

**BACHELOR OF ARCHITECTURE (B.Arch.)**

**Term-End Examination**

**December, 2015**

00171

**BAR-053 : ESTIMATING AND COSTING**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** *Question no. 1 is compulsory. Attempt any four questions from the remaining. All questions carry equal marks.*

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1. Choose the correct answer :

7×2=14

(a) Balancing depth means

- (i) Area of cutting > Area of filling
- (ii) Area of cutting < Area of filling
- (iii) Area of cutting = Area of filling
- (iv) There is no such relation.

(b) For 10 m<sup>3</sup> of lime concrete in roof terracing with 2.5 cm gauge brick ballast, white lime and surkhi in 100 : 18 : 36 proportion, the quantity of brick ballast will be

- (i) 10 m<sup>3</sup>
- (ii) 8 m<sup>3</sup>
- (iii) 3.6 m<sup>3</sup>
- (iv) 1.8 m<sup>3</sup>

(c) The quantification of brick masonry in foundation work is done by

- (i) Long wall and Short wall method
- (ii) Crossing method
- (iii) Centre line method
- (iv) All of the above

(d) The rise of jack arch roof is given by

- (i)  $l/6$  to  $l/10$
- (ii)  $l/8$  to  $l/10$
- (iii)  $l/6$  to  $l/8$
- (iv)  $l/10$

where  $l$  is the span.

(e) The king post truss is suitable for a span of about

- (i) 6 m
- (ii) 9 m
- (iii) 12 m
- (iv) 15 m

(f) Which of the following is **not** a type of contract as per PWD norms ?

- (i) Lump-sum contract
- (ii) Linear variable cost contract
- (iii) Item rate contract
- (iv) Percentage contract

- (g) Muster Roll is a
- (i) record of daily labour
  - (ii) record of materials
  - (iii) record of both labour and materials
  - (iv) None of the above

2. (a) What are the conditions of a contract ? 7
- (b) Write a tender notice for the construction of an unlined canal. 7

3. Write the general specifications for the following

items :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Cement plastering
- (b) Whitewashing
- (c) Concrete flooring
- (d) Joinery and glazing

4. Write short notes on any **four** of the following :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Types of Tenders
- (b) Formwork for RCC slab
- (c) Long wall and Short wall Methods
- (d) Estimation of Overhead Charges

5. Draw a neat sketch of a queen post truss. Explain how it can be estimated. 14

6. Discuss with a suitable example the estimation of earthwork in canals especially in full cutting, in full filling and in partial cutting and filling. 14

7. The plan of a superstructure wall of a single-room building, 5 m × 4 m in size, where the sections represent the cross-section of the wall with foundation is shown in figure 1 below. Estimate the quantities of the following :

14

- (a) Earthwork in excavation in foundation
- (b) Concrete in foundation
- (c) Brickwork in foundation and plinth
- (d) Brickwork in superstructure

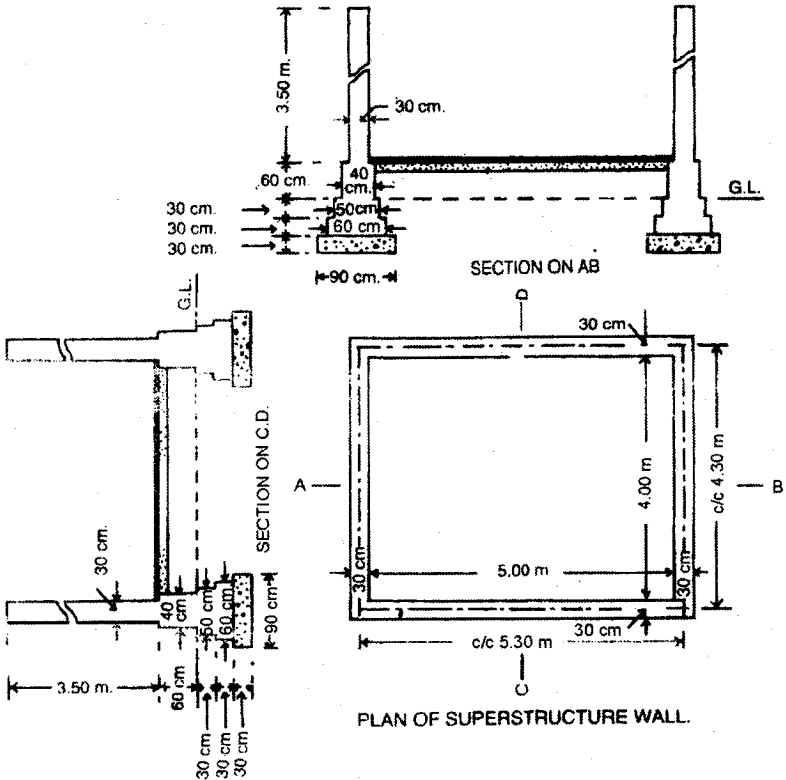


Figure 1