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Total Number of Pages: 04

B.Tech
PCI5D002

5th Semester Regular Examination 2017-18

Quantity Surveying & Estimating

BRANCH: CIVIL

Time: 3 Hours

Max Marks: 100

Q.CODE: B254

Answer Question No.1 and 2 which are compulsory and any four from the rest.

The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

- a) In long and short wall method of estimation, the length of long wall is the centre to centre distance between the walls and
i. Breadth of the wall ii. One fourth breadth of wall on each side
iii. half breadth of wall on each side iv. None of these.
- b) The damp proof course (D.P.C.) is measured in _____
- c) One bag of cement weights _____kg.
- d) Pick up the item of work not included in the plinth area estimate
i. Wall thickness ii. Room area iii. Verandah area iv. Courtyard area
- e) Earnest money deposited with tender is _____% of the estimated cost of the work.
- f) Brick walls are measured in sq. m if the thickness of the wall is _____
- g) In analysis of rates, the provision of water charges = _____
- h) Wood work in partition is measured in _____
- i) The formula for Total float is _____
- j) Three time estimation is used in _____

Q2 Answer the following questions: **(2 x 10)**

- a) What are the purposes of approximate estimate?
- b) What are the data required for preparation of an estimate?
- c) How are general specifications different from detailed specifications?
- d) What are the purposes of rate analysis ?
- e) What do you mean by overhead charges?
- f) What are the various methods to calculate the quantity of earthwork?
- g) What is liquidated damage?
- h) What is NIT?
- i) What is the difference between Float and Slack?
- j) What are the errors in a network?

Q3 Calculate the quantities of the following items from the given fig.1, up to G.L., using long wall short wall method. **(15)**

- a) Excavation for foundations
- b) Cement concrete (1:16:18) in foundations
- c) Brick work in cement mortar (1:6) in foundations and plinth

Q4 Estimate the following quantities of a culvert as shown in Fig 2 **(15)**

- a) Earthwork in excavation
- b) Cement concrete in foundation
- c) I class brick work in 1:4 cement mortar

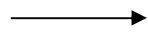
- Q5 a)** Write the detailed specification for following items : **(10)**
 i. Reinforced cement concrete
 ii. Mosaic or terrazzo floor
b) What is specification? Write General Specification of a first class building. **(5)**

Q6 Prepare a detailed estimate for earthwork for a portion of a road from the following data:- **(15)**

Dist. In m	0	100	200	300	400	500	600	700	800	900	1000	1100	1200
R.L of ground	114.50	114.75	115.25	115.20	116.10	116.85	118.00	118.25	118.10	117.80	117.75	117.90	119.50

R.L of formation- 115

Upward Gradient 1 in 200 up to 600m

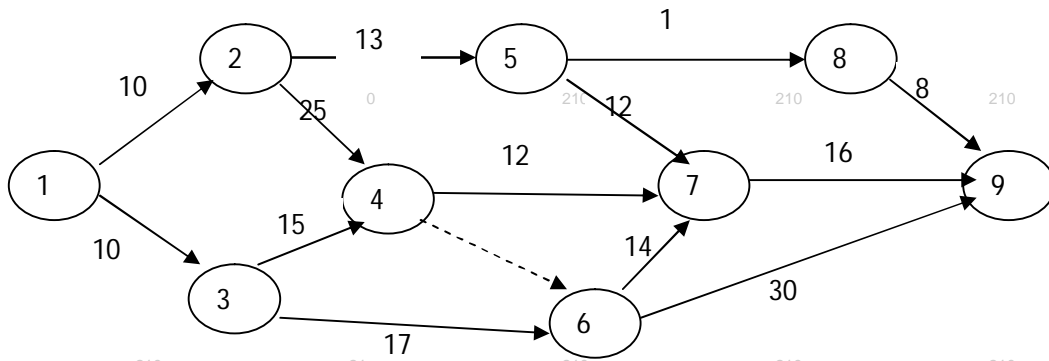


Downward gradient 1 in 400

Formation road is 100metre side slope 2:1 in banking and 1.5:1 in cutting.

