

3701

B.Tech. (Civil Engg.) 8th Semester (G-Scheme)

Examination, July-2022

ESTIMATION COSTING AND VALUATION

Paper- PCC-CE-402-G

Time allowed : 3 hours]

[Maximum marks : 75

Before answering the questions, candidate should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note: Attempt five questions in all, selecting one-question from each section. Question no. 1 is compulsory. All question carry equal marks.

1. Describe the following: 15
- (a) Necessity of specification
 - (b) Traditional material
 - (c) Purpose of Abstract
 - (d) Earnest Money
 - (e) Gross Income
 - (f) Purpose of Estimating

Section-A

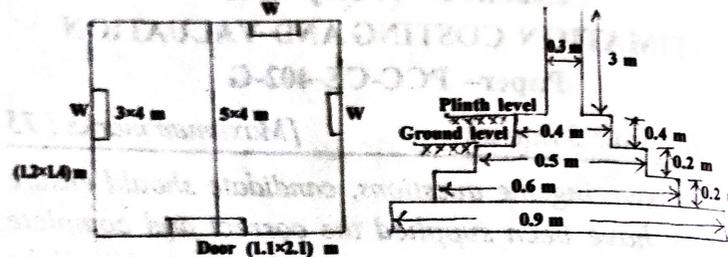
2. (a) What do you mean by estimation and also explain different method of estimation. 7
- (b) Explain different types of estimation. 8

3701-P-3-Q-9 (22)

[P. T. O.]

(2)

3. Estimate the quantity by the long and short wall method of the following figure.



Section-B

4. (a) Explain the specification for different class brick.
 (b) Explain the detail specification of DPC and RCC.
 5. (a) Explain different types of tool and equipment used in construction.
 (b) Differentiate between traditional and modern material.

Section-C

6. Analysis of rate-for 150mm thick RCC slab in 1:1:2 (M20) ratio of slab 10m x 10m. Workout the quantity of dry material, cost of material and cost of RCC work and labor.

(3)

3701

7. (a) What do you mean by muster roll? Explain the maintenance of muster roll. 7
 (b) Explain the process of preparation of final bill. 8

Section-D

8. (a) Explain in detail contract document. 7
 (b) Define contract and also explain type of contract. 8
 9. (a) What do you mean by valuation? and explain the purpose of valuation. 7
 (b) What do you mean by mortgage lease? and explain different types of mortgage lease. 8

B.Tech. (Civil Engineering) 8th Semester (G-Scheme)
Examination, July-2022

GEOTECHNOLOGY

Paper- PEC-CEEL-408-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: (1) Question No.1 is compulsory. Attempt one question from each section

(2) All questions carry equal marks

(3) Assume missing data, if any, suitably

- (a) Uses of Stability Number
- (b) Necessity of braced cuts
- (c) Differentiate cantilever and anchored sheet piles
- (e) Necessity of machine foundation
- (f) Dynamic compaction
- (g) Components of a finite and infinite slope 15.

Section-A

2. (a) Define different types of slopes. Enumerate the factors affecting slope stability. 7

(b) Analyse the different causes of slope failure? Describe the stability of finite slopes by friction circle method. 8

3. (a) What do you mean by critical slip circle? Describe Fellenius method to locate the centre of most critical slip circle. 7

[P. T. O.]

(2)

- (b) Describe the stability analysis of infinite slopes.

Section-B

4. (a) Draw the apparent pressure distribution diagram recommended by Terzaghi and Peck for cohesionless sand, firm clay and soft clay. Also determine the load can be calculated in each case.

- (b) What is sheeting and bracing system? Describe the components of sheeting and bracing system.

5. (a) What is the necessity of coffer dam? Explain different types of coffer dams in detail.

- (b) Briefly describe the factors affecting the stability of cellular coffer dam on rocks.

Section-C

6. (a) Determine the embedded depth of a cantilever sheet pile penetrating a clay deposit, with granular backfill of height 5 m. The unit weight for clay deposits and backfill are 19 kN/m^3 and 16 kN/m^3 . Given for clay deposits, $c = 50 \text{ kN/m}^2$ and for backfill, $\Phi = 30^\circ$.

