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BCE-034

DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI
Term-End Examination

00887

December, 2017

BCE-034 : ESTIMATING AND QUANTITY SURVEYING – I

Time : 2 hours *Maximum Marks : 70*

Note : *Question no. 1 is* ***compulsory****. Attempt any* ***four*** *more questions out of questions no. 2 to 8. Support your answers with neat sketches. All questions carry equal marks.*

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

(a) The volumetric quantities of earthwork along a road alignment can be calculated by

(i) Average cross-sectional area method

(ii) Mid-sectional area method

(iii) Prismoidal formula method

(iv) All the above

(b) The unit of measurement of brick masonry in a superstructure is

(i) m^3

(ii) m^2

(iii) m

(iv) kg

(c) The least period for formwork to remain in position in case of undersides of beams and arches with more than 6·0 m span and up to 9·0 m span is

(i) 14 days

(ii) 21 days

(iii) 28 days

(iv) 365 days

(d) In one cubic metre of brick-work, the number of bricks required is

(i) 400

(ii) 450

(iii) 500

(iv) 550

(e) Which of the following is ***not*** a part of the tender document ?

(i) Set of specifications

(ii) Copy of tender notice

(iii) Set of conditions of contract

(iv) Measurement book

(f) For the measurement of concrete work no deductions in quantities are made for openings in concrete if their area is less than or equal to

(i) $0{\cdot}1\ m^2$

(ii) $0{\cdot}01\ m^2$

(iii) $1{\cdot}0\ m^2$

(iv) $10\ m^2$

(g) King post truss is used up to a span of

(i) 7·50 m

(ii) 9·00 m

(iii) 12·00 m

(iv) 14·00 m

2. (a) Explain average cross-sectional area method of computing volumetric quantities of earthwork along a road alignment. *4*

(b) A stretch of road is 400 m long. For making the road, the earthwork is to be done in cutting. The cross-sectional area of earth in cutting is 95 m^2 and 105 m^2 at both the ends respectively. Calculate the earthwork in cutting for the road using "Average Cross-Sectional Area Method". *10*

3. (a) Describe the general specifications of cement concrete work in buildings. *7*

(b) Explain the procedure of estimation of brick masonry in a semi-circular arch. *7*

4. Calculate the cost of 10 m^3 of lime concrete in roof terracing with 2·5 cm gauge brick ballast, white lime and surkhi in 100 : 18 : 36 proportion. *14*

5. (a) Explain how trusses are more economical and efficient than load bearing beams. 7

(b) Discuss the requirement of men and material for whitewashing three coats having total surface area as 100 m^2. 7

6. (a) Discuss the procedure of estimation of overhead charges for any work. 7

(b) Explain the various types of contracts in vogue in PWD. 7

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

(a) Earthwork in Filling

(b) Measurement of Concrete Works

(c) Classification of Works as per PWD Norms

(d) Termination of Contract

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

(a) Tender and Contract

(b) Administrative Approval and Technical Sanctions

(c) Whitewashing and Colour Washing

(d) Earnest Money and Security Money