

**Diploma in Civil Engineering**

**Term-End Examination 00422**  
**December, 2011**

**BCE-042 : ESTIMATING & QUANTITY  
SURVEYING-II**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** *Attempt five questions in all. Question no. 1 is compulsory. Assume suitable data wherever required.*

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1. Select the correct answers from the given alternatives : **7x2=14**

- (a) Estimate on typical bay basis is a/an.
- (i) Preliminary
  - (ii) Item wise estimate
  - (iii) Lump-sum estimate
  - (iv) Estimate prepared without drawings
- (b) Item description on take - off sheet (as per MES practice) is written in column number :
- (i) Column 4
  - (ii) Column 2
  - (iii) Column 1
  - (iv) Column 3

- (c) SSR Part II - Rates in MES is compiled and published by E-in-C Branch, New Delhi :
  - (i) Zone wise
  - (ii) Average rates of labour and materials of different zones
  - (iii) Specification wise
  - (iv) Estimate wise
- (d) Standard unit of measurement for white wash on walls is :
  - (i) Per bag
  - (ii) Per sqm
  - (iii) Per kg of lime used
  - (iv) Per litre
- (e) A concrete mixer capacity per batch in litres is written 280/200. What does 280 indicate per batch :
  - (i) Dry weight of mix
  - (ii) Wet weight of mix
  - (iii) Wet volume of mix
  - (iv) Dry volume of mix
- (f) Star rate analysis of item is generally based on :
  - (i) Agreement rates
  - (ii) Schedule rates
  - (iii) Cost to the contractor at site + overhead and profit.
  - (iv) Proportional rates of SSR

- (g) To prepare analysis of rates for items of work one of the reasons is :
- (i) To Calculate Cost Index
  - (ii) To determine the cost per unit of items
  - (iii) To publish NIT in News Papers
  - (iv) To deposit earnest money

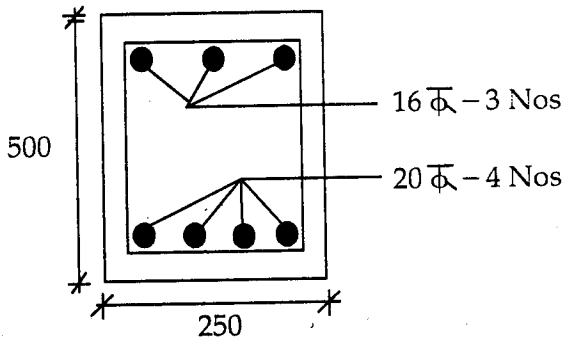
2. Prepare analysis of rates for : **2x7=14**

- (a) Brick work in well burnt old size bricks in super-structure straight or curved on plan exceeding 6 metres radius in cement mortar 1 : 6.
- (b) Prepare a star rate for material and labour AC corrugated sheet roofing with 6 mm thick sheets fixed with 8 mm dia G.I. J-bolts and washers.

3. Calculate the total painting area for painting the following doors and windows : **1x14=14**

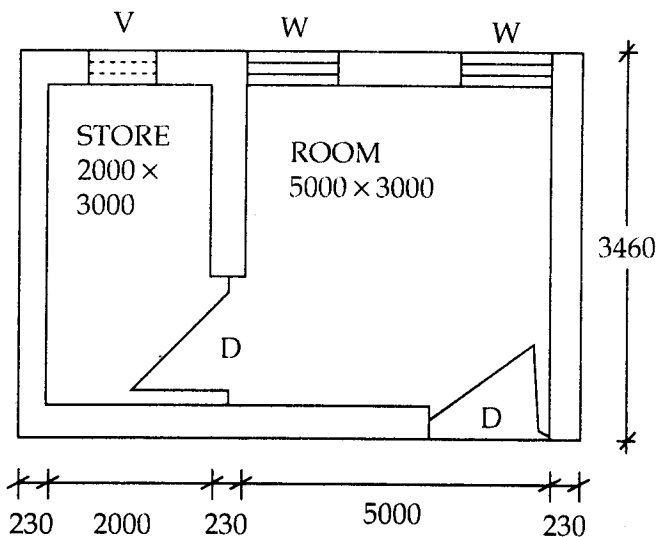
- Flush door shutters  $1100 \times 2100$  mm – 5 Nos
- Panelled door shutters  $1000 \times 2100$  mm – 3 Nos
- Fully glazed steel shutters  $900 \times 600$  mm – 6 Nos.
- Fully glazed wooden shutters for windows  
 $1500 \times 1200$  mm – 8 Nos
- Steel rolling shutters  $2500 \times 2100$  mm – 2 Nos

4. (a) A stadium building has a seating capacity of 40,000 people. Calculate the cost of building if, cost per service unit (per seat) is Rs. 25,000 + Building cost Index (+)30%.  $2 \times 7 = 14$
- (b) A RCC beam is 7000 mm long. It's cross section is  $250 \times 500$  mm. Calculate the quantity of main reinforcement in the beam with the help of given sketch. Assume end covers 40 mm, and no hooks or bent up bars in the beam reinforcement.

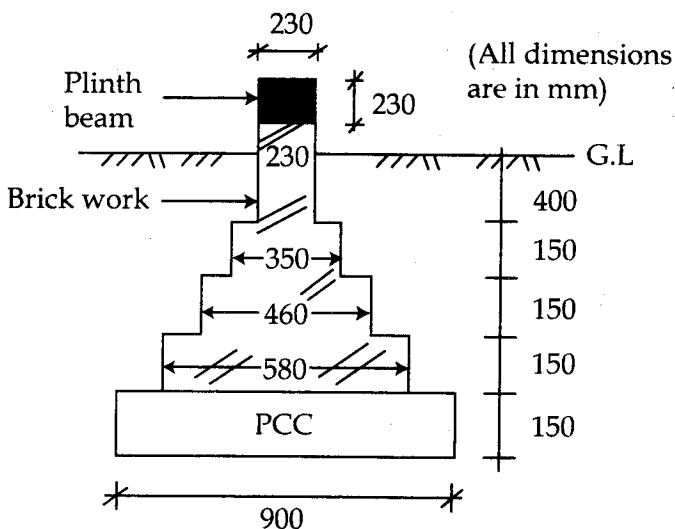


BEAM CROSS-SECTION

5. With the help of the given plan of a building and foundation section calculate the following items :  $4 \times 3\frac{1}{2} = 14$
- Qty of RCC in plinth beam
  - Brick work in foundation upto ground level
  - PCC in foundation base
  - Earth work in excavation in foundation trenches in hard soil.



PLAN



FOUNDATION SECTION

NOTE : ALL DIMENSIONS ARE IN MM

6. A building with a flat slab roof has external dimensions  $30\text{ m} \times 10\text{ m}$ . It has 230 mm thick parapet wall over external walls. Calculate the quantities of the following items :  $4 \times 3\frac{1}{2} = 14$

- (a) Quantity of RCC roof slab assuming full bearing of slab on external walls and slab thickness 120 mm.
- (b) Water proofing treatment inside parapet walls in sq m unit.
- (c) RCC coping over parapet wall assuming  $230 \times 100$  mm cross-section of coping.
- (d) Plinth area of the building.

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

- (a) MES Standard Schedule of Rate Part-II  $4 \times 3\frac{1}{2} = 14$
  - (b) Estimate on 'Plinth Area Basis', and its usefulness
  - (c) Procedure of taking off
  - (d) Major factors affecting analysis of rates
  - (e) Labour output
  - (f) Method of preparation of 'Star Rates'
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