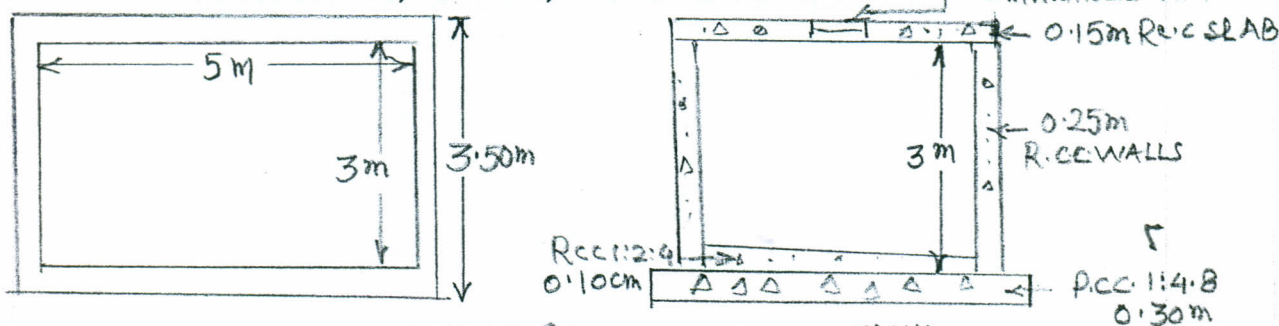
OR

Q.7B Prepare rate analysis of Brick Masonry in cement mortar 1:6 in superstructure 05

Q.8 Workout the quantities of M.S. reinforcement for the following in detailed sheet: 10

Member	Overall size	Details of reinforcement
Lintel	150x30x15 cm	(a) Main bars 12mm dia two straight and one bent (b) Anchor bars 6mm dia two (c) Stirrups 6mm dia at 15cm C.C

Q.9A Prepare a detailed abstract of R.C.C. underground water tank from drawing below. Items taken be PCC, RCC walls, RCC slab & manhole etc. 10



UNDERGROUND WATER TANK

Q.9B Find out quantities of following items for one km of single lane PMGSY road 10
 1. GSB 200mm sub-base course
 2. Aggregate for 150 mm WBM layers base course
 3. Bitumenous mix for 20mm premix carpet wearing course

OR

Q.9B Calculate the materials required to construct one km of BG railway track. Data given is BG rail length 12.8m, weight of rail 44.7kg/m and density of sleepers 17nos./rail. 10

xxxxxxxxxx