Indra Ganesan
COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC
IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

INDRA GANESAN COLLEGE OF ENGINEERING

Criteria 1	Curricular Aspects	100

1.1 Curricular Planning and Implementation (20)

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Table of Content

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF CIVIL ENGINEERING

PREFACE OF THE COURSE FILE

Batch : **2020-2024**

Academic Year : **2022-2023 /ODD**

Program : **CIVIL ENGINEERING**

Year & Semester : **3nd Year / 5th Semester /**

Course Code : **CE8591** NBA Course Code: **C304**

Name of the Course : **FOUNDATION ENGINEERING**

Faculty in-charge : **Ms.J.VAISHYA**

Ms.J.VAISHYA, AP/CIVIL

Signature of the Faculty in-charge

HoD / Civil

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

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DEPARTMENT OF CIVIL ENGINEERING

REVIEW OF COURSE FILE

(to be pasted on the inner side of the file-backside).(#-State Yes/No.)

S.N	Details Date:	R-I-*	R-II-*&	R-III-*&	R-IV-*&$	R-V-*&$@
1.	Preface of the course file	Y				
2.	Vision, Mission, PEOs, POs, PSOs, Blooms taxonomy	Y				
3.	Subject handlers of yesteryears	Y				
4.	Timetable/Workload of the staff – Distribution of teaching load – Roles and Responsibilities	Y				
5.	Syllabus signed by staff & HoD	Y				
6.	Lecture Schedule signed by staff & HoD	Y				
7.	Course Committee meeting circular and minutes	Y				
8.	Identification of Curricular gap and Content Beyond the syllabus	Y				
9.	Self-study topics	Y				
10.	Previous AU Question papers	Y				
11.	Unit wise Q&A and Objective type questions	Y				
12.	Unit wise course material		Y	Y	Y	
13.	Assignment question paper with sample answer sheets and mark entry		Y	Y	Y	
14.	Tutorial question paper with key and mark entry		Y	Y	Y	
15.	Class test/IA test Q Paper with Key, sample answer papers and mark entry		Y	Y	Y	
16.	IA Test- result analysis-CAP-evidence-root cause analysis.		Y	Y	Y	
17.	Retest –Q paper-Attendance-marks		Y	Y	Y	
18.	AU Web portal entry sheet		Y	Y	Y	
19.	Very poor performance in first two tests-action taken.-communication to parents-evidence			Y	Y	
20.	Absence for two tests-action taken-communication to parents-evidence.			Y	Y	
21.	Indiscipline of student reported, if any					
22.	Special class/coaching class/remedial class/attendance-CAP		Y	Y	Y	
23.	Conduct of Seminar, Quizzes - proof					
24.	Content beyond the syllabus - proof					Y
25.	Student feedback on faculty					Y
26.	Course end survey					Y
27.	Internal Assessment sheet					Y
28.	AU question paper with students feedback					Y
29.	Discrepancy of the question paper and correspondence, if any					Y
30.	AU result analysis-Details of arrear students.					Y
31.	AU grade sheet					Y
32.	CO – PO & PSO attainment sheet					Y
	Signature of Course handling faculty					
	Signature of HoD					

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Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
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Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli-620012

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Department of Agri & Civil Engineering

Work Load - ODD Semester 2022-23

S.NO.	Teacher's Name	Course Code	Course Name	Semester	Lecture / week
1	Dr R Sivasankar	CE8403	Design of Reinforced concrete Elements	V / CIVIL	5
2	Ms K Vanisri	EN8491	Water supply Engineering	V / CIVIL	4
		AI3303	Fluid Mechanics & Pumps	III / AGRI	4
3	Ms J Vaishyaa	CE8591	Foundation Engineering	V / CIVIL	4
		CE 3351	Surveying and Levelling	III / AGRI	4
		CE 3361	Surveying and Levelling Laboratory	III / AGRI	6
4	Ms D Sheeba	CE 8501	Structural Analysis I	V / CIVIL	4
		AI3311	Fluid Mechanics Laboratory	III / AGRI	6
		CE 8511	Soil Mechanics Laboratory	V / CIVIL	6
5	Dr P Durairaj	ORO 551	Renewable enenrgy sources	V / CIVIL	4
		AI 3302	Unit Operations in Agricultural Engineering	III / AGRI	4
		CE8512	Wastewater Analysis Laboratory	V / CIVIL	6
6	Mr M Kaliraj	AI3301	Principles of Soil sceince Engineering	III / AGRI	4
		GE 8051	Disaster Management	V / CIVIL	4
		AI3312	Soil Science Lab	III / AGRI	6

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DEPARTMENT OF CIVIL ENGINEERING

Identification of Curricular Gap & Content Beyond Syllabus(CBS)

Name of the Faculty : Ms.J.VAISHYA **Course Code & Name:CE8591&FOUNDATION ENGINEERING**

Degree & Program: B.E. /CIVIL **Semester :V** **Academic Year: 2022-2023(ODD)**

I.Mapping of Course Outcomes with POs & PSOs.(before CBS)

Table.1 Mapping of COs, C, PSOs with POs - before CBS.

