



SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion – 1

CURRICULAR ASPECTS

Submitted by

IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Criterion 1	Curricular Aspects	100
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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

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8	Tutorial Question Paper
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11	Student Feedback on Faculty
12	Internal Assessment Schedule
13	Cycle Test Question Paper
14	Cycle Test Answer Key
15	Cycle Test Sample Answer Sheet
16	Cycle Test Co Based Mark Entry
17	Root Cause Analysis
18	Retest Schedule
19	Retest Sample Question Paper
20	Retest Attendance Sheet
21	Retest Co Based Mark Entry
22	Internal Mark Sheet- Anna University Portal
23	Anna University Grade Sheet
24	Co Po Attainment



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DEPARTMENT OF CIVIL ENGINEERING

PREFACE OF THE COURSE FILE

Batch : 2016-2020

Academic Year : 2018-2019 / ODD

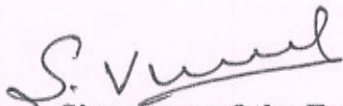
Program : BE CIVIL ENGINEERING

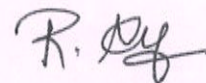
Year & Semester : III Year / V Semester

Course Code : CE6504 NBA COURSE CODE:C409

Name of the Course : Highway Engineering

Faculty in-charge : Mr.S.VETRIVEL AP/CIVIL


Signature of the Faculty



HOD / CIVIL

HOD / CIVIL

SRI BHARATHI ENGINEERING
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KAIKKURICHI,
PUDUKKOTTAI - 622 303


Dr. S. THILAGAVATHI M.E., Ph.D.,
PRINCIPAL

SRI BHARATHI ENGINEERING
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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.NO	Details Date:	R-I-*	R-II- *&	R-III- *&	R-IV- *&S	R-V- *&S@
1.	Preface of the course file	yes				
2.	Vision, Mission, PEOs, POs, PSOs, Blooms taxonomy	yes				
3.	Subject handlers of yesteryears					
4.	Timetable/Workload of the staff – Distribution of teaching load – Roles and Responsibilities	yes				
5.	Syllabus signed by staff & HoD	yes				
6.	Lecture Schedule signed by staff & HoD	yes				
7.	Course Committee meeting circular and minutes	yes				
8.	Identification of Curricular gap and Content Beyond the syllabus	yes				
9.	Self-study topics	yes				
10.	Previous AU Question papers	yes				
11.	Unit wise Q&A and Objective type questions	yes				
12.	Unit wise course material	yes				
13.	Assignment question paper with sample answer sheets and mark entry		yes			
14.	Tutorial question paper with key and mark entry		yes			
15.	Class test/IA test Q Paper with Key, sample answer papers and mark entry		yes			
16.	IA Test- result analysis-CAP-evidence-root cause analysis.		yes			
17.	Retest –Q paper-Attendance-marks		yes			
18.	AU Web portal entry sheet		yes			
19.	Very poor performance in first two tests-action taken.-communication to parents-evidence					
20.	Absence for two tests-action taken-communication to parents-evidence.					
21.	Indiscipline of student reported, if any					
22.	Special class/coaching class/remedial class/attendance-CAP					
23.	Conduct of Seminar, Quizzes - proof					
24.	Content beyond the syllabus - proof				yes	
25.	Student feedback on faculty				yes	
26.	Course end survey					
27.	Internal Assessment sheet				yes	
28.	AU question paper with students feedback					
29.	Discrepancy of the question paper and correspondence, if any					
30.	AU result analysis-Details of arrear students.					
31.	AU grade sheet					yes
32.	CO – PO & PSO attainment sheet					yes
	Signature of Course handling faculty	S.Venug	S.Venug	S.Venug	S.Venug	S.Venug
	Signature of HoD/Civil	R. Jay	R. Jay	R. Jay	R. Jay	R. Jay

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INDIVIDUAL STAFF WORKLOAD FOR ODD SEMESTER (2018-2019)