- Q7 a)** Work out the rate analysis of following two item: **(10)**
 i. First class brick work in cement mortar in 1:6 in super structure
 ii. RCC work with CC 1:1.5:3 proportion
b) Find out the rate analysis of cement concrete with cement, coarse sand and 4cm gauge stone basalt 1:2:4 proportion. **(5)**

Q8 a) Calculate all activity times of the following CPM network and hence obtain critical path and project duration(in days). **(10)**



b) Discuss about all the steps in evaluation of a tender? **(5)**

Q9 a) Draw a PERT network for the followings and find expected mean time, variance and standard deviation of the project. **(10)**

Activity

Three time Estimates (days)

1-2

6-9-18

1-3

5-8-17

2-4

4-7-22

2-5

4-7-10

3-4

4-7-16

3-5

2-5-8

4-5

4-10-22

b) What are the difference between PERT and CPM? **(5)**

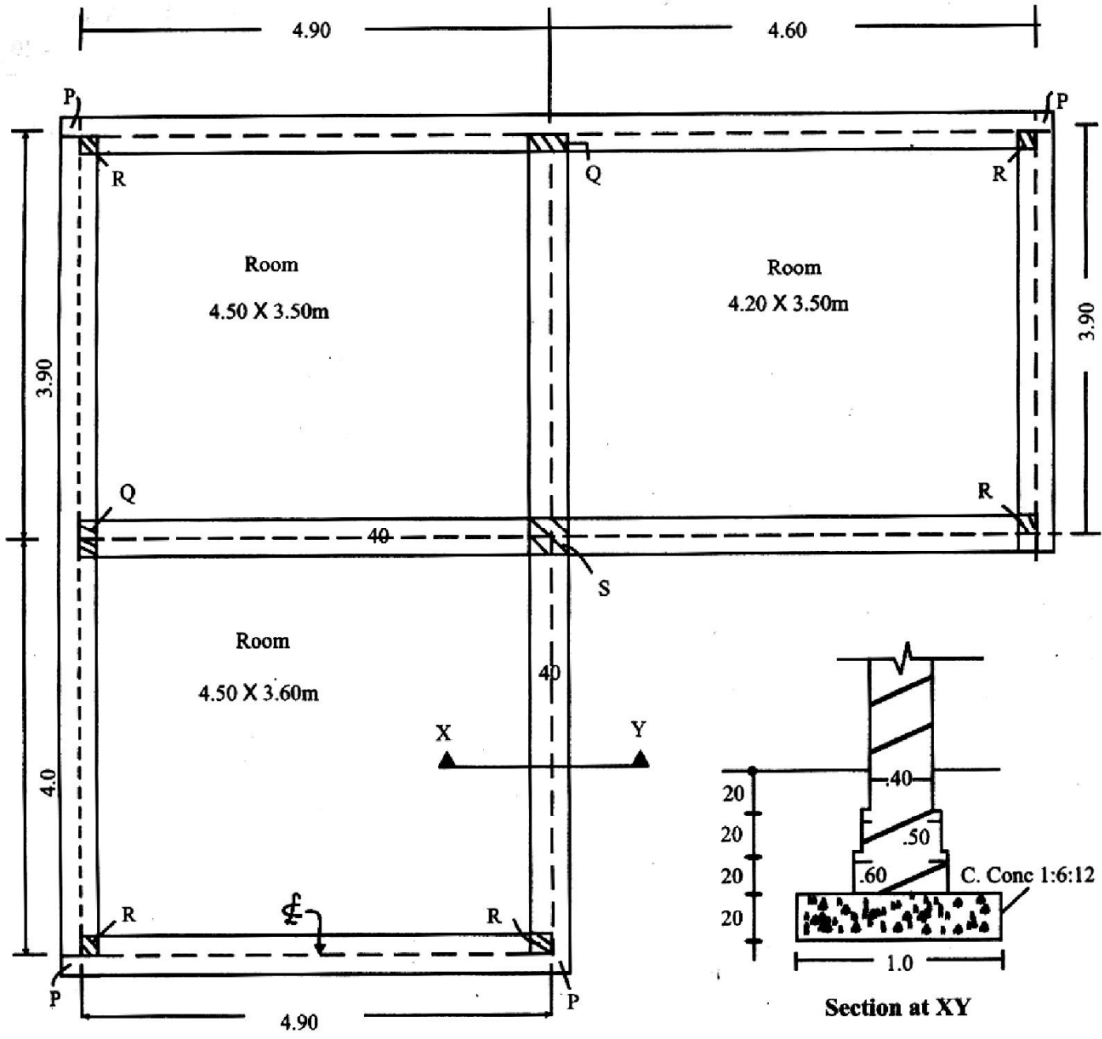


Fig-1

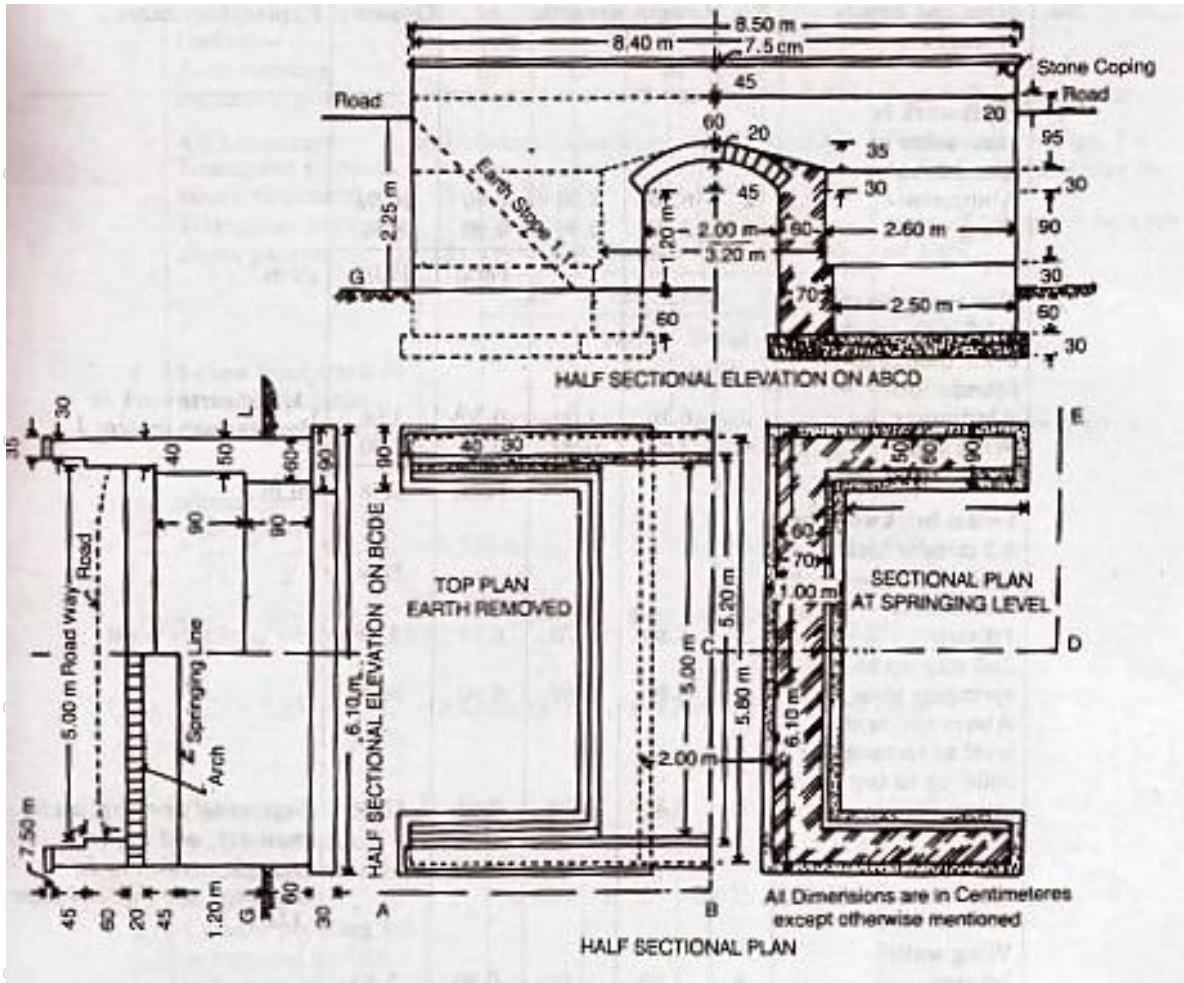


Fig-2