

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2018

Marks scored:

Level : B. E.

Year : III

Exam Roll No. :

Time: 30 mins.

Registration No.:

Course : CIEG 306

Semester: I

F. M. : 10

Date : MAR 20 2018

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose the most appropriate answer among the given choices.

1. The main objective of the estimating is
 - a) To find the probable cost of work
 - b) To find the quantity of various materials and labor
 - c) To find the time for completion of work
 - d) To help the checking the work done by the contractor
2. Pick up the items of work not included in the plinth area estimate
 - a) Wall thickness
 - b) Room area
 - c) Verandah area
 - d) Courtyard area
3. The brickwork is not measured in cu m in case of
 - a) One or more than one brick wall
 - b) Reinforced brickwork
 - c) Half brick wall
 - d) Brickwork in arches
4. The quantum of work of any item a skilled labour is supposed to turnout in a day is known as
 - a) Unit work
 - b) Task work
 - c) Target work
 - d) Basic work
5. Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds
 - a) 2.0%
 - b) 2.5%
 - c) 4.0%
 - d) 5.0%
6. The covered area of the proposed building is 150 m² and it includes a rear courtyard of 5m* 4m. If the plinth area rate is Rs 1250/m². What is its cost?
 - a) Rs 1,87,500
 - b) Rs 2,12,500
 - c) Rs 1,62,500
 - d) Rs 3,75,000
7. During the calculation of RCC the amount of steel deducted is
 - a) 3% of total steel
 - b) 5% of total steel
 - c) 10% of total steel
 - d) 0% of total steel
8. Bill of Quantities are prepared by
 - a) Quantity Surveyor
 - b) Vendors
 - c) Geodetic Surveyors
 - d) Suppliers
9. In RCC work, one mason in one day can perform
 - a) 1.25 m³
 - b) 1.50 m³
 - c) 2.00 m³
 - d) 3.00 m³

10. The nominal lead and lift allowed for the earthwork in excavations of foundations are (NS norm)
- a) 50 m and 2 m b) 30 m and 2 m c) 30 m and 1.5 m d) 20 m and 1.5 m
11. The volume of cement in one bag is
- b) 0.067 m^3 b) 0.050 m^3 c) 0.0347 m^3 d) 0.025 m^3
12. When it is not specified, the number of hold fast for a window is usually taken as
- a) 2 b) 4 c) 6 d) 8
13. The gradual reduction in value with age of property is known as
- a) Devaluation b) Revaluation c) Depreciation d) Appreciation
14. Which of the following is known as job overhead?
- a) Stationery b) Postage
c) Workman's compensation d) Rent and Taxes
15. The value of property that can be obtained at any particular time from the open market if the property is put for sale, is known as
- a) Market value b) Book value c) Current value d) Rateable value
16. The approximate cost of the complete labour as a percentage of the total cost of building is
- a) 10% b) 25% c) 40% d) 5%
17. In what units are the quantities for the frames of doors and windows computed?
- a) m b) m^2 c) m^3 d) Lump-sum
18. Approximate weight of 1 cubic meter sand is
- a) 800 kg b) 1600 kg c) 2400 kg d) 3200 kg
19. Find the value of year's purchase to get Rs 1 per year at the interest rate of 10%
- a) 25.00 b) 20.00 c) 15.00 d) 10.00
20. Which of the following factors is a reason for the need to provide for contingency in the cost estimate of a project?
- a) unreliability b) uncertainty c) under estimation d) unstable market

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Level : B.E.
Year : III
Time : 2 hrs. 30 mins.

Course : CIEG306
Semester : I
F. M. : 40

SECTION "B"

[4Q.× 4=16 marks]

Attempt *ALL* questions. Assume suitable data if necessary.

1. What is capitalised value? A pumping set with motor has been installed in a building at a cost of Rs 2,500.00. Assuming the life of pump as 15 years. Work out the amount of annual instalment of Sinking fund required to be deposited to accumulate the whole amount of 4% compound interest. [1+3]
2. Write short notes on [2+2]
 - a. Bar Bending Schedule
 - b. Supplementary Estimate
3. Calculate the quantity of materials required for 10 m³ coursed rubble stone masonry in superstructure (1:6). [4]
4. Calculate the quantity of earthwork for 200 metre length for a portion of road in a uniform ground the height of banks at the two ends being 1.00 m and 1.60 m. The formation width is 10 metre and the side slopes 2:1. Assume that there is no traverse slope. Use prismoidal formula for the calculation. [4]

SECTION "C"

[4Q.× 6=24 marks]

Attempt *ALL* questions. Assume suitable data if necessary

5. Differentiate between [2+2+2]
 - a) Depreciation and Obsolescence
 - b) Short and Long wall method and Centre line method
 - c) Cost and Value
6. What do you mean by property valuation? A coloniser intends to purchase a land of 100,000 sq m area located in the suburb of a big city to develop it into plots of 700 sq m each after providing necessary roads and parks and other amenities. The current sale price of small plots in the neighborhood is Rs 30.00 per sq m .The colonizer wants a net profit of 20% on the sale price. Work out the maximum price of the land at which the colonizer may purchase the land. The details of the expenses is given below
 - Cost of improving of land leveling and dressing @Rs 0.25 per sq m
 - Cost of providing metalled road drainage , water supply and electrification @Rs 3.00 per sqm of whole land
 - Engineers and architects fee for surveying planning, subdividing, and supervising @3% on the sale price
 - Other miscellaneous expenses @1% on the price

7. Estimate the cost of earthwork for a portion of road for 400 metre length from the following data. RL of formation at starting is 52.00.
 Road is in downward gradient of 1 in 200.
 Formation width of road= 10 m.
 Side slopes are 2:1 in banking and 1.5:1 in cutting [4+1+1]
 Assume earthwork in banking is Rs 275.00% cu m and earthwork in cutting Rs 350.00% cu. m. Draw also longitudinal and cross section.

Station	25	26	27	28	29	30	31	32	33	34	35
Distance (m)	1000	1040	1080	1120	1160	1200	1240	1280	1320	1360	1400
R.L of Ground	51.00	50.90	50.50	50.80	50.60	50.70	51.20	51.40	51.30	51.00	50.60

8. From the given drawing of Septic tank, Estimate the quantities of
 a) Earthwork in excavation
 b) Cement concrete (1:3:6)
 c) First class brickwork (1:4)
 d) 12 mm cement plaster (1:3)
 e) 50 mm dia .C.I cowl at top of ventilating pipe [1+1+2+1+1]

All dimensions are in metre unless otherwise stated