Sl. No	STAFF NAME	SUB.CODE & SUB.NAME	YEAR / SEM	HRS	TOT. HRS
1	Mr.S.Vetrivel	CE6702 Prestressed Concrete Structures	IV/ VII	06	14
		CE6504 Highway Engineering	III / V	05	
		CE6511 Soil Mechanics Laboratory (Skilled)	III / V	03	
2	Mr.S.Rajapandian	CE8302 Fluids Mechanics	II/III	05	17
		GE8152 Engineering Graphics (Sec A & B)	I / I	12	
3	Ms.R.Manju	CE6007 Housing Planning and Management	IV/ VII	05	13
		CE6503 Environmental Engineering I	III / V	05	
		CE6511 Soil Mechanics Laboratory(Skilled)	III / V	03	
4	Mrs. R. Priya	CE6703 Water Resources and Irrigation Engineering	IV/ VII	05	14
		CE6713 Estimation and Quantity Surveying	IV/ VII	06	
		GE8152 Engineering Graphics (Sec A)	I/I	03	
5	Mrs. S. Dharshini	CE6506 Construction Techniques, Equipment and Practice	III / V	05	11
		CE8311 Construction Materials Laboratory (skilled)	II/III	03	
		GE8152 Engineering Graphics (Sec A)	I / I	03	
6	Mrs.R. Kayalvizhi	CE6011 Air Pollution Management	IV/ VII	05	13
		CE6501 Structural Analysis I	III / V	05	
		CE8311 Construction Materials Laboratory	II/III	03	
7	Ms. G. Gayathri	CE6505 Design of RC Elements	III / V	06	14
		CE8301 Strength of Materials I	II/III	05	
		CE6711 Computer Aided Design and Drafting Laboratory	IV/ VII	03	
8	Ms.S.Vidhya	CE6701 Structural Dynamics and Earthquake Engineering	IV/ VII	05	14

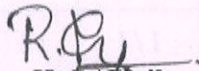
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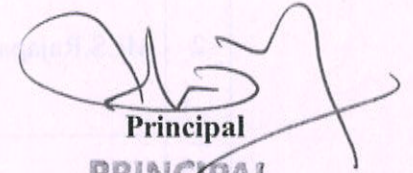
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		GE8152 Engineering Graphics (Sec B)	I / I	06	
		CE6711 Computer Aided Design and Drafting Laboratory(Skilled)	IV/ VII	03	
9	Mrs.P.Dennis Flora	CE6502 Foundation Engineering	III / V	05	15
		CE8391 Construction Materials	II/III	04	
		CE6511 Soil Mechanics Laboratory	III / V	03	
		CE8311 Surveying Practical I(Skilled)	II / III	03	
10	Ms.N.Chithirai Selvi	CE8304 Surveying I	II / III	05	13
		CE8392 Engineering Geology	II / III	05	
		CE8311 Surveying Practical I	II / III	03	


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PUDUKKOTTAI DISTRICT



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DEPARTMENT OF CIVIL ENGINEERING

COURSE PLAN

Subject code & Name: CE6504 & Highway Engineering Branch/Year/Sem: B.E CIVIL / III / V

Batch:2016-2020

Staff Name:Mr. S.VETRIVEL., AP/CIVIL

Academic year:2018-2019

COURSE OBJECTIVE

To give an overview about the highway engineering with respect to, planning, design, construction and maintenance of highways as per IRC standards, specifications and methods.

TEXT BOOK:

T1. Khanna.S. K., Justo.C.E.G and Veeraragavan A. "Highway Engineering", NemchandPublishers, 2014.

T2. Subramanian K.P., "Highways, Railways, Airport and Harbour Engineering", ScitechPublications (India), Chennai, 2010

T3. Kadiyali.L.R. "Principles and Practice of Highway Engineering", Khanna TechnicalPublications, 8th edition Delhi, 2013.

