

VIDYA ACADEMY OF SCIENCE & TECHNOLOGY TECHNICAL CAMPUS –

Kilimanoor

“A Unit of Vidya International Charitable Trust”

Question Paper Scrutiny Committee (QPSC)

Order No.VAST TC /GEN/ORD/53/2019

dt:-05-12-2019

ORDER

Committee No.30

The Question Paper Scrutiny Committee is here by constituted with the following members for the academic year 2019-20.

Mechanical Engineering

SI No	Name	Designation
1	Mr. Bijeeesh P	HOD in charge
2	Mr. Robin David	Assistant Professor
3	Mr. Ajayakumar A G	Assistant Professor

Civil Engineering

SI No	Name	Designation
1	Prof. K Vijayakumar	HOD
2	Mr. Lenin Babu S	Assistant Professor
3	Mr. Jithin Prem S	Assistant Professor

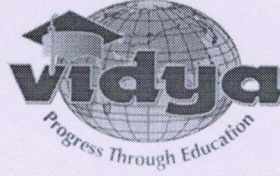
Computer Science Engineering

SI No	Name	Designation
1	Ms. Divya Madhu	HOD in Charge
2	Ms. Beena V R	Assistant Professor
3	Ms.Divya M K	Assistant Professor

Malakkal P.O., Kilimanoor, Thiruvananthapuram, Kerala – 695602.

Tel: +91 470 2649574, 2649234, | Fax : +91 - 470-2649234 | Mob : 9447540982

E-mail:vasttc@vidyaacademy.ac.in | www.vidyatcklmr.ac.in.



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Electrical and Electronics Engineering

SI No	Name	Designation
1	Dr. M.C John Wiselin	HOD
2	Ms. Asna S Asok	Assistant Professor
3	Mr. Liji Ramesan Santhi	Assistant Professor

Electronics and Communication Engineering

SI No	Name	Designation
1	Prof.Saheeda P A	HOD
2	Mr. Rajesh G R	Associate Professor
3	Ms. Sreejitha S G	Assistant Professor

Applied Science

SI No	Name	Designation
1	Prof. A K Subhadevi	HOD
2	Mr. Lekshmipriya P	Assistant Professor
3	Ms. Vigitha Vidyadhar	Assistant Professor



PRINCIPAL

Dr. T. MATHAVARAJ RAVIKUMAR
Principal
Vidya Academy of Science & Technology
Technical Campus
Malakkal P.O, Kilimanoor, Trivandrum-695602

Malakkal P.O., Kilimanoor, Thiruvananthapuram, Kerala – 695602.

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Department of**CIVIL**.....Engineering

INTERNAL EXAMINATION 2 - QUESTION PAPER REVIEW CHECK LIST

Name of the course with code		Geotechnical Engg. I CE 208				
Faculty in charge		Renuka S.S.				
Sl. No.	Description	Question paper 1		Question paper 2		Comments
		Yes	No	Yes	No	
1	Are course code, name, marks and duration are mentioned?	✓		✓		
2	Is the question paper set for 25 marks?	✓		✓		
3	Whether the questions are distributed evenly according to the modules/topics?	✓		✓		
4	Whether 50% of the questions are of higher order thinking skills?		✓		✓	
5	Whether usage of code books and tables needed for answering the questions are mentioned ?	✓		✓		
6	Whether spelling, typing error and grammatical errors have been checked?		✓		✓	
7	Are there any repetitive questions among the sub divisions?	✓		✓		
8	Whether the question numbers are sequential ?		✓		✓	
9	Whether all questions are mapped against corresponding COs?	✓		✓		
10	Whether Bloom's Taxonomy levels of all questions are mentioned?	✓		✓		
Additional comments if any?						

Name & Designation of the Reviewers	Lenni Babu.S	Jelini Perm S
Signature with date		
Signature of HoD with date		



M

Dr. T.MATHAVARAJ RAVIKUMAR
Principal
Vidya Academy of Science & Technology
Technical Campus
Malakkal P.O, Kilimanoor, Trivandrum-695602

Name:.....

Roll No:.....

**VIDYA ACADEMY OF SCIENCE AND TECHNOLOGY TECHNICAL CAMPUS,
KILIMANOR, THIRUVANANTHAPURAM-695602**



Fourth Semester B. Tech Degree - 2015 Scheme

Internal Test 2 (online) SET 1

CIVIL ENGINEERING DEPARTMENT

CE 208 GEOTECHNICAL ENGINEERING 1

Time: 2 Hours

Max. Marks:25

PART-A

Answer all questions

Qn.No.	Questions	Marks	CO	BL
1	List out the merits and demerits of direct shear test	2.5	4	1
2	Draw the typical results from triaxial test	2.5	4	1

PART-B

Answer any one full question from each part

3	Find out the neutral and effective stresses at a depth of 15m below the ground surface for the following conditions .Water table is 3m below the ground surface . $G=2.65$, $e=0.7$ average moisture content above water table is 5%	10	3	5
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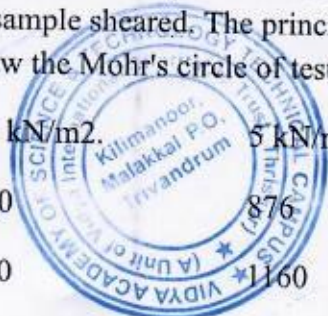
(OR)

