| BAR-053 |

BACHELOR OF ARCHITECTURE (BARCH)

Term-End Examination

June, 2013

00326

BAR-053 : ESTIMATING AND COSTING

Time : 3 hours   *Maximum Marks : 70*

Note :   *Question number 1 is **compulsory**. Attempt **any four** questions from remainings. Use of calculator is permitted.*

1. (a) The estimation of earthwork for building is carried out under following condition (s) :
    - (i) cutting   7x2=14
    - (ii) filling
    - (iii) partial cutting and filling
    - (iv) all of the above

    (b) Laitance is observed in concrete when :
    - (i) it is too wet
    - (ii) it is overtemped
    - (iii) it is Over compacted
    - (iv) all of the above

    (c) Which of the following truss is preferred for the large span ?
    - (i) Simple K truss
    - (ii) King post truss
    - (iii) Queen post truss
    - (iv) All of the above

(d) The quantitative analysis of stone masonry is carried out in :

    (i) per m length

    (ii) square meter of surface area

    (iii) cubical meter

    (iv) any one of the above

(e) In percentage contract systems the charge for the supervision work (in the percentage of total cost) :

    (i) 5% to 10%

    (ii) 10% to 15%

    (iii) 15% to 20%

    (iv) randomly

(f) Arbitration is a process in which :

    (i) record of daily labour is maintained

    (ii) record of material at site is maintained

    (iii) the settlement of dispute is involved

    (iv) none of the above

(g) The centre of gravity of a semi circle (of radius r) from its diameter :

    (i) $\dfrac{2r}{3\pi}$

    (ii) $\dfrac{4r}{3\pi}$

    (iii) $\dfrac{2r}{\pi}$

    (iv) $\dfrac{r}{\pi}$

2. Write down the rate analysis for following types of brick masonry : **2x7=14**

   (a) 10 m³ first class brick work in kankar lime in foundations and plinth.

   (b) 10 m³ first class brickwork in Jack arches in 1 : 3 cement and coarse sand mortar.

3. Compute the quantities of brick masonry work in **14** super structure in 1 : 4 cm following specifications are applicable.

   (a) Height of main rooms from DPC upwards = 4.0 mt

   (b) Height of verandah, passage, kitchen, store, bath and WC = 3.00 mt.
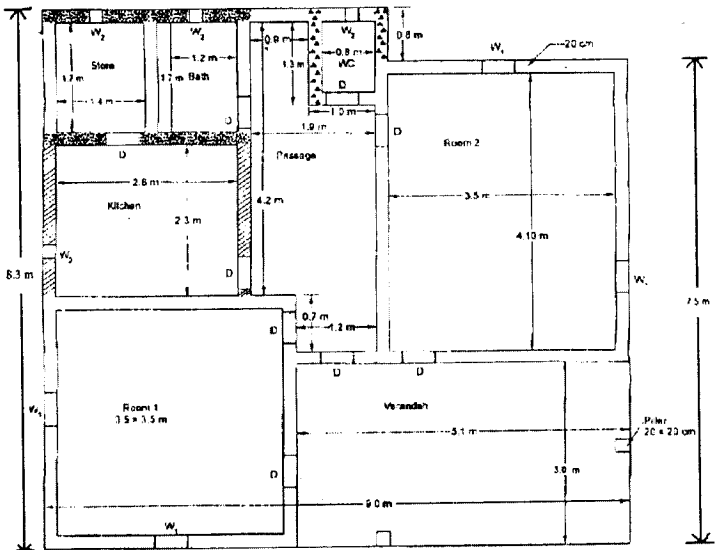
(c) Thickness of walls above the plinth level = 20 cm

(d) Sizes
Doors, D - 1×2.1 mt
Windows, W_1 - 2×1.5 mt (it is a double shutter window)
$\qquad$ W_2 - 1×1.5 mt (a single shutter window).

(e) Thickness of RCC roof slab = 1.5 cm
Thickness of lintels over doors and windows = 10 cm
Bearing of lintels or either side = 10 cm
Calculate the above masonry either by center line or by long and short wall methods.

4. Write short notes on the following : $\qquad$ 2x7=14
   (a) Rate analysis of cement concrete work.
   (b) General specifications of cement concrete work.

5. Write a detailed note on methods of analysis of rates of different materials. $\qquad$ 14

6. Use the following data and arrive at the rate of struck pointing with 1 : 2 cement - sand mortar on brickwork, including raking, watering, supply of materials, labour, tools and plants for 100 m^2 of work cost of cement = Rs. 200/- per bag cost of local sand = Rs. 75/- per m^3. Assume the rate of labour. $\qquad$ 14

7. Write short notes on **any four** :   4x3½=14
   (a) Schedule of quantities
   (b) Types of tender
   (c) Detailed specification of concrete
   (d) Longwall and short wall method
   (e) MAS account
   (f) Methods of quantity surveying