KATHMANDU UNIVERSITY
End Semester Examination
March/April, 2017

Marks scored:

Level : B.E.
Year : III
Course : CIEG 306
Semester : I
Exam. Roll No. :
Time: 30 mins.
F. M. : 10
Registration No.:
Date : MAR 2 8 2017

SECTION "A"
[20 Q × 0.5 = 10 marks]

Choose the most appropriate answer among the given choices.

1. Generally the quantities of lining of canal is computed in
   a) m b) m^2 c) m^3 d) Lump-sum

2. Generally, the quantities of surface dressings is measured in
   a) m b) m^2 c) m^3 d) Lump-sum

3. Which of the following is not a common size of reinforcement?
   a) 16 mm b) 25 mm c) 20 mm d) 28 mm

4. The explosives for blasting is generally measured in
   a) Explosive power b) Volume of earthwork that can be lasted
   c) Kilograms d) m^3

5. No deduction is made in the masonry for the openings if the area of the opening does not exceed
   a) 0.5 m^2 b) 0.25 m^2 c) 0.15 m^2 d) 0.10 m^2

6. The amount required to be deposited by a contractor while submitting a tender is known as
   a) Fixed deposit b) Caution deposit
   c) Performance deposit d) Earnest money deposit

7. The gradual accumulation of amount by way of annual periodic deposits which is meant for replacement of the structure at the end of its useful life period is known as
   a) Annuity b) Depreciation c) Sinking fund d) Solatium

8. The estimate of brickwork required in a wall 4m long, 3m high and 30 cm thick with rate Rs 320.00 per cumis
   a) Rs 1152.00 b) Rs 1172.00 c) Rs1162.00 d) Rs 1142.00

9. Pick up the items of work included as the circulation area.
   a) Wall thickness b) Room area c) Verandah area d) Courtyard area

10. In long and short wall method of estimation, the length of long wall is the center to center distance between the walls and
    a) Breadth of walls b) Half breadth of wall on each side
    c) One fourth breadth of wall on each side d) One sixth breadth of wall on each side

11. The estimate of plastering (two faces) required in a wall 4m long, 3m high and 30 cm thick with rate Rs 8.00 per sqm is
a) Rs 204.00 b) Rs 102.00 c) Rs 104.00 d) Rs 408.00

12. A document containing detailed description of all the items of work (but their quantities are not mentioned)together with their current rates is called
a) Tender b) Analysis of rate c) Schedule of rates d) Abstract estimate

13. The quantity of earthwork calculated using prismoidal formula 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.
a) 3288 m^3 b) 3188 m^3 c) 3276 m^3 d) 3312 m^3

14. The area of side slopes of portion of bank for a length of 200m the height of banks at the two ends being 2.50mand 3.50 m and the ratio of side slopes 2:1.
a) 2684 m^2 b) 3684 m^2 c) 2584 m^2 d) 3584 m^2

15. A layer of dry bricks put below the foundation concrete, in the case of soft soils,is called
a) Soling b) D.P.C. c) Shoring d) Superstructure

16. The ratio of cost of labour to the cost of the building is
a) 1:10 b) 1:4 c) 1:1 d) 6:10

17. In what units are the quantities of expansion joints in building computed
a) m b) m 2 c) m3 d) Lump-sum

18. The capitalised value of a propertyfetching a net annual rent of Rs 1,000.00 and the highest rate of interest prevalent being 5% is
a) Rs 20,000 b) Rs 50 c) Rs 3000 d) Rs 2000

19. The density of cement is taken as
a) 1500 kg/m^3 b) 1600 kg/m^3 c) 2400 kg/m^3 d) 3200 kg/m^3

20. The annual periodic payments made for the repayments of the capital invested is known as
a) Annuity b) Depreciation c) Sinking fund d) Solatium

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

Course : CIEG 306
Semester : I
F. M. : 40

SECTION "B"
[4Q.×4=16 marks]

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

1. Where and when the following estimates are prepared? [1+1+1+1]
   a) Revised Estimate
   b) Supplementary Estimate
   c) Approximate Estimate
   d) Complete Estimate

2. Write short notes on (ANY TWO) [2+2]
   a) Contingencies
   b) Task or Out Turn work
   c) Actual Cost
   d) General Specification

3. Prepare a preliminary estimate of a two storied office building having a carpet area of 3000 sq. m for obtaining the administrative approval of the Government. It may be assumed that 30% of the built up area will be taken up by the corridors verandahs, staircases etc., and 10% of the built up area will be occupied by walls. Assume plinth area rate including all other facilities is Rs 950.00/m^2. [4]

4. Calculate the quantities of materials (including binding wire) required for 10 m^3 R.C.C. work (1:1.5:3) in columns. [4]

SECTION "C"
[4Q. × 6 = 24 marks]

Attempt ALL questions. Assume suitable data if necessary.

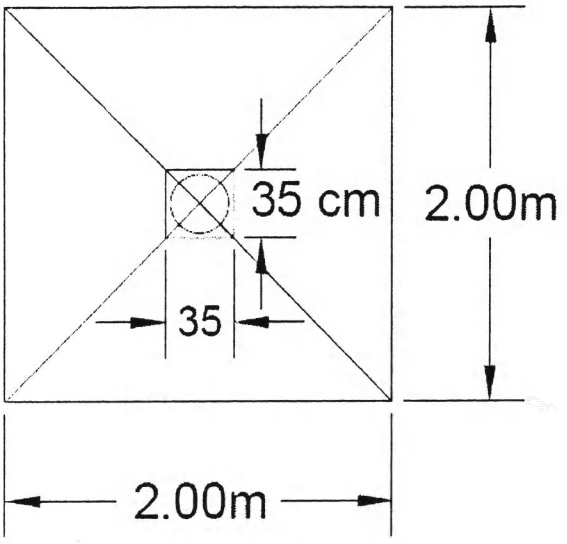
5. A three storied building is standing on a plot of land measuring 800 m^2.The plinth area of each storey is 400 m^2.The building of RCC framed structure and the future life may be taken as 70 years. The building fetches a gross rent of Rs 1500 per month, Work out the capitalised value of property on the basis of 6% net yield. For sinking fund 3% compound interest may be assumed. Cost of land may be taken as Rs 40.00 per Sq. m. Other data are assumed as follows. [6]
   a) Repairs at 1/12 of gross income
   b) Municipal tax 20% of gross rent
   c) Property tax 5% of gross rent
   d) Insurance premium 0.5% of gross rent
   e) Management charges @ 6% of gross rent
   f) Other miscellaneous charge @2% of gross rent

6. Differentiate between [2+2+2]
   a) Salvage value and Scrap Value
   b) Depreciation and Obsolescence
   c) Abstract of Estimate and Bill of quantities

7. Prepare a detailed estimate for earthwork for a portion of road from the following data. Formation 115. Upward gradient 1 in 200 up to 600m. Downward gradient 1 in 400.Formation width of road is 10 metres.Side slope 2:1 in banking and 1.5:1 in cutting. Adopt suitable rates. [6]

Distance in m	0	100	200	300	400	500	600	700	800	900	1000	1100	1200
R.L of ground	114.50	114.75	115.25	115.20	116.10	116.85	118.00	118.25	118.10	117.80	117.75	117.90	119.50

8. From the given drawing of RCC column, Estimate the quantities of
   a) Earthwork in excavation in foundation
   b) Cement concrete (1:4:8) in base
   c) RCC work (1:2:4) in footing
   d) RCC work (1:2:4) in column
   e) Steel reinforcement bars and its bending [1+1+2+1+1]



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