

**B. E. (Fourth Semester) (CGPA)
EXAMINATION, 2011-12**

UITians

(Civil Engg. Branch)

QUANTITY SURVEYING AND COSTING

(CE - 405)

Time : Three Hours

Maximum Marks : 60

Note : Attempt all questions. All questions carry equal marks.

Section - A

1 each

(Objective Type Questions)

1. Choose the correct answers.

- (i) According to Indian standards, the nominal size of brick is :
- (a) $20 \text{ cm} \times 10 \text{ cm} \times 10 \text{ cm}$
- (b) $23 \text{ cm} \times 11 \text{ cm} \times 11 \text{ cm}$
- (c) $19 \text{ cm} \times 9 \text{ cm} \times 9 \text{ cm}$
- (d) $23 \text{ cm} \times 12 \text{ cm} \times 12 \text{ cm}$
- (ii) Earthwork in excavation and earth work is usually measured in :
- (a) Running metre

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- (b) kgs
- (c) Cu m
- (d) Sq m
- (iii) The density of steel used for reinforcement is taken as :
(a) ~~7850 kg per cu m~~
(b) 8000 kg per cu m
(c) 8 gms per cc
(d) 75 q per cu m
- (iv) Minimum liquid depth in the design of septic tank is :
(a) 1.5 metre
(b) 1 metre
(c) 2 metre
(d) 1.75 metre
- (v) The most reliable estimate is :
(a) Detailed estimate
(b) Preliminary estimate
(c) Plinth area estimate
(d) Cube rate estimate
- (vi) Usually normal lead and lift is :
(a) 30 m, 1.5 m
(b) 20 m, 1 m
(c) 25 m, 1.2 m
(d) 20 m, 2 m

(vii) The task for an average artisan per day for brickwork in lime or cement mortar in foundation and plinth is :

- (a) 1 cu m
- (b) 1.25 cu m
- (c) 2 cu m
- (d) 3 cu m

(viii) For working out the quantity of materials for 10 cu m concrete, total sum of dry material volume is usually taken as :

- (a) 20 cu m
- (b) 15.2 cu m
- (c) 8 cu m
- (d) 16 cu m

(ix) How many cement bags are needed for making 1 cu m of cement concrete 1 : 2 : 4 ?

- (a) 70 bags
- (b) 66 bags
- (c) 80 bags
- (d) 75 bags

(x) For 5% interest, year's purchase is :

- (a) 20
- (b) 25
- (c) 30
- (d) 10

Section - B

2. Write down at least 10 main items of work along with their mode of measurement.

Unit II

Differentiate between the following :

- (a) Measurement sheet and abstract sheet
- (b) Individual wall method and centre line method
- ~~(c) Plinth area estimate and cube rate estimate~~
- (d) Market value and book value

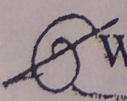
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 Figure shows the plan and cross section of the wall with standard modular bricks. Work out qtys. of the following items. :

10

- (a) Earthwork in excavation
- (b) Line concrete in foundation
- (c) First class brick work in lime mortar in foundation and plinth
- (d) First class brickwork in lime mortar in superstructure

Or

 What are different types of estimate ? Explain in brief giving examples.

10

 Reduced level of ground along the centerline of a proposed road from chainage 10 to chainage 20 are given below. The formation level at the 10th chainage is 107 and the road is in downward gradient of 1 in 150 upto the chainage 14 and then the gradient changes to 1 in 100 downward. Formation width of road is 10 metre and side slopes of banking are 2 : 1 (horizontal : vertical). Length of the chain is 30 metre. Work out the qty. of earthwork :

10

Chainage	RL of Ground	Gradient
10	105.00	DOWN 1 IN 150
11	105.60	AS ABOVE
12	105.44	AS ABOVE
13	105.90	AS ABOVE
14	105.42	AS ABOVE
15	104.30	DOWN GRADIENT
16	105.00	1 IN 100
17	104.10	AS ABOVE
18	104.62	AS ABOVE
19	104.00	AS ABOVE
20	103.3	AS ABOVE AS ABOVE

Or

Give approximate qty. of task work for an average artisan per day for the following items : 10

- (a) Earth work in excavation
- (b) Brick work in cement mortar in foundation and plinth
- (c) 12 mm thick plastering with cement mortar
- (d) White washing three coats

Write the analysis of rates for the following items : 10

- (a) Cement concrete 1 : 5 : 10 in foundation
- (b) First class brick work in superstructure with $20 \times 10 \times 10$ cm brick with 1 : 6 cement sand mortar

Or

Write notes on the following : 10

- (a) Task or out-turn work

- (b) Factors involved in the rate of an item
 (c) Contingency
 (d) Estimate of water supply, sanitary and internal electrification

6. Explain the following : 10

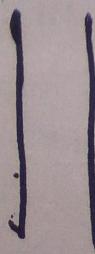
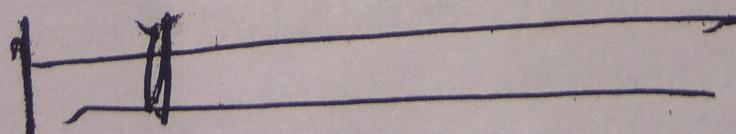
- (a) methods of depreciation
 (b) sinking fund
 (c) annuity
 (d) obsolescence

Or

A first class type building is situated by the side of a main road of Mumbai, on a land of 500 sq m. The built up portion is $20 \text{ m} \times 15 \text{ m}$. The building is equipped with all the necessary functional requirements. The age of the building is 35 years. Work out the valuation of the property. Assume suitable data whenever required. 10

Cost of land = ₹ 60 per sq m

Cost of plinth area = ₹ 200 per sq m



9

5

(7)

WALL WITH STANDARD MODULAR BRICKS.