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C304.1	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.2	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.3	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.4	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.5	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.6	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304	1	3	-	2	-	-	3	-	2	3	1	1	3	2

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
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II. Identification of content beyond syllabus.

Table.2 Identification of content beyond syllabus

Details of Content Beyond Syllabus(CBS) added	POs strengthened/ vacant filled	CO/Unit
SOIL MECHANICS	PO7 ,PO10 Vacant filled	C304.3& C304.4 III&IV

III. Mapping of Course Outcomes with POs & PSOs. (After CBS)

Table.3 Mapping of COs, C, PSOs with POs- after CBS.

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C304.1	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.2	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.3	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.4	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.5	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304.6	1	3	-	2	-	-	3	-	2	3	1	1	3	2
C304	1	3	-	2	-	-	3	-	2	3	1	1	3	2

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
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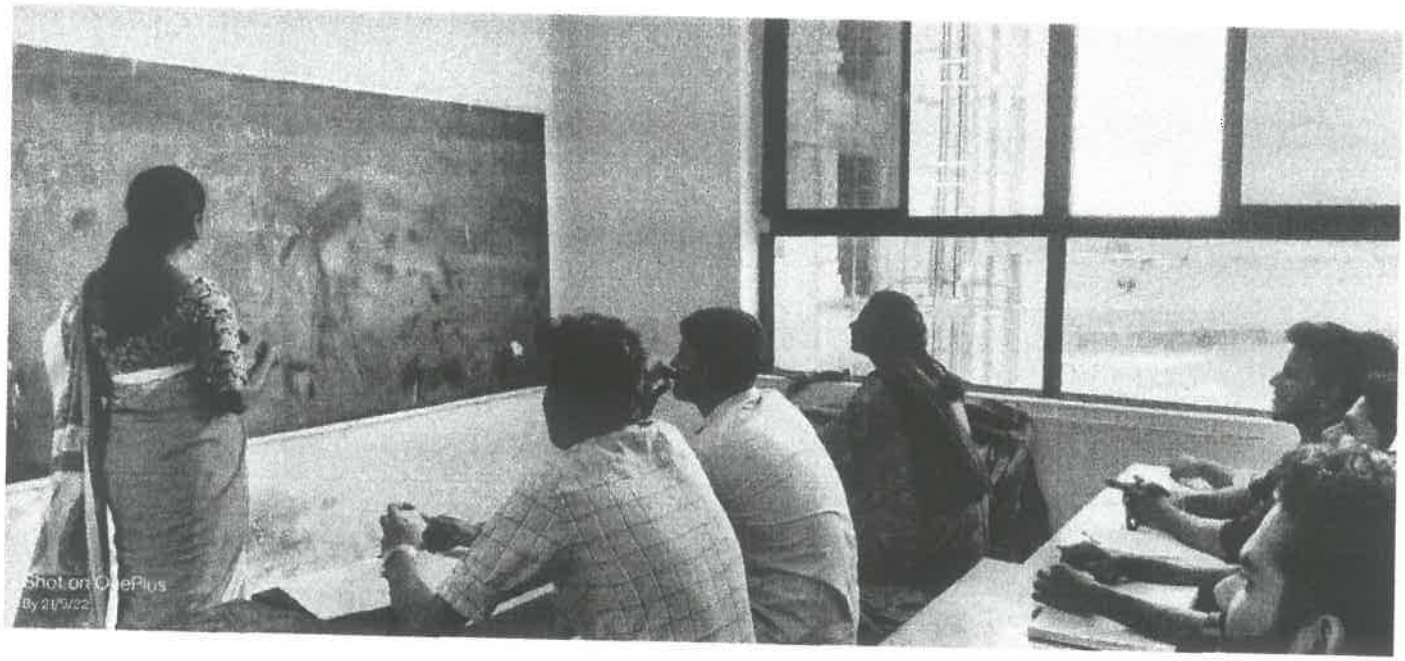
Manikandam, Trichy-620 012.

PHOTO CLICK FROM CENTENT BEYOND THE SYLLABUS:

TOPIC: SOIL MECHANICS.

RESOURCE PERSON: MS.J.VAISHYA.

VENUE: III CIVIL CLASS ROOM.



Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
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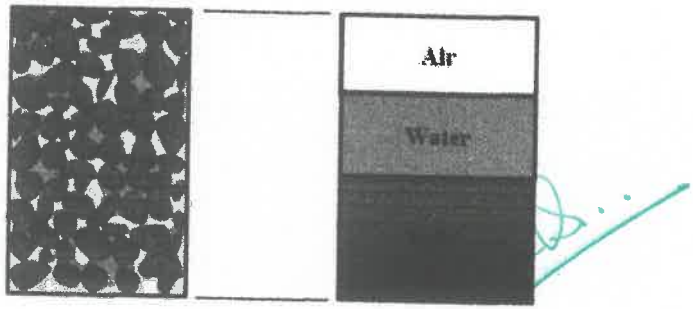
PPT PRESENTATION & BOARD CLASS

SOIL MECHANICS

Presented by
VAISHYA

Three Phase Diagram



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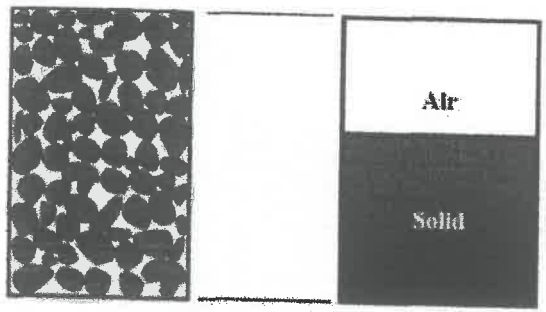
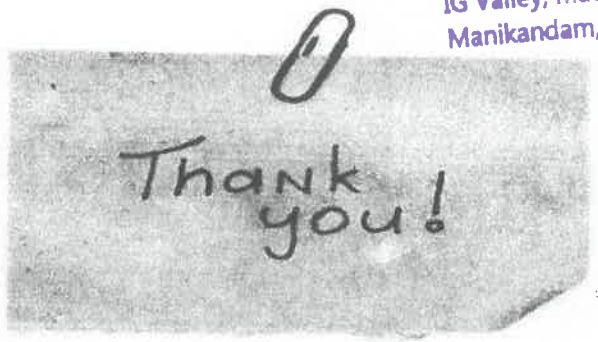
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Dry Soils (Two phase) [Oven Dried]



Signature of the Faculty



HoD/Civil

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DEPARTMENT OF CIVIL ENGINEERING

Assignment Question Paper

Assignment – 01			Date of Issue:		Marks	10
Course code	CE8591	Course Title	FOUNDATION ENGINEERING			
Year	III	Semester/Section	V	Date of Submission:		

Q.No	Questions	CO
1	Explain in detail about the Terzaghis analysis for determining the safe bearing capacity of the soil.	C304.2
2	Explain static and dynamic formula of load carrying capacity of piles.	C304.4

Name and Signature of the Faculty Incharge
VAISHYAA - J/AP

HoD/Civil

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

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DEPARTMENT OF CIVIL ENGINEERING

Assignment Answer Sheet

Name of the Student: MANIKANDAN.M

AU Register Number: 811220103029

Assignment – 01			Date of Issue:	05.09.2022	Marks	10
Course code	CE8591	Course Title	FOUNDATION ENGINEERING			
Year	III	Semester/Section	V	Date of Submission:	20.08.2022	

Q.No	Questions	CO
1	Explain in detail about the Terzaghis analysis for determining the safe bearing capacity of the soil.	C304.2
2	Explain static and dynamic formula of load carrying capacity of piles.	C304.4

Mark Allocation

Rubrics	Marks Allocated	Marks obtained
Content Quality	6	5
Presentation Quality	2	2
Timely submission	2	2
Total marks	10	9

VAISHYAA.J 6/9/22

Name and Signature of the Faculty Incharge

HoD/Civil

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Register Number: | | | | | | | | | | | | |

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Internal Assessment Exam - I			Date/Session		Marks	50
Course code	CE8591	Course Title	FOUNDATION ENGINEERING			
Regulation	2022	Duration	90 minutes	Academic Year	2022-2023	
Year	III	Semester	V	Department	CIVIL	

COURSE OUTCOMES

CO1:	Explain the basic concept of site investigation and selection of foundation.
CO2:	Explain the basic concept of shallow foundation.
CO3:	To explain about footing.
CO4:	To illustrate about the raft foundation.
CO5:	Explain about pile foundation.
CO6:	Explain about the basic concepts of retaining wall construction.