REFERENCES:

R1.Indian Road Congress (IRC), Guidelines for the Design of Flexible Pavements, (Third Revision), IRC: 37-2012

R2.Indian Road Congress (IRC), Guidelines for the Design of Plain Jointed Rigid Pavementsfor Highways, (Third Revision), IRC: 58-2012

R3. Yang H. Huang, "Pavement Analysis and Design", Pearson Education Inc, Nineth Impression, South Asia, 2012

R4.Ian D. Walsh,"ICE manual of highway design and management", ICE Publishers, IstEdition, USA, 2011

R5.Fred L. Mannering, Scott S. Washburn and Walter P.Kilareski, "Principles of HighwayEngineering and Traffic Analysis", Wiley India Pvt. Ltd., New Delhi, 2011

R6.Garber and Hoel, "Principles of Traffic and Highway Engineering", CENGAGE Learning, New Delhi, 2010

R7.O'Flaherty.C.A "Highways, Butterworth – Heinemann, Oxford, 2006

R8.IRC-37–2012,The Indian roads Congress, Guidelines for the Design of FlexiblePavements, New Delhi

R9.IRC 58-2012. The Indian Road Congress, Guideline for the Design of Rigid Pavements for Highways, New Delhi

WEB RESOURCES

W1: <https://nptel.ac.in/courses/105105107>

W2: <https://nptel.ac.in/courses/105104098>

W3: https://www.civil.iitb.ac.in/tvm/nptel/409_InTsc/web/web.html

TEACHING METHODOLOGIES:

- BB - BLACK BOARD
- PPT - POWER POINT PRESENTATION


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DEPARTMENT OF CIVIL ENGINEERING

CE6504

HIGHWAY ENGINEERING

L	T	P	C
3	0	0	3

OBJECTIVE:

To give an overview about the highway engineering with respect to, planning, design, construction and maintenance of highways as per IRC standards, specifications and methods.

UNIT I HIGHWAY PLANNING AND ALIGNMENT 8

Significance of highway planning – Modal limitations towards sustainability - History of road development in India – Classification of highways – Locations and functions – Factors influencing highway alignment – Soil suitability analysis - Road ecology - Engineering surveys for alignment, objectives, conventional and modern methods.

UNIT II GEOMETRIC DESIGN OF HIGHWAYS 12

Typical cross sections of Urban and Rural roads — Cross sectional elements - Sight distances – Horizontal curves, Super elevation, transition curves, widening at curves – Vertical curves - Gradients, Special consideration for hill roads - Hairpin bends – Lateral and vertical clearance at underpasses.

UNIT III DESIGN OF FLEXIBLE AND RIGID PAVEMENTS 9

Design principles – pavement components and their role - Design practice for flexible and rigid Pavements (IRC methods only) - Embankments .

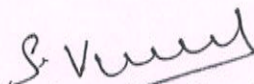
UNIT IV HIGHWAY CONSTRUCTION MATERIALS AND PRACTICE 8

Highway construction materials, properties, testing methods – CBR Test for subgrade - tests on aggregate & bitumen – Construction practice including modern materials and methods, Bituminous and Concrete road construction, Polymer modified bitumen, Recycling, Different materials – Glass, Fiber, Plastic, Geo-Textiles, Geo-Membrane (problem not included) - Quality control measures - Highway drainage — Construction machineries.

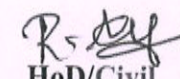
UNIT V EVALUATION AND MAINTENANCE OF PAVEMENTS 8

Pavement distress in flexible and rigid pavements – Pavement Management Systems - Pavement evaluation, roughness, present serviceability index, skid resistance, structural evaluation, evaluation by deflection measurements – Strengthening of pavements –Types of maintenance – Highway Project formulation.

TOTAL: 45 PERIODS


Signature of the Faculty


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Topic No	Topic Name	Books For reference	Page No	Teaching Methodology	No of periods required	Cumulative periods
UNIT I HIGHWAY PLANNING AND ALIGNMENT						(8)
1.	Significance of highway planning	T1	1-4	BB	1	1
2.	Modal limitations towards sustainability	T1	4-6	BB	1	2
3.	History of road development in India	T1	9-15	PPT	1	3
4.	Classification of highways.	T1	21-24	BB	1	4
5.	Location & functions.	T1	27-35	BB	1	5
6.	Factors influencing highway alignment.	T1	51	BB	1	6
7.	Soil suitability analysis.	T1	52	PPT	1	7
8.	Road ecology, Engineering survey for alignment , objectives, conventional & modern methods.	T1	24-27,62	BB	1	8
UNIT –I I GEOMETRIC DESIGN OF HIGHWAYS						(12)
9	Typical cross section of urban and rural roads	T1	71-75	BB	1	9
10	Sight distances	T1	86-101	PPT	1	10
11	Horizontal curves	T1	104-111	BB	1	11
12	Super elevation	T1	104-111	PPT	1	12
13	transition curves	T1	112-137	BB	1	13
14	widening at curves	T1	112-137	BB	1	14
15	Vertical curves	T1	137-139	BB	1	15
16	Gradients and its types	T1	139-140	BB	1	16
17	Special consideration for hill roads	T1	139-140	BB	1	17
18	Hairpin bends	T1	141-147	BB	1	18
19	Lateral clearance at underpasses.	T1	147-153	BB	1	19
20	vertical clearance at underpasses.	T1	147-153	BB	1	20

