No. of Printed Pages : 4

BCE-034

DIPLOMA IN CIVIL ENGINEERING (DCLE(G))
DCLEVI

Term-End Examination

00520

June, 2014

BCE-034 : ESTIMATING AND QUANTITY SURVEYING – I

Time : 2 hours *Maximum Marks : 70*

Note : *Attempt any **five** questions, including question no. **1** which is **compulsory**. Assume suitable data whenever required. Use of calculator is permitted.*

1. Choose the correct alternative : *7×2=14*

(a) The formula for computing volume of earthwork along a road alignment by average cross-sectional area method is

(i) $V = \left(\frac{A_1 + A_2}{2}\right) l$

(ii) $V = \left(\frac{h_1 + h_2}{2}\right) l$

(iii) $\frac{l}{6} (A_1 + 4 A_m + A_2)$

(iv) $A_m \times l$

(b) The units of measurement of earthwork in cutting are

(i) m^2

(ii) m^3

(iii) per m^2

(iv) per m^3

(c) MB is used for

(i) recording of attendance

(ii) recording of test results

(iii) recording of work done

(iv) recording of site instructions

(d) 2·5 cm thick cement concrete over 7·5 cm lime concrete flooring is provided in

(i) 4^{th} class building

(ii) 3^{rd} class building

(iii) 1^{st} class building

(iv) 2^{nd} class building

(e) For the estimation of quantities in polygonal buildings, having no cross wall, which method is useful ?

(i) Centre line method

(ii) Crossing method

(iii) Long wall – short wall method

(iv) None of the above

(f) The minimum time required for formwork to remain in position for underside of slab, beam and arches upto 6 m span is

(i) 7 days

(ii) 14 days

(iii) 21 days

(iv) 28 days

(g) Muster Roll is used for

(i) Recording site instructions

(ii) Recording measurements of executed work

(iii) Recording attendance of daily labour employed

(iv) None of the above

2. (a) Explain the prismoidal formula method of computing volumetric quantities of earthwork along a road alignment. *4*

(b) A stretch of road is 240 m long. For making the road, the earthwork is to be done in cutting. The cross-sectional area of the earth in cutting is 20 m^2 and 25 m^2 at the ends respectively. Its cross-sectional area at mid-point of road stretch is 23 m^2. Calculate the earthwork in cutting for the road. *10*

3. A semicircular arch has the following dimensions : *14*

(i) Inner radius of arch ring, r = 100 cm

(ii) Thickness of arch ring, t = 25 cm

(iii) Breadth of arch ring, b = 25 cm

Calculate the following quantities :

(i) Central radius of arch ring

(ii) Clear span of the arch

(iii) Average length of arch masonry

(iv) Brick masonry work in arch

4. (a) Describe the general specifications of cement plastering. 7

(b) Explain the general specifications of Lime Concrete (LC) work in buildings. 7

5. By rate analysis procedure, calculate the cost of 10 m^3 of Lime Concrete for the course under floors with 40 mm gauge brick ballast and Kanker lime. Assume the cost of materials suitably. *14*

6. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Estimation by plinth area rates

(b) Stone masonry

(c) Classification of ordinary buildings

(d) Conditions of contract

7. Differentiate between the following : $4 \times 3\frac{1}{2} = 14$

(a) Specifications for earthwork in cutting and filling

(b) Tender and contract

(c) Administrative Approval and Technical Sanction

(d) Centre line and long wall-short wall method of estimation