E ENGINEERING
G

3701

B.Tech. (Civil Engineering) 8th Semester

(G-Scheme) Examination, May-2024

Estimating, Costing and Valuation

Paper : PCC-CE-402G

Time allowed : 3hours] *[Maximum marks : 75*

Note: ***Question No. 1 is compulsory****. Attempt* ***one*** *question from each section. All questions carry equal marks. Assume missing data, if any suitably.*

1. (a) Different types of specifications and their uses

(b) Traditional and modular materials

(c) Factors affecting rate analysis

(d) Administrative sanction

(e) Preparation of pay bill

(f) Lease hold and free hold property 15

Section–B

4. (a) Describe the general specification of Ist class and IInd class building. 8

(b) Describe the detailed specifications of R.C.C Slab (1:2:4), D.P.C (1:1.5:3) and painting. 7

5. (a) Describe the advantages and disadvantages of open and closed specification. 8

(b) What do you mean by market survey of construction materials ? Describe in detail. 7

Section–C

6. (a) What is rate analysis ? Describe the importance and requirement of rate analysis. 8

(b) Determine the rate for a wall of 30 m length, 5 m height and 30 cm nominal thickness. 7

[P.T.O.

7. (a) Describe the procedure of rate analysis for R.C.C. work and plastering. 8

(b) What is Muster Roll ? What are the rules for writing muster roll ? Give common irregularities which may occur in the maintenance of muster roll. 7

Section–D

8. (a) What are the different methods of valuation of a building ? Explain each in detail. 8

(b) Explain the rental-return method of valuation in detail. 7

9. (a) What are the different types of contracts ? Briefly describe the advantages and disadvantages of these contracts. 7

(b) Describe the following :

(i) Different types of payments

(ii) Earnest, security and retention money 8

3704

B. Tech. (Civil Engineering) 8th Semester,
(G-Scheme) Examination, May–2024

GEOTECHNOLOGY

Paper–PEC-CEEL-408-G

Time allowed : 3 hours] *[Maximum marks : 75*

Note : ***Question number 1 is compulsory*** *Attempt* ***one*** *question from each section. All question carry equal marks. Assume missing data, if any, suitably.*

1. (a) Causes of failure of slopes

   (b) Factors affecting slope stability

   (c) Necessity of sheeting and bracing system

   (d) Purposes of sheet piles

   (e) Characteristic elements of a vibratory system

   (f) Dynamic compaction 15

Section-A

2. (a) What do you mean by infinite slope? Derive an expression for the factor of safety of an infinite slope in a cohesionless soil.

   (b) What is Taylor's stability number? Explain its utility in the analysis os stability of slopes.

3. (a) Explain the procedure for stability analysis of finite slopes using method of slices. 7

(b) Describe with neat sketch the Fellinius method to locate centre of most critical slip circle. 8

Section-B

4. (a) What is bracing system? Describe the different components of bracing system. 7

(b) Draw different types of apparent pressure diagrams used in braced cuts. What are the factors that affect the pressure distribution? 8

5. (a) What are the different types of coffer dam? Explain with their advantages and disadvantages. 7

(b) Describe the design criteria of cellular coffer dam on soil. 8

Section-C

6. (a) What is sheet pile? Differentiate between cantilever and anchored sheet pile. 7

(b) Derive an expression for depth of embedment of cantilever sheet pile in cohesionless soil using rigorous method. 8

7. An anchored sheet pile retains soil to a height of 8 m. Determine the depth of embedment for anchored sheet pile with fixed earth support method if $\Phi = 30^0$, $\gamma = 19\ kN/m^3$. Also determine the anchor force per unit length. 15

Section-D

8. (a) Explain the general criteria for satisfactory action of a machine foundation. 7

(b) What is Barken's soil spring constant? Explain Barken's method for determining the natura frequency of a block foundation subjected t vertical oscillations.

9. Write short note on the following :

(a) Lime and cement stabilization

(b) Grouting and reinforced earth

(c) Stabilization using stone column and its advant