- (b) What are the different types of sheet pile? Explain briefly.

(3)

3704

7. An excavation 8 m deep is to be made in cohesionless soil having $\gamma = 16 \text{ kN/m}^3$, $\Phi = 35^\circ$. Determine the minimum depth of embedment for equilibrium. The anchors and water table are at a depth of 2.5 m and 3 m below the ground surface. Assume free earth support conditions. 15

Section-D

8. (a) Describe the characteristics elements of a vibratory system in detail. 7

- (b) What is Barkens spring constant? Explain Barkens method to determine natural frequency of a block foundation. 8

9. Write a short note on the following: 15

- (a) Bituminous and lime stabilization
- (b) Damping
- (c) Grouting and reinforced earth
- (d) Free and forced vibrations
- (e) Resonance

3705

B.Tech. (Civil Engg.) 8th Semester (G-Scheme)

Examination, July-2022

ADVANCED STRUCTURE ANALYSIS

Paper- PEC-CEEL-410-G

Time allowed : 3 hours]

[Maximum marks : 75

Before answering the questions, candidate should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note: Attempt five questions in all, selecting one-question from each section. Question no. 1 is compulsory. All question carry equal marks.

1. Describe the following: 15
- (a) Degree of freedom
 - (b) Indeterminacy
 - (c) Trusses
 - (d) Partially discontinuous beam
 - (e) Torsion Factor
 - (f) Substructure Technique

Section-A

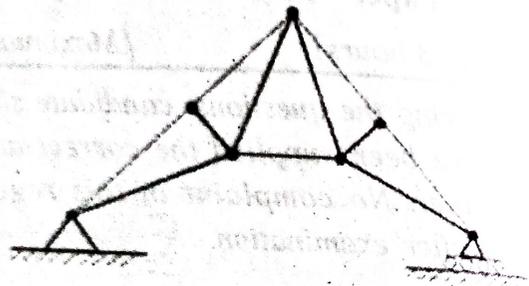
2. Explain the Maxwell Betti's and Castigliano's theorem in detail. 15

3705-P-3-Q-9 (22)

[P. T. O.]

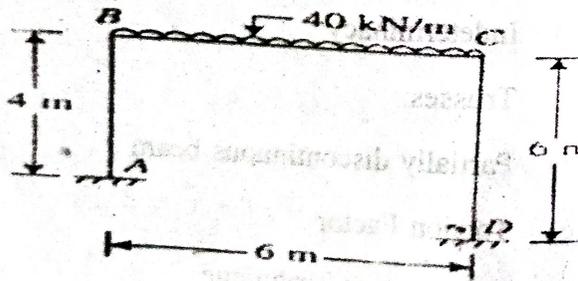
(2)

3. Differentiate static and kinematic indeterminacy of structure. Also determine the indeterminacy in following figure.



Section-B

4. Analysis the rigid jointed plane frame shown in figure by flexibility matrix method. EI is constant throughout.

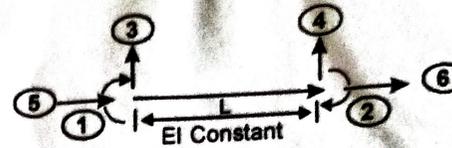


5. Develop stiffness matrix for the end loaded prismatic member AB with reference to coordinates shown in figure.

15

(3)

3705



Section-C

6. What do you mean by partial discontinuity in member? Also explain analysis of partial discontinuous beam with suitable example. 15
7. Explain the effect of axial forces on flexural stiffness with suitable example. 15

Section-D

- (a) A horizontal semi-circular beam of radius R is fixed at the ends and carries a uniformly distributed load over the entire length. Determine the bending moment at the support. 7
- (b) What are the forces developed at a section of curved beam? Explain. 8
9. Explain the educational computer program for the matrix analysis of plane frames. 15