No. of Printed Pages : 4
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5th / Civil, Const. Mgmt.

Subject : Soil Foundation Engg.

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Objective type questions. All questions are compulsory (10x1=10)

Q.1 The father of soil Mechanics is _____.

Q.2 Define fine Grained soil?

Q.3 The volume of voids to the total volume of soil mass is called_____.

Q.4 What is the size of silt.

Q.5 Write down the formula for coefficient of uniformity.

Q.6 Define Permeability.

Q.7 Draw three phase diagram.

Q.8 Write down full form of OMC.

Q.9 In standard Penetration Test, What is weight of

hammer & free fall height of hammer.

Q.10 The Piles used to transfer load through skin friction is called _____.

SECTION-B

Note: Very short answer type questions. Attempt any ten questions out of twelve questions. 10x2=20

Q.11 Describe any two reasons for chemical Decomposition.

Q.12 Name the constituents of soil.

Q.13 Name four factors affecting the permeability of soil.

Q.14 Give two examples of shear failure in soils.

Q.15 Name the apparatus used for measuring dry unit wt. by sand replacement methods?

Q.16 Draw the sketch of core cutter apparatus.

Q.17 Define Bearing Capacity & Ultimate bearing Capacity.

Q.18 Define wash boring & Auger boring.

Q.19 Define Distributed & undistributed soil sampler.

Q.20 Discuss the two types of Pile foundation.

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Q.21 Define cohesive and Non-cohesive soils.

Q.22 Define Particle size distribution Curve. Give any use of it.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

Q.23 Describe soil profile. Give any four significance of soil profile.

Q.24 Prove $n = \frac{e}{1+e}$

Q.25 Define Liquid limit, Plastic limit & shrinkage limit with neat & clean chart.

Q.26 Explain Darcy's Law. Give any two limitations Darcy's Law.

Q.27 Differentiate between Direct shear Test & Triaxial shear Test (atleast 5 points)

Q.28 Differentiate between compaction & consolidation. (Give 4 points)

Q.29 Discuss four factors affecting the Bearing Capacity.

Q.30 Explain about the location of Boring in soil Exploration.

Q.31 Draw a neat & clean sketch for spread footing, combined footing & mat footing.

Q.32 Discuss the principle of effective stress (Concept)

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. 3x10=30

Q.33 Describe the Major Soil Deposits in India.

Q.34 Explain Constant head Permeability Method with neat & clean diagram.

Q.35 (A) Define Settlement? Enlist five causes of settlement

(B) Define coulomb's law? Also draw diagramatic representation of columb's law.

Q.36 (A) Describe standard Proctor Test's Procedure of performance.

(B) Draw neat & clean sketch of standard Penetration Test. Enlist name of apparatus also.

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