

B.E. Civil Engineering (Model Curriculum) Semester - VI
PCC-CE603 - Economics, Estimation & Costing

P. Pages : 3

Time : Four Hours



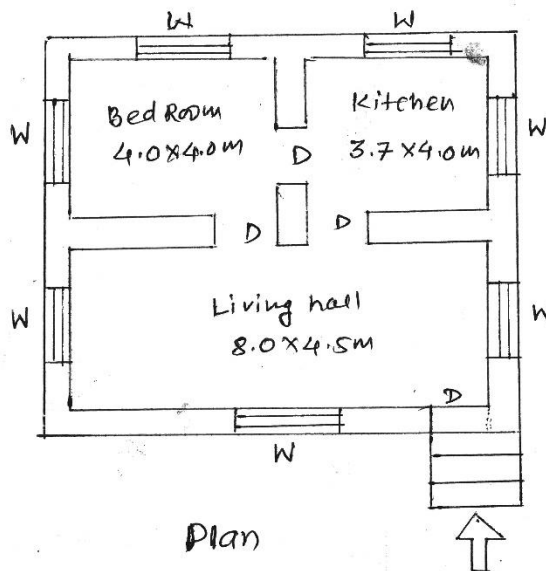
GUG/S/23/13731

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Question No.1 is compulsory.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

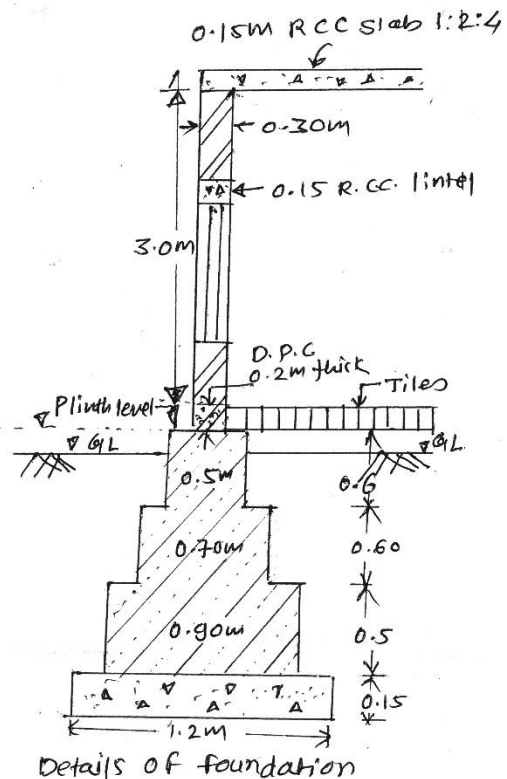
1. Workout quantities of following any five terms and enter the same in standard format for measurement sheet with description of items, refer fig. 16

- i) Earthwork in excavation
- ii) PCC in foundation bed,
- iii) Brick masonry in foundation & plinth.
- iv) Brick masonry in superstructure. Excluding steps
- v) Internal plaster
- vi) Flooring.



D = 1.2 m x 2.1 m

W = 1.2 m x 1.5 m



2. a) State the different types of estimates explain in details the various methods of preparing: 8
- i) Approximate estimate of building.
 - ii) Detailed estimate of building.
- Illustrate suitable examples.
- b) Explain the purposes of quality estimates. 8

OR

3. a) The following table is an extract from the longitudinal section of a road earthwork survey. Calculate quantity of earthwork from following data formation width 12m side slope – 10
- i) Banking 2:1
- ii) Cutting 1.5:1

Chainage	0	30	60	90	120	150	180
RL of Ground	99.70	99.80	100.30	100.50	100.80	100.90	100.60
RL of formation	100.50		in 300(+)		in 150(-)		

- b) Enlist the types of contract and explain any two with its merits and demerits. 6
4. a) Write a details specification of following any two. 6
- i) Earthwork in excavation in foundation trench.
- ii) Laying P. C. C. in foundation trench (1: 4: 8)
- iii) Second class Brick Masonry in superstructure.
- b) Calculate the quantity of earthwork of a portion of irrigation canal with following data: 10
- Bed width = 3m, Free Board = 44cm, Slope of digging = 1:1, side slope of Banking = 1.5:1, fully supply Depth = 1m top width of Both the Banks = 1.5m.

Distance	R. L of Ground (m)	R. L of proposed Bed(m)
0	225.24	224.0
20	224.80	223.94
40	224.43	223.88
60	224.12	223.82
80	224.50	223.76
100	224.98	223.70
120	225.00	223.64

OR

5. a) What do you understand by task work of a Labour. Explain factor affecting task work. 8
- b) A RCC slab over all size $3.3\text{m} \times 6.8\text{m} \times 0.13\text{m}$ is provided with $16\text{ mm}\phi$ as main reinforcement bent up alternately and placed at 140 mm c/c. The alternate bar are bent up at 540mm from outer edge of slab distribution bar's are of $6\text{ mm}\phi$ @ 180 mm c/c. Assuming cover as 20mm throughout calculate quantity of steel reinforcement in bar bending schedule Bearing over 30cm thick wall – 150mm 8
6. a) What is specification? Explain the various types of specification. 6
- b) Enlist the various types of contract and explain any two types of contract. 5
- c) Write a short notes on schedule of Rates. 5

OR

7. a) Define Rate Analysis. Discuss the factor affecting rate analysis. 6
- b) Analyzes the rates for following items **any two**. 10
- i) 12 mm thick internal cement plaster in C. M (1:4)
- ii) P. C. C. (1:4:8)
- iii) IInd class Brick masonry in C. M. 1:6 with local bricks in super – structure.

8. a) Distinguish between. 6
i) Scrap value & salvage value.
ii) Book value of market value
- b) A leasehold property is to produce a Net annual income of Rs. 12,000/- for the Next 30 yrs. 10
The owner expects a return of 8% on his capitals & also sets apart a sinking fund installment to accumulate 6% annually to replace the capital. Determine the capitalized value of property.

OR

9. Write a short notes on **any four**. 16
i) Direct and indirect charge.
ii) Procedure of Receiving the tenders.
iii) Lease hold? Freehold property.
iv) Depreciation.
v) Land act acquisition.