Dr. S. THILAGAVATHI M.E., Ph.D.,

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UNIT – III DESIGN OF FLEXIBLE AND RIGID PAVEMENTS (9)						
21	Design principles	T1	330-333	BB	1	21
22	Pavement components.	T1	333-334	BB	1	22
23	Design factors & their based problems	T1	335-344	BB	1	23
24	Pavement role	T1	345-346	BB	1	24
25	Design practice for flexible pavement	T1	346-369	PPT	1	25
26	Design practice for rigid pavement.	T1	370-390	BB	1	26
27	Flexible pavement problems	T1	390-401	BB	1	27
28	Rigid pavement problems	T1	390-401	BB	1	28
29	Embankments	T1	401-408	BB	1	29
UNIT – IV HIGHWAY CONSTRUCTION MATERIALS AND PRACTICE (8)						
30	Highway construction materials & its properties	T1	268-271	BB	1	30
31	CBR Test for subgrade	T1	272-280	BB	1	31
32	tests on aggregate & bitumen	T1	292-301	PPT	1	32
33	Test on Bituminous mixes	T1	301-310	BB	1	33
34	Construction practice including modern materials and methods	T1	310- 314	BB	1	34
35	Bituminous and Concrete road construction, Polymer modified bitumen	T1	326-330	PPT	1	35
36	Different materials – Glass, Fiber, Plastic, Geo-Textiles, Geo-Membrane	T1	280-285	BB	1	36
37	Quality control measures, Highway drainage & Construction machineries.	T1	518-534	BB	1	37
UNIT V EVALUATION AND MAINTENANCE OF PAVEMENTS (8)						
38	Pavement distress in flexible pavements	T1	463-464	BB	1	38
39	Pavement distress in rigid	T1	464-468	BB	1	39

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	pavements			PPT	1	
40	Types of maintenance	T1	488-489	BB	1	40
41	Pavement Management Systems	T1	489-492	BB	1	41
42	Pavement evaluation, roughness & present serviceability index	T1	493-496	BB	1	42
43	skid resistance & structural evaluation	T1	498-502	PPT	1	43
44	evaluation by deflection measurements	T1	505-507	BB	1	44
45	Strengthening of pavements, Highway Project formulation.	T1	508-515	BB	1	45

COURSE OUTCOME

At the end of the course, the student should be able to:

- C304.1** Explain significance of highway planning, model limitations towards sustainability.
- C304.2** Illustrate cross sectional elements, sight distances, horizontal curves, super elevation & transition curves.
- C304.3** Demonstrate design principles of flexible & rigid pavements.
- C304.4** Explain highway construction materials, properties, testing methods & CBR test for subgrade.
- C304.5** Describe pavement distress in flexible and rigid pavements & pavement management system.
- C304.6** The students completing this course would have acquired knowledge on strengthening of pavements.

CONTENT BEYOND THE SYLLABUS

- Intelligent Transport System.

