

BACHELOR OF ARCHITECTURE (BARCH)

Term-End Examination

December, 2012

00131

BAR-053 : ESTIMATING AND COSTING

Time : 3 hours

Maximum Marks : 70

Note : Question number 1 is compulsory. Attempt any four questions from remainings. All questions carry equal marks. Calculator is permitted.

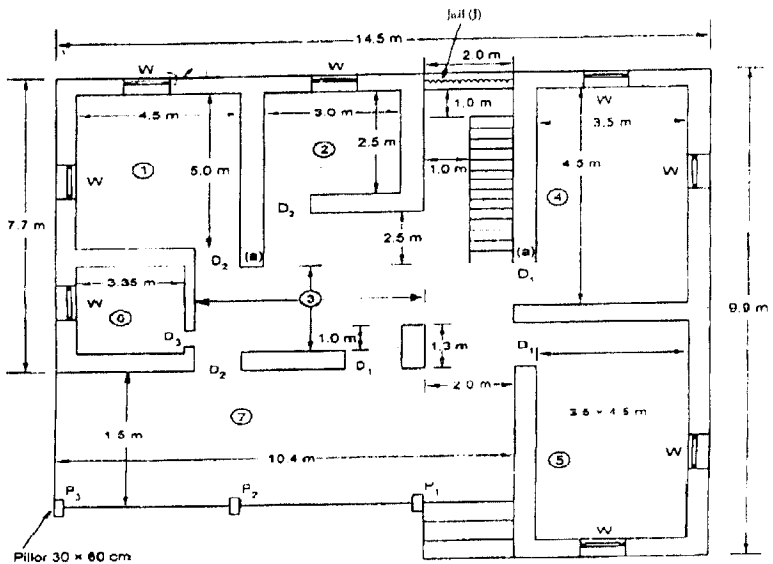
1. (a) Which of the following formula is used for computing volumetric quantity of earth work along a road alignment ? 2x7=14
- (i) Cubical formula
 - (ii) Prismoidal formula
 - (iii) Conical formula
 - (iv) None of the above
- (b) While carrying out rate analysis of civil engineering works the contractor's profit is approximately :
- (i) 5% (ii) 10%
 - (iii) 15% (iv) 20%
- (c) Queen post roof truss is suitable for a span of about :
- (i) 5 m (ii) 9 m
 - (iii) 14 m (iv) 10 m

- (d) In the preparation of a special grade concrete to produce the densest concrete the limits of fine and coarse aggregate are determined in the following method :
- (i) Water cement ratio method
 - (ii) RRL method
 - (iii) Fineness modulus method
 - (iv) None of the above
- (e) The payment of colour washing is carried out on the basis of following method :
- (i) volumetric
 - (ii) surface area
 - (iii) per unit length
 - (iv) All of the above
- (f) Which of the following is unit price contract ?
- (i) Lump sum contract
 - (ii) Item rate contract
 - (iii) Percentage contract
 - (iv) Cost plus fixed fee contract
- (g) The record of daily labour employed on each day on a work is called :
- (i) PWD labour record
 - (ii) Muster Roll
 - (iii) Measurement board
 - (iv) None of the above
2. (a) Discuss the general specifications regarding earth work in single storied residence and multistoried office building. 7

(b) Explain the difference between long wall and short wall method and centre line method with a suitable example. 7

3. Estimate the following quantity of work in the ground floor of a building. 14

1 : 6 Cement - Sand plaster, 12 mm thick (external) on walls, plinth and plinth projections :



Pillar 30 × 60 cm

Sizes of Openings

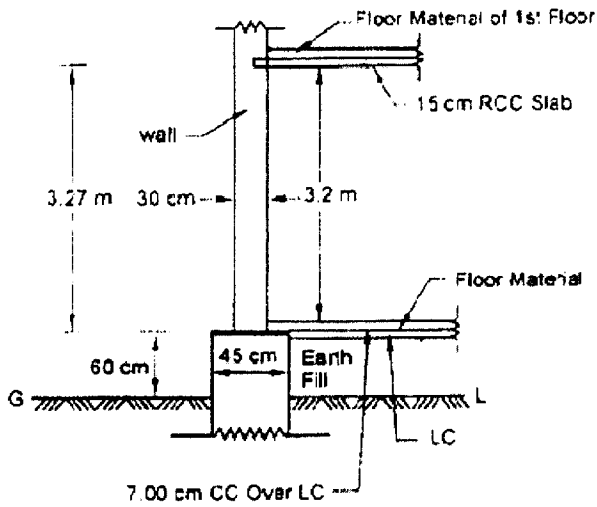
D ₁	1.3 × 2.0 m
D ₂	1.0 × 2.0 m
D ₃	0.8 × 2.0 m
W	2 × 1.3 m
J	2 × 2.7 m
V	0.5 × 0.5 m

Legend

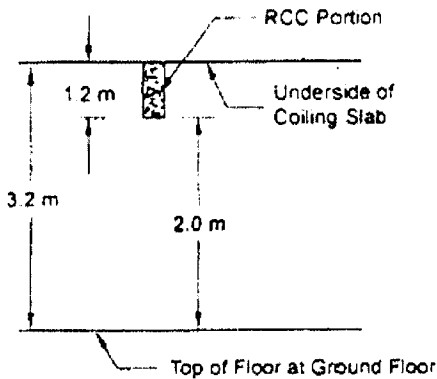
- (1) Drawing room - 4.5 × 5 m
- (2) Kitchen - 3.0 × 2.5 m
- (3) Dining space - 4.6 × 1.8 m
- (4) & (5) Bed rooms = 3.5 × 4.5 m
- (6) Bath room = 3.35 × 1.8 m
- (7) Varandah = 10.4 × 1.5 m

(a) Sectional Plan



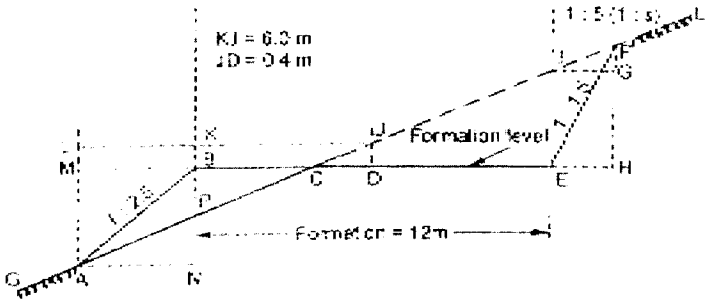


(b) Wall Section



(c) Details of Open End of Dining Space

4. Figure I shows the cross-section (ABCEF) of a hilly road (made up of cutting and filling too). Compute the cross-sectional area of cutting and banking (i.e. filling) separately. 14



Note : J is the projection of the mid-point on to the hilly slope of the formation width BE.

Figure 1 : Cross-section of a Hilly Road : Partly in Cutting and Partly in Banking (Filling)

5. Write the general specifications for following items : 3½x4=14
 - (a) Pointing
 - (b) Distempering
 - (c) Lime plastering
 - (d) Terazzo flooring

6. Write short notes on *any four* of the following : 3½x4=14
 - (a) Item rate contract
 - (b) Tender notice
 - (c) Contract documents
 - (d) Estimation of overhead charges
 - (e) Form work for RCC

7. Draw the neat sketch of king post truss. Also 14
explain how it can be estimated ?