4	A 6m thick sand layer having dry unit weight of 17kN/m^3 lies above a clay layer.The water table is 1m below ground level and the unit weight of saturated sand above water table is 20kN/m^3 .plot the effective stress variation in sand layer assuming sand is saturated by the capillary action	10	3	5
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5	Given the following data from a consolidated undrained test with pore water pressure measurement, determine the total and effective stress parameters: $\sigma_3= 100\text{ kN/m}^2$ 200 kN/m^2 $(\sigma_1 - \sigma_3)$ 150 kN/m^2 192 kN/m^2 uf 60 kN/m^2 140 kN/m^2 .	10	4	5
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(OR)

6	A series of shear test were performed on a soil. Each test was carried out until the soil sample sheared. The principal stresses for each test are given below, (i) Draw the Mohr's circle of test : Sl.No. 53 kN/m^2 5 kN/m^2 1 :... 300 2 400	10	4	5
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Dr.T.MATHAVARAJ RAVIKUMAR
 Principal
 Vidya Academy of Science & Technology
 Technical Campus Kilimanoor-695602

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SIGNATURE OF THE EXAMINER	SIGNATURE OF THE SCRUTINIZER	SIGANTURE OF HOD




Dr.T.MATHAVARAJ RAVIKUMAR
 Principal
 Vidya Academy of Science & Technology
 Technical Campus
 Malakkal P.O, Kilimanoor, Trivandrum-695607

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Roll No:.....

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Fourth Semester B. Tech Degree - 2015 Scheme

Internal Test -2(Online) SET 2

CIVIL ENGINEERING DEPARTMENT

CE 308 GEOTECHNICAL ENGINEERING 1



Time: 2 Hours

Max. Marks: 25

PART-A

Answer all questions




Qn.No.	Questions	Marks	CO	BL
1	Explain the concept of flow net diagrams	2.5	4	2
2	Distinguish clearly between capillarity and permeability	2.5	4	1

PART-B

Answer any one full question from each part

3	A 6m thick sand layer having dry unit weight of 17kN/m ³ lies above a clay layer. The water table is 1m below ground level and the unit weight of saturated sand above water table is 20kN/m ³ . Plot the effective stress variation in sand layer assuming sand is saturated by the capillary action	10	3	5
(OR)				
4	A soil profile has a surface layer of clay 4 m. thick and density 19.5 kN/m ³ and a sand layer of 2 m. thick with a density of 18.5 kN/m ³ lies below the clay layer. Water table is at the ground surface, if a stand pipe is driven into the clay up to the sand layer water level in the stand pipe rises 2 m. above the ground surface. Find the stresses	10	3	5
5	A 60 cm diameter well is being pumped at a rate of 1360l/minute. Measurements in a nearby test well were made at the same time as follows. At a distance of 6m from the well being pumped, the draw down was 6m, and at 15m the draw down was 1.5m. The bottom of the well is 90m below ground water table. Find the permeability of soil	10	4	5
(OR)				
6	What are the different methods to determine the coefficient of permeability in laboratory. Explain them in detail	10	4	2

Dr.T.MATHAVARAJ RAVIKUMAR
Principal
Vidya Academy of Science & Technology
Technical Campus

		
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Dr.T.MATHAVARAJ RAVIKUMAR
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Vidya Academy of Science & Technology
Technical Campus
Malakkal P.O, Kilimanoor, Trivandrum-695607

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**Fourth Semester B. Tech Degree - 2015 Scheme
CIVIL ENGINEERING DEPARTMENT**

CE 208 GEOTECHNICAL ENGINEERING 1

ASSIGNMENT 1

SET 1

Qn.No.	Questions	Marks	C O	BL
1.	For a soil sample , the liquid limit is 52 %, plastic limit 30%, shrinkage limit is 18%.If the specimen of the soil shrinks from a volume of 39.5 cm ³ at the liquid limit to a volume of 24.2cm ³ at the shrinkage limit .calculate the true specific gravity	10	2	5

SET 2

Qn.No.	Questions	Marks	C O	BL
1.	The Atterberg Limit of a clay soil are LL=75%, PL=45%,SL=25%.if a sample of this soil has a volume of 30cm ³ at the liquid limit and volume of 16.6 cm ³ at the shrinkage limit , determine the specific gravity of solids, shrinkage ratio, volumetric shrinkage	10	2	5

SET 3

Qn.No.	Questions	Marks	C O	BL
1.	A fully saturated clay has a water content of 30% and bulk unit weight of 18.64kN/m ³ .After drying the dry unit weight is 17.66kN/m ³ .Find the specific gravity and shrinkage limit. Define consistency index also	10	2	5



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Fourth Semester B. Tech Degree - 2015 Scheme

CIVIL ENGINEERING DEPARTMENT

CE 208 GEOTECHNICAL ENGINEERING 1

ASSIGNMENT 2

SET 1

Qn.No.	Questions	Marks	C O	BL
1.	(a) Explain concept of consolidation using Spring Analogy. (b) Explain the procedure for determining pre consolidated pressure.	10	5	2

SET 2

Qn.No.	Questions	Marks	C O	BL
1.	Explain Compression Index and Swelling Index Define coefficient of consolidation and give its relations with other soil parameters	10	5	2

SET 3

Qn.No.	Questions	Marks	C O	BL
1.	(a) Differentiate between primary and secondary consolidation (b) discuss terzaghi theory of consolidation	10	5	2

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Technical Campus
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