Q.No.	Question	CO	BTS
	PART A (Answer all the Questions 10 x 2 = 20 Marks)		
1	Define standard penetration number.	CO1	K1
2	Write short notes on Augur boring	CO1	K1
3	Define Auger boring	CO1	K1
4	List out the various methods of site exploration?	CO1	K2
5	What are the factors influencing in depth of exploration of sub soil?	CO1	K1
6	Describe is shallow foundation.	CO2	K1
7	State the different modes of shear failure.	CO2	K1
8	List out the various components of settlement?	CO2	K2
9	What are the factors affecting bearing capacity of soil?	CO2	K2
10	Formulate the Terzaghi's equation.	CO2	K1
	PART B (Answer all the Questions 2 x 10 = 20 Marks)		
11a	Discus List any two methods of site exploration and write about in detail.	CO1	K2
	OR		
11b	What are the various factors affecting quality of samples? Explain the various types of samples	CO1	K2
12a	Discuss about the Plate load test for determining the Bearing capacity of foundation and How do you estimate the settlement of a footing on sand using the results of a plate load test?	CO2	K5
	OR		
12b	Explain terzaghi's analysis of bearing capacity of soil in general shear failure with assumptions.	CO2	K5
	PART C (Answer all the Questions 1 x 10 = 10 Marks)		
13a	Build up points on various methods of taking undisturbed samples in non-cohesive and cohesive soil.	CO1	K2
	OR		
13b	When in the field static cone penetration test is applied and explain the same in detail.	CO1	K2

Course Faculty
(Ms.J.VAISHYA / 08.08.2022)

HoD
(MrsK.Vanisri/09.08.2022)

Register Number: | | | | | | | | | | | | |

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Internal Assessment Exam - I			**Date/Session**	**Marks**	**50**
Course code	**CE8591**	**Course Title**	**FOUNDATION ENGINEERING**		
Regulation	**2017**	**Duration**	**90 minutes**	**Academic Year**	**2022-2023**
Year	**III**	**Semester**	**V**	**Department**	**CIVIL**

COURSE OUTCOMES

CO1:	Explain the basic concept of site investigation and selection of foundation.
CO2:	Explain the basic concept of shallow foundation.
CO3:	To explain about footing.
CO4:	To illustrate about the raft foundation.
CO5:	Explain about pile foundation.
CO6:	Explain about the basic concepts of retaining wall construction.

Q.NO.	QUESTION	CO	BTS
	PART A (Answer all the Questions 10 x 2 = 20 Marks)		
1	Define standard penetration number. In standard penetration test, the number of blows required for first 15cm penetrations is not counted and treated as sheeting apparatus inside the soil and total number of blows for next two 15cm blows is taken into account for the calculation of standard penetrations test.	CO1	K1
2	Write down types of boring (a) Auger boring (b) Shell and Auger boring (c) Wash boring (d) Percussion boring (e) Rotary boring (a) Auger boring:	CO2	K1
3	Define Auger boring Auger boring is the process of forming a horizontal bore by jacking the steel casing through the earth from a main shaft to a reception shaft.	CO1	K1
4	List out the various methods of site exploration? • Sub-surface Soundings. • Test piles. • Deep boring. • Geophysical method.	CO1	K2
5	What are the factors influencing in depth of exploration of sub soil? Isolated spread footing or a raft: one and a half times the width. Base of the retaining wall: one and a half times the base width or one and a half times the exposed height of face of wall, whichever is greater.	CO1	K1
6	Describe is shallow foundation. A shallow foundation is a type of building foundation that transfers structural load to the earth very near to the surface, rather than to a subsurface layer or a range of depths, as does a deep foundation.	CO2	K1
7	State the different modes of shear failure. It is known observing the behavior of foundations subjected to load that bearing capacity occurs as a shear failure of the soil supporting the footings	CO2	K1
8	List out the various components of settlement? Immediate settlement (also known as elastic settlement) Consolidation settlement (or primary settlement) Creep settlement (or secondary settlement).	CO2	K2
9	What are the factors affecting bearing capacity of soil? he bearing capacity of soil refers to its ability to support the loads that are imposed upon it. It is influenced by factors such as the type of soil, its shear strength, density, and the depth of the foundation.	CO2	K2

