

Marks scored:

KATHMANDU UNIVERSITY
End Semester Examination [C]
July, 2017

Level : B. E.

Year : III

Course : CIEG 306

Semester: I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date : JUL 05 2017

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose the most appropriate answer among the given choices.

1. 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
2. The amount provisioned for tools and plants on earthwork excavation item in norms for rate analysis is
a) 3% of material b) 3% of labour c) 5% of material d) 5% of labour
3. The gradual reduction in value with age of property is known as
a) Devaluation b) Revaluation c) Depreciation d) Appreciation
4. In what units are the quantities for the frames of doors and windows computed
a) m b) m² c) m³ d) Lump-sum
5. The volume of cement in one bag is
a) 0.067 m³ b) 0.050 m³ c) 0.0347 m³ d) 0.025 m³
6. 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
7. The value of the property (after being dismantled) at the end of the useful life period is
a) Scrap value b) Salvation value c) Book value d) Junk value
8. 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
9. The approximate weight of 1 cubic metre sand is
a) 800 kg b) 1600 kg c) 2400 kg d) 3200 Kg
10. Bill of Quantities are prepared by
a) Quantity Surveyor b) Vendors c) Geodetic Surveyors d) Supplier
11. The volume of sand a normal truck can carry per trip is approximately
a) 20-25 m³ b) 15-20 m³ c) 10-15 m³ d) 3-5 m³

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12. 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
13. 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
14. 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%
15. 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) Solutium
16. Find the value of year's purchase to get Rs 1 per year at the interest rate of 5%
- a) 25.00
 - b) 20.00
 - c) 15.00
 - d) 10.00
17. Pick up the items of work included as the circulation area.
- a) Wall thickness
 - b) Room area
 - c) Verandah area
 - d) Courtyard area
18. In long and short wall method of estimation, the length of long wall is the centre to centre 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
19. 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
20. 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

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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. What do you understand by an estimate? What are the requirements of a good estimate? [2+2]
2. Write short notes on (*ANY TWO*) [2+2]
 - a) Obsolescence
 - b) Depreciation
 - c) Freehold Property
 - d) Contract Document
3. What do you mean by 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]
4. Calculate the quantities of materials required for brick work (1:4) for a wall having 23 cm thickness of 20 m length and 5 m height. [4]

SECTION "C"

[4Q.× 6 = 24 marks]

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

5. Prepare a detailed estimate for earthwork for a portion of a road from the following data.
RL of formation at starting is 115.
Upward gradient 1 in 200 up to 600 m and then downward gradient 1 in 400.
Formation width of road= 10 m.
The side slope is 2:1 banking and 1.5:1 in cutting
Assume earthwork in banking is Rs 275.00% cu m and earthwork in cutting Rs 350.00% cu.m. Draw longitudinal and cross section. [1+1+4]

Distance in Meter	R.L of Ground
0	115.50
100	114.75
200	115.25
300	115.20
400	116.10
500	116.85
600	118.00
700	118.25
800	118.10
900	117.80
1000	117.75
1100	117.90
1200	119.50

6. Differentiate between [2+2+2]
- Revised Estimate and Supplementary Estimate
 - Actual Cost and Estimated Cost
 - General Specification and Detailed Specification
7. Explain various methods for calculation of earthwork in road. 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 prismatic formula for the calculation. [2+4]
8. From the given drawing of Septic tank, Estimate the quantities of [1+1+2+1+1]
- Earthwork in excavation
 - Cement concrete (1:3:6)
 - First class brickwork (1:4)
 - 12 mm cement plaster (1:3)
 - 50 mm dia. C.I cowl at top of ventilating pipe