INTERNAL ASSESSMENT DETAILS

ASSESSMENT NUMBER	I	II	III	MODEL
UNIT	Unit 1 & 2	Unit 3 & half unit in Unit 4)	Half Unit in Unit 4 & Unit 5	All 5 units

ASSIGNMENT DETAILS

ASSIGNMENT NUMBER	I	II	III
DEAD LINE	23.07.2018	13.08.2018	17.09.2018



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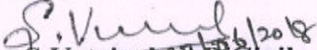
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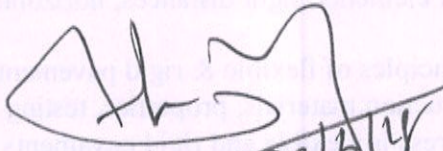
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ASSIGNMENT NUMBER	UNIT	DESCRIPTIVE QUESTIONS/TOPIC (Minimum of 8 Pages)
I	I	1) Briefly explain about history of road development.
II	II	1) limiting gradient, super elevation, horizontal curve.
III	III	1). State the components of flexible pavement. 2) Explain flexible pavement. 3) Explain the IRC method of design of rigid pavement.

PREPARED BY

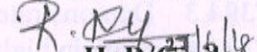

S. Vetrivel, AP/Civil


APPROVED BY 28/6/14

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DEPARTMENT OF CIVIL ENGINEERING

Identification of Curricular Gap & Content Beyond Syllabus(CBS)

Name of the Faculty :Mr.S.VETRIVEL., AP/CIVIL

Course Code & Name : CE6504 & HIGHWAY ENGINEERING

Academic Year : 2018 -2019 /ODD SEM

Degree & Program :B.E./CIVIL

Year/ Semester: III/V

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

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

C304	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
C304.1	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.2	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.3	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.4	3	2	2	2	-	1	-	-	1	1	1	1	2	1	1
C304.5	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.6	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
CE6504	3	2	2	2	-	1	-	-	1	1	1	1	2	1	1

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
Intelligent Transport System	PO 8 (2) Vacant filled	C304.5 & C304.6 / V


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

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

C304	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
C304.1	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.2	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.3	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.4	3	2	2	2	-	1	-	-	1	1	1	1	2	1	1
C304.5	3	2	2	2	-	-	-	2*	1	1	1	1	2	1	1
C304.6	3	2	2	2	-	-	-	2*	1	1	1	1	2	1	1
CE6504	3	2	2	2	-	1	-	2*	1	1	1	1	2	1	1

S. Venu
Signature of the Faculty

R. Py
HoD/CivE

[Signature]
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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF CIVIL ENGINEERING
ACADEMIC YEAR 2018-2019 (EVEN SEM)

Assignment Question Paper

Assignment – 03			Date of Issue:	18.09.2018	Marks	10
Course code	CE6504	Course Title	HIGHWAY ENGINEERING			
Year	III	Semester	V	Date of Submission:	20.09.2018	

Q.No	Questions	CO
1.	Explain rigid pavement.	C304.3
2.	How do you calculate the ESWL at a given depth below the pavement for a dual wheel assembly?	C304.3
3.	Mention any four factors controlling the design of rigid pavement.	C304.3
4.	What is rigidity factor in the desing of highway pavements?	C304.3
5.	What are dowel bars?	C304.3
6.	Explain the IRC method of design of rigid pavement	C304.3

S. Vetrivel
18/09/18
Name and Signature of the Faculty Incharge

S. Vetrivel, AP CIVIL

R. Dey
18/09/18
HoD/Civil

HOD / CIVIL
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2018-2019 (EVEN SEM)

Assignment Answer Sheet

Name of the Student : *Maheswarani M*

AU Register Number: *912616103303*

Assignment – 03			Date of Issue:	18.09.2018	Marks	10
Course code	CE6504	Course Title	HIGHWAY ENGINEERING			
Year	III	Semester	V	Date of Submission:	20.09.2018	

Q.No	Questions	CO
1.	Explain rigid pavement.	C304.3
2.	How do you calculate the ESWL at a given depth below the pavement for a dual wheel assembly?	C304.3
3.	Mention any four factors controlling the design of rigid pavement.	C304.3
4.	What is rigidity factor in the desing of highway pavements?	C304.3
5.	What are dowel bars?	C304.3
6.	Explain the IRC method of design of rigid pavement	C304.3

Mark Allocation

Rubrics	Marks Allocated	Marks obtained
Content Quality	6	5
Presentation Quality	2	1
Timely submission	2	1
Total marks	10	7

