

DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI

Term-End Examination

December, 2016

BCE-034 : ESTIMATING AND QUANTITY
SURVEYING - I

Time : 2 hours

Maximum Marks : 70

Note : Attempt five questions in all. Question number 1 is compulsory. Use of calculator is permitted.

1. Choose the correct alternative from the given options :

$7 \times 2 = 14$

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

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

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

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

(iv) $A_m \times l$

- (b) The unit of measurement of Lime concrete in foundation is
- (i) m^2
 - (ii) m^3
 - (iii) m
 - (iv) kg
- (c) The least period for formwork to remain in position in case of side of walls, columns, beams and foundation is
- (i) 14 days
 - (ii) 7 days
 - (iii) 48 hours
 - (iv) 24 hours
- (d) Muster Roll is used for
- (i) Recording site instructions
 - (ii) Recording measurements of executed work
 - (iii) Recording test results of materials used
 - (iv) Recording attendance of daily labourers employed
- (e) R.L. of formation line of road depends on
- (i) Longitudinal falling or rising gradient of road formation
 - (ii) Width of road formation
 - (iii) Side slope in cutting
 - (iv) Side slope in filling

- (f) The length of a long wall is
- (i) Inner length of wall + $2 \times$ wall thickness
 - (ii) CL length of wall + $2 \times$ wall thickness
 - (iii) Inner length of wall only
 - (iv) None of the above
- (g) Thickness of joints in brick masonry work should *not* exceed
- (i) 20 mm
 - (ii) 15 mm
 - (iii) 10 mm
 - (iv) 5 mm
2. (a) Explain the prismoidal formula method of computing volumetric quantities of earthwork along a road alignment. 4
- (b) A stretch of road is 300 m long. For making the road, the earthwork is to be done in cutting. The cross-sectional area of earth in cutting is 40 m^2 and 50 m^2 at the ends, respectively. Its cross-sectional area at mid-point of the road stretch is 45 m^2 . Calculate the earthwork in cutting for the road using "Prismoidal Formula Method". 10
3. (a) Explain the general specifications of earthwork in road in filling. 7
- (b) Describe the detailed specifications of Lime concrete in foundation. 7

4. Calculate the cost of 10 m^3 of cement concrete in foundations and under floors (with 40 mm gauge brick ballast, fine local sand and cement in 12 : 6 : 1 proportion). 14
5. (a) Discuss briefly the "contract system" for civil construction work, from inviting of tender to the allotment of contract. 7
- (b) Explain the various types of construction works as per estimating. Classify them with respect to PWD work procedures. 7
6. Differentiate between the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Lead and Lift
- (b) Whitewashing and Colour washing
- (c) Spoil Bank and Borrow Pit
- (d) Ashlar masonry and Dry Rubble masonry
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Technical Sanction
- (b) Classification of ordinary building
- (c) Concreting under water
- (d) Deposit works
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