Code No: 57007

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, March - 2017
ESTIMATING AND COSTING
### (Civil Engineering)

Time: 3 Hours   **Max. Marks: 75**

Answer any Five Questions
All Questions Carry Equal Marks
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1.a) Prepare an approximate estimate for the proposed construction of a government building with the following data.
Plinth area-100 m^2, cost of construction-Rs 900/-per m^2
Formation of roads & lawns-1%
Fluctuation of rates- 4%
Unforeseen items – 2%
Contingencies-3%

  b) Briefly explain the principles of working out quantities for detailed estimate.   [9+6]

2. Estimate the following items of building plan shown in figure. Prepare detailed estimation by 'Center-Line' method .
   a) Earthwork Excavation in Foundation
   b) First class Brickwork in super structure
   c) 2.5cm damp proof course
   d) 150mm P.C.C bed   [15]
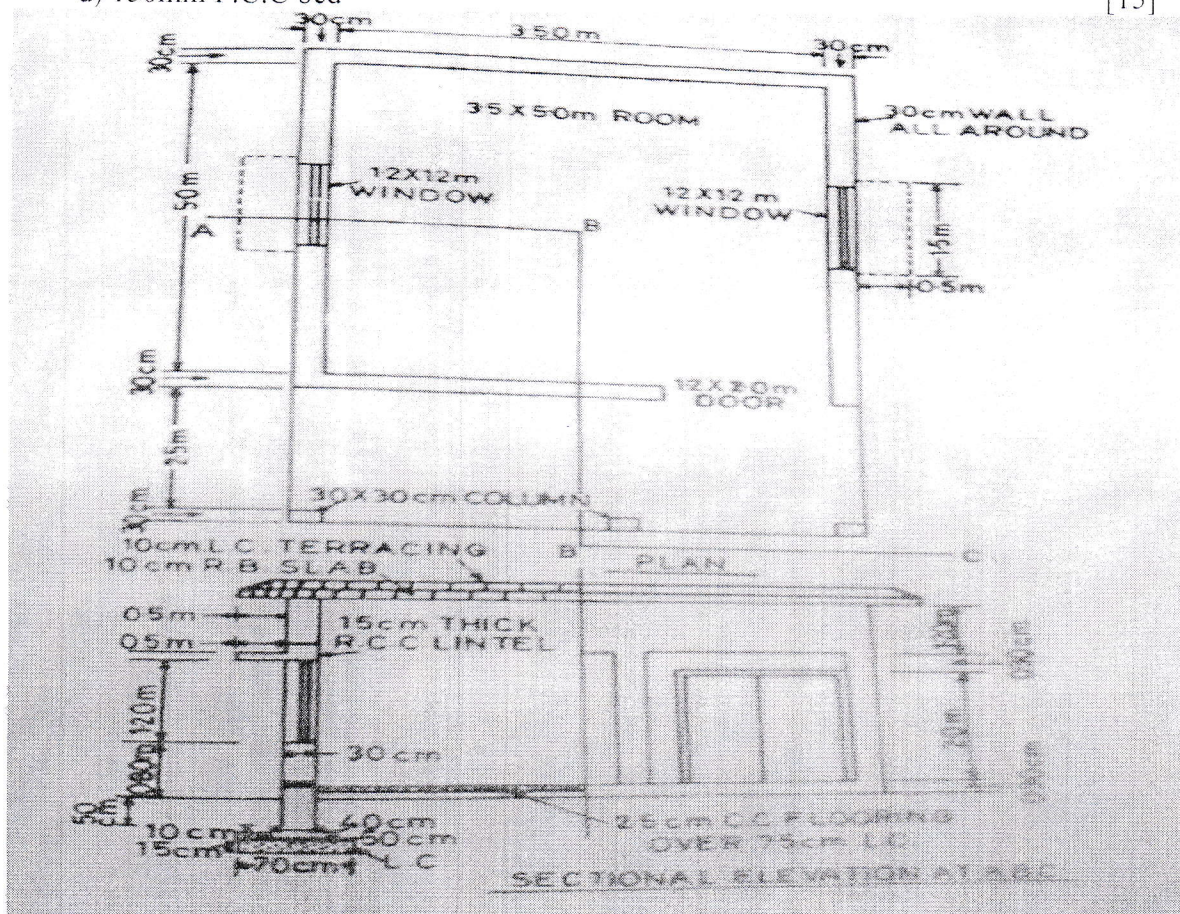
3. Prepare an estimate for the portion of a road from chainage 14 to 20 from the data given below. Draw also the longitudinal and typical cross sections for cutting and banking. The rate of earth work in cutting is Rs 9 per Cum and embankment is Rs 8 per Cum. The formation width of proposed road is 10m. side slope in cutting is 1.5:1 and 2:1 in banking. R.L of formation is 108.75.   [15]

Chainage in meters (30m)	14	15	16	17	18	19	20
Ground level in (m)	108.6	109.25	109.4	108.85	108.5	107.25	106.8

4. Prepare a data sheet and calculate the cost of materials for 1 Cum of plain cement concrete for foundation. Mix proportion is 1:4:8. Assume any necessary data.   [15]

5. Estimate a two way slab 5m × 4.0 m clear span has the following details of reinforcement and data.
   a) Thickness of slab =130mm
   b) bearing over 20cm thick walls=150mm
   c) main reinforcemnt
       i) Middle strip along long and short span =10mm @ 115 mm c/c. Alternately bent at 800mm from support.
       ii) Edge strip along long span = 10mm @ 230mm c/c
   d) corner mesh both at top and bottom= 10 mm @ 90mm c/c.
   Assume any necessary data.   [15]

6.a) List out various contract documents and explain about any two documents.
   b) Write about various conditions of contracts.   [7+8]

7. Prepare rates analysis for the given works.
   a) R.C.C work in slabs
   b) First class brickwork in super structure with 1:6 cement mortar.
   c) 2.5 cm thick concrete floor (1:2:4)
   d) Plastering with 1:3 cement mortar.
   Assume any necessary data.   [15]

8.a) What is specification and necessity of specification?
   b) Write down the detailed specifications for the given works.
       i) R.C.C Work   ii) First class brick work.   [5+10]

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