S. Vetrivel
Name and Signature of the Faculty Incharge

S. Vetrivel, AP / CIVIL

R. S. Sathish
HoD/Civil

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DEPARTMENT OF CIVIL ENGINEERING

Tutorial Question paper

Tutorial – 03		Date of Issue:	14.09.2018	Marks	10
Course code	CE6504	Course Title	HIGHWAY ENGINEERING		
Year	III	Semester	V	Date of Submission:	17.09.2018

Q.No	Questions	CO
1.	The CBR value of subgrade soil is 5%. Find the total thickness of the flexible pavement by using/ 1. Design Curve 2. Design chart by IRC 3. Design formula Assume 4100 kg wheel load or medium light traffic of 200 commercial vehicles/ day. Take tyre pressure=6kg/cm ²	C304.3
2.	Determine the stresses at interior, edge and corner region of rigid pavement using westergaard's method. Take $p=5100\text{kg}$, $E=3 \times 10^5 \text{kg/cm}^2$, $h=20\text{cm}$, $\mu=0.15$, $K=4 \text{kg/cm}^2$ and $a=15\text{cm}$.	C304.3

Name and Signature of the Faculty Incharge

S. Veeravel
14/09/18

S. Veeravel, APL/CIVIL

R. Deeb
14/9/18
HoD/Civil

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DEPARTMENT OF CIVIL ENGINEERING

Tutorial Answer Sheet

Name of the Student : Aarathi . G

AU Register Number: 912616103001

Tutorial – 03		Date of Issue:	14.09.2018	Marks	10
Course code	CE6504	Course Title	HIGHWAY ENGINEERING		
Year	III	Semester	V	Date of Submission:	17.09.2018

Q.No	Questions	CO
1.	The CBR value of subgrade soil is 5%. Find the total thickness of the flexible pavement by using 1. Design Curve 2. Design chart by IRC 3. Design formula Assume 4100 kg wheel load or medium light traffic of 200 commercial vehicles/ day. Take tyre pressure=6kg/cm ²	C304.3
2.	Determine the stresses at interior, edge and corner region of rigid pavement using westergaard's method. Take $p=5100\text{kg}$, $E=3 \times 10^5 \text{ kg/cm}^2$, $h=20\text{cm}$, $\mu=0.15$, $K=4 \text{ kg/cm}^2$ and $a=15\text{cm}$.	C304.3

Mark Allocation

Rubrics	Marks Allocated	Marks obtained
Problem solving approach	6	5
Correction of answer	2	1
Timely submission	2	1
Total marks	10	7

Name and Signature of the Faculty Incharge

S. Vetrivel, AP / CMC

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IQAC Academic Audit Form

ACADEMIC YEAR: 2018-2019 ODD SEMESTER


Name of Department : CIVIL Year / Sem : III / V No. of Students Registered : 11

Details of Examination : Cycle Test -1 / Cycle Test -2 / Cycle Test -3 / Model Test

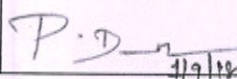
S.No.	Course Code & Name	List of Reg.No Verified	Course Log Book Verified (Y/N)	Course File Verified (Y/N)	No of students Passed	No of Absentees	No of Failures	Pass %	Remarks
1.	CE 6501 Structural analysis - I	912616103002	Yes	Yes	8	NIL	3	72.72%	-
2	CE 6502 Foundation Engineering	912616103004	Yes	Yes	7	NIL	4	63.63%	-
3	CE 6503 Environmental Engineering - I	912616103006	Yes	Yes	9	NIL	2	81.81%	-
4	CE 6504 Highway Engineering	912616103008	Yes	Yes	7	NIL	4	63.63%	-
5	CE 6505 Design of RC elements	912616103002	Yes	Yes	9	NIL	2	81.81%	-
6	CE 6506 Construction tech equipment & practice	912616103303	Yes	Yes	9	NIL	2	81.81%	-

Verified by

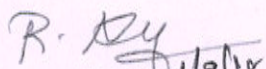
External Member Name and Signature:

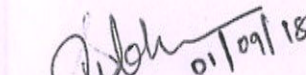
 S. UDHAYANANDAN AP [ECE]