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10	Formulate the Terzaghi's equation. Q uv B = c N c + q N q + 1 2 γ B N γ	CO2	K1
	PART B (Answer all the Questions 2 x 10 = 20 Marks)		
11a	Discus List any two methods of site exploration and write about in detail. Soil investigation and soil explorations are conducted for the purpose of site investigation to get clear information about the soil properties and hydrological conditions at the site Site Reconnaissance Site reconnaissance is the inspection of the site and study of topography to get a proper information about the soil and groundwater condition. Purpose of Soil Exploration The purpose of site exploration is to get detailed information about 1. Order of occurrences and extent of soil and rock strata. 2. Nature and engineering properties of of the soil and rock formation. 3. Location of groundwater and its variation. Planning of Soil Exploration Soil exploration planning depends upon 1. Nature of subsoil 2. Type of structure 3. Importance of structure Methods of Soil Exploration Different methods of soil exploration for study of soil profiles are: 1. Open excavation 2. Borings 3. Subsurface soundings 4. Geographical methods	CO1 (5) (5)	K2
	OR		
11b	What are the various factors affecting quality of samples? Explain the various types of samples. 1) Volume Displacement Volume displacement of soil samples due to tubes or other collection equipment influence their undisturbedness. Such detrimental effects would be greater in the presence of gravel. 2) Side Friction The side friction between soil specimen and tube would tend to compress the sample during recovery. This disturbance influence can be declined by swagging sample tubes so that the cutting edge is slightly smaller than the inside tube diameter and subsequently reduce the friction. 3) Lateral Expansion When the sample is unloaded from the in situ confining pressure, unknown lateral expansion of the sample would certainly occur. Therefore, in situ tests using hole diameter as a reference are disturbed by an unknown amount. 4) Variation in Water-Content There is a variation in the water content of the sample based on the recovery technique and presence or absence of water in the specimen.	CO1 (5)	K2

	5) Attitude of the Crew The attitude of drilling crew, supervising engineer, and laboratory technicians may be poor and consequently, disturbance degree of soil sample would increase. 6) Hydrostatic Pressure Loss in hydrostatic pressure may create gas-bubble voids in the sample. 7) Environmental Conditions On a very hot day, the sample may lose a considerable amount of water. However, in colder days, the specimen may freeze unless it is protected properly. 8) Handling and Transportation Handling and transportation of the sample to the laboratory and transporting samples from sampling equipment to the testing machine disturb the sample.	(5)	
12a	Discuss about the Plate load test for determining the Bearing capacity of foundation and How do you estimate the settlement of a footing on sand using the results of a plate load test? Plate Load Test Procedure The necessary steps to perform a plate load test is written below- 1. Excavate test pit up to the desired depth. The pit size should be at least 5 times the size of the test plate (B_p). 2. At the center of the pit, a small hole or depression is created. The size of the hole is the same as the size of the steel plate. The bottom level of the hole should correspond to the level of the actual foundation. The depth of the hole is created such that the ratio of the depth to width of the hole is equal to the ratio of the actual depth to the actual width of the foundation. 3. A mild steel plate is used as a load-bearing plate whose thickness should be at least 25 mm thickness and size may vary from 300 mm to 750 mm. The plate can be square or circular. Generally, a square plate is used for square footing and a circular plate is used for circular footing. 4. A column is placed at the center of the plate. The load is transferred to the plate through the centrally placed column. 5. The load can be transferred to the column either by gravity loading method or by truss method 6. For gravity loading method a platform is constructed over the column and load is applied to the platform by means of sandbags or any other dead loads. The hydraulic jack is placed in between column and loading platform for the application of gradual loading. This type of loading is called reaction loading. 7. At least two dial gauges should be placed at diagonal corners of the plate to record the settlement. The gauges are placed on a platform so that it does not settle with the plate. 8. Apply seating load of .7 T/m^2 and release before the actual loading starts. 9. The initial readings are noted. 10. The load is then applied through the hydraulic jack and increased gradually. The increment is generally one-fifth of the expected safe bearing capacity or one-tenth of the ultimate bearing capacity or any other smaller value. The applied load is noted from the pressure gauge. 11. The settlement is observed for each increment and from dial gauge. After increasing the load-settlement should be observed after 1, 4, 10, 20, 40, and 60 minutes and then at hourly intervals until the rate of settlement is less than .02 mm per hour. The readings are noted in tabular form. 12. After completing the collection of data for a particular loading, the next load increment is applied and readings are noted under new load. This increment and data collection is repeated until the maximum load is applied. The maximum load is generally 1.5 times the expected ultimate load or 3 times of the expected allowable	CO2 (5) (5)	K5

	bearing pressure.		
	OR		
12b	Explain terzaghi's analysis of bearing capacity of soil in general shear failure with assumptions. 2 Terzaghi's Analysis Terzaghi derived equation for ultimate bearing capacity of strip footing as: $q\square = cN\square + \gamma DN\square + 0.5\gamma BN\square$ . . . Eq2.3(i) where, c = unit cohesion of soil γ = unit weight of soil D = depth of foundation B = width of foundation $N\square$,$N\square$, $N\square$ are Terzaghi's bearing capacity factors for strip footing. These factors are dimensionless and depend only on angle of shearing resistance Φ of soil. It is to be noted that values of γ in the second and third terms of Eq 2.3(i) depend on position of water table and will be discussed in a later section. Assumptions made in Terzaghi's Analysis Terzaghi while deriving equation for ultimate bearing capacity of strip footing made the following assumptions. 1) The soil mass is homogeneous and isotropic. 2) The shear strength of soil can be represented by Coulomb's equation. 3) The problem is two dimensional. 4) The footing has rough base. 5) The ground surface is horizontal. 6) The loading is vertical and symmetrical Limitations in Terzaghi's analysis 1) Terzaghi's analysis assumes the plastic zones develop fully before failure occurs. This is true only in the case of dense cohesionless soils and stiff cohesive soils. 2) The value of Φ is assumed to remain constant. But Φ can change as soil gets compressed. 3) The failure zones are assumed not to extend above the base level of footing. Thus the shearing resistance of soil surrounding it above its base level is neglected. The error due to this assumption increases as the depth of footing is increased. 4) The load is assumed to be vertical and acting concentrically with uniform pressure distribution at the base. $N\square = (N\square - 1)\cot\Phi$	CO2 (10)	K5
	PART C (Answer all the Questions 1 x 10 = 10 Marks)		
13a	Build up points on various methods of taking undisturbed samples in non-cohesive and cohesive soil. Cohesion-less soils are one of the two main types of soils existing. As the name states they have no cohesion at all, and depend completely on the friction between the particles. They can also be called friction soils. All the soil sampling procedures, that provide with an undisturbed sample, depend completely on the cohesion between the particles. This is partially because when cut, the condition on the cohesion soils remains slightly the same, while on the contrary, the cohesion less soils conditions depend a lot from the confinement of its surrounding environment. This type of soils usually come with a very dangerous problem called liquefaction, present only on seismic grounds. When a telluric movement initiates, the sands behave like a liquid (or quicksand) causing catastrophic problems that could compromise the entire structure or project. 1 Undisturbed samples To most engineers, it's no secret that there is no real undisturbed sample. In any of the stages of the sampling procedure a simple mistake can create the slightest variation that affects the sample, pushing it further from the real conditions. The State of the Art of Undisturbed Sampling of Cohesion-less soils by the U.S. Army (1979) states that there is no such thing as an undisturbed sample for two main reasons. Characteristics of a sample	CO1 (2) (2) (6)	K2

	The department of Engineering from the University of Calgary provides the general characteristics of a sample: · Sample number, depth and type. · Field tests, depth and results. · Depth to layer changes. · Field soil description.		
	OR		
13b	When in the field static cone penetration test is applied and explain the same in detail. A standard penetration test (SPT) is carried out in soils where it isn't possible to bring out an undisturbed sample, such as in weak rock, silt, clay, sand and gravel. The test provides an indication of the relative density of the granular deposit and its approximate shear strength. A standard penetration test can also be used for cohesive soils to determine its unconfined compressive strength. The procedure is simple and is inexpensive, making it a widespread test method for geotechnical subsurface soil investigation. n SPT is carried out on site and is done at the bottom of a borehole of desired depth. A thick tube is lowered into the borehole and a slide hammer is used to drive the tube into the ground. The slide hammer is of standard weight and is suspended at a standard falling distance. Cone Penetration test (CPT) is a type of in-situ test which is carried out to determine different geotechnical properties of soil. CPT is of two types: • Static Cone Penetration Test (SCPT) • Dynamic Cone Penetration Test (DCPT) We have already discussed the dynamic cone penetration test in the previous blog. If you are curious about DCPT, then you can find it on the link given below: • Soil type • Relative soil density • In-situ stress conditions • Shear strength parameters **Apparatus required** 1. A steel cone 2. A friction jacket 3. Sounding rod 4. Mantle tube 5. A driving mechanism 6. Measuring equipment	CO1 (4) (6)	K2

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Course Faculty
(Name/Sign/Date)
VAISHYAA .J

HoD
(Name/Sign/Date)

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 622 012, India
(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai)

Internal Assessment Test Answer Book

Name	Vishwa . S			Year/ Semester/Section	III V
Batch No.	811220103041	Date/Session	13/09/22	Department	Civil
Course code	CE8591	Course Title	foundation Engineering		
Internal Assessment Test	IAT 1 ☑	IAT 2 ☐	IAT 3 ☐	Model ☐	
Name and Signature of the Invigilator with date	G. DEEPAKKUMAR / 13/9/22.				

Instruction to the Student: Put tick mark to the question attended in the column against question.

Part A			Part B / Part C					Total Marks
Q. No.	✓	Marks	Q. NO.	✓	a Marks	✓	b Marks	
1		2	11		–		10	10
2		2	12		10		–	10
3		2	13		–		10	10
4		2	14					–
5		2	15					–
6		–	16					
7		2					Total	40 30
8		2						
9		2						
10		–						
Total		16	Grand Total					

40 4b.
50

VAISHYAA.J
Vishya
Name and Signature of the Examiner with date 14/09/22

To be filled by the examiner

Course Outcomes	1	2	3	4	5	6	Total
Marks allotted	30	20	–				50
Marks Obtained	26	20	–				40

IQAC Audit - Remarks

Mistake found in total but rectified & distributed paper to student and the correction entered in the log book.

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Name and Signature of the IQAC member

INDRAGANESANCOLLEGEOFENGINEERING

IGVALLEY,MANIDANDAM,TIRUCHIRAPPALLI–620012

DEPARTMENTOFACADEMICYEAR2022–2023(ODDSEMESTER)

STUDENTS MARK STATEMENT- CO BASED

INTERNALASSESSMENTTEST-I

SUBJECTCODE&TITLE:CE8591&FOUNDATIONENGINEERING

YEAR/SEM:III/V **MONTH&YEAR:AUGEST&2022**

S.NO	REGNO	STUDENTNAME	CO1 (Y)	CO2 (Y)	TOTAL (50)	TOTAL (100)
1.	811220103011	DharunKumarR	25	15	40	80
2.	811220103020	GunaseelanG	25	17	42	84
3.	811220103024	IyyapanManiA	10	5	15	30
4.	811220103025	KalanchiyaMuniyarajB	24	15	39	78
5.	811220103029	ManiKandanM	21	10	31	62
6.	811220103030	MohanapriyaS	24	15	39	78
7.	811220103032	MuthuSelvamA	15	3	18	36
8.	811220103041	SudhakarR	15	12	37	74
9.	811220103046	VishwaS	26	20	46	92

MARKS RANGE:

<20	20-30	31-40	41-50
2	-	3	04

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
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Manikandam, Trichy-620 012.

TotalNo.ofCandidatesPresent	09
TotalNo.ofCandidatesAbsent	-
TotalNo.ofStudentsPass	09
TotalNo.ofStudents Fail	02
PercentageofPass	77.7%

STAFFINCHARGE **HoD/CIVIL** **PRINCIPAL**

Register Number: | | | | | | | | | | | |

INDRAGANESANCOLLEGE OF ENGINEERING

IGValley,Manikandam,Tiruchirappalli,TamilNadu–620012,India

(ApprovedbyAICTE,NewDelhi andaffiliatedtoAnnaUniversity, Chennai)

InternalAssessmentExam–I(RETEST)			Date/Session		Marks	50
Coursecode	CE8591	CourseTitle	FOUNDATIONENGINEERING			
Regulation	2022	Duration	90minutes	AcademicYear	2022-2023	
Year	III	Semester	V	Department	CIVIL	

COURSEOUTCOMES

CO1:	Explainthebasicconceptofsiteinvestigationandselectionof foundation.
CO2:	Explainthebasic conceptofshallow foundation.
CO3:	Toexplain about footing.
CO4:	Toillustrateabouttheraft foundation.
CO5:	Explain about pile foundation.
CO6:	Explainaboutthebasicconcepts ofretainingwall construction.

Q.No.	Question	CO	BTS
	PARTA (AnsweralltheQuestions10 x2=20Marks)		
1	Listthevariousmethodsofsoilexplorationtechniques	CO1	K2
2	Definestandardpenetrationnumber.	CO1	K1
3	ListtheusesofBorelogreport.	CO1	K2
4	Comparerepresentativeandnon-representative.Samples.	CO1	K2
5	Explainaboutrecoveryratioofasample.	CO1	K2
6	Distinguishbetweenuniformsettlementanddifferentialsettlement	CO2	K2
7	Classifythecomponentsofsettlement	CO2	K2
8	ListthefactorsaffectingBearingcapacity	CO2	K2
9	DefinethetermSettlement	CO2	K2
10	FormulatetheTerzaghi'sequation.	CO2	K2
	PARTB (AnsweralltheQuestions2 x10=20Marks)		
11a	Demonstratearethe various factors affectingqualityof samples. Explain the various typesof samples.	CO4	K2
	OR		
11b	Explainthesalientfeaturesofagoodsub-soil investigation.	CO4	K2
12a	Explainthe proceduretointerpretthebearingcapacityfrom standard penetration testandstaticconepenetration test?	CO2	K4
	OR		
12b	Explainthefollowingmodesofshearfailure,(i) Generalshear failura(ii) Local shearfailure(iii)Punchingshearfailure	CO2	K4
	PARTC (AnsweralltheQuestions1 x10=10Marks)		
13a	ExplainTerzaghi'sanalysisofbearingcapacityofsoilingeneralshearfailurewith assumptions.	CO1	K4
	OR		
13b	Explainindetailtheloadsettlementcurvesobtainedbyplateloadtestforvarious typesofsoil. Also,list outthelimitationsof plateload test.	CO1	K4

Dr. G. Balakrishnan, M.E., ...
Principal
Indra Ganesan College of Engineering
IG Valley, ... Road
Manikandam, Trichy-620 012

CourseFaculty
(Name/ Sign/Date)

HoD
(Name/ Sign/Date)

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Internal Assessment Test Answer Book – Retest

Name	Muthu selvam. A			Year/ Semester/Section	IV / VII
Batch No.	811220103032	Date/Session	16/09/23	Department	civil
Course code	CE8591	Course Title	Foundation Engineering		
Internal Assessment Test		IAT 1 ☑	IAT 2 ☐	IAT 3 ☐	Model ☐
Name and Signature of the Invigilator with date					

Instruction to the Student: Put tick mark to the question attended in the column against question.

Part A			Part B / Part C					Total Marks
Q. No.	✓	Marks	Q. NO.	✓	a Marks	✓	b Marks	
1		2	11		7		–	7
2		2	12		7		–	7
3		2	13		–		7	7
4		2	14					
5		2	15					
6		–	16					
7		–					Total	21
8		2						
9		2						
10		2						
Total		16	Grand Total		37/50		Name and Signature of the Examiner with date	

To be filled by the examiner

Course Outcomes	1	2	3	4	5	6	Total
Marks allotted	30	20	–	–	–	–	50
Marks Obtained	24	13	–	–	–	–	37

IQAC Audit - Remarks

Dr. C. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Name and Signature of the IQAC member

INDRAGANESANCOLLEGEOFENGINEERING

IGVALLEY, MANIDANDAM, TIRUCHIRAPPALLI–620012

DEPARTMENTOFACADEMICYEAR2022–2023(ODDSEMESTER)

STUDENTS MARK STATEMENT- CO BASED

INTERNALASSESSMENTTEST-I

SUBJECTCODE&TITLE: CE8591&FOUNDATIONENGINEERING

YEAR/SEM:III/V **MONTH&YEAR:AUGEST&2022**

S.NO	REGNO	STUDENTNAME	CO1	CO2	TOTAL (50)	TOTAL (100)
1.	811220103032	MuthuSelvamA	24	13	37	74

MARKS RANGE:

<20	20-30	31-40	41-50
-	-	1	-

TotalNo.of Candidates Present	01
Total No. of Candidates Absent	-
Total No. of Students Pass	01
Total No. of Students Fail	0

STAFF INCHARGE **HoD/CIVIL** **PRINCIPAL**

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

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IQAC Academic Audit Form

ACADEMIC YEAR: 2022-2023 ODD / SEMESTER

Name of Department :	CIVIL	Year / Sem / Sec :	3/ V	No. of Students Registered
Details of Examination :	IA Test -1			

S.No.	Course Code	List of Reg.No Verified	Course Log Book Verified (Y / N)	Course File Verified (Y / N)	No of students Attended	No of Absentees	No of Failures	Pass %	Remarks
1	CE8591	811220109021	y	y	9	–	2	77.77	
2	CE8591	811220109020	y	y	9	–	2	77.77	
3.	CE8591	811220109029	y	y	9	–	2	77.77	
4									
5.									
6									

Verified by

External Member Name and Signature:	
Internal Member Name and Signature:	K.VANISRI –

Overall Remarks:

HoD/ CIVIL

IQAC Co-ordinator

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

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DEPARTMENT OF CIVIL ENGINEERING

ROOT CAUSE ANALYSIS

Name of the Faculty : Ms. J. VAISHYA
Degree & Program : B.E. Civil
IA Test : IAT – I
Target : 90%.

Course Code & Name : CE8591 & Foundation Engineering
Semester & Section : 5
University Exam/Month & Year: NOV 12022
Achieved : 77.7%.

S.NO	REGISTER NO	NAME OF THE STUDENT	CAUSES FOR FAILURE	CORRECTIVE ACTION TAKEN	PREVENTIVE ACTION TAKEN
1.	811220103024	Iyyappan Mani. A	Health Issue	Retest Conducted	Advised to take care of your health.
2.	811220103032	Mathu Selvam A	family function	Retest Conducted	Advised

Signature of the Faculty Member

Signature of the HoD/Civil

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Mutharasanallur Main Road
Manikandam, Trichy-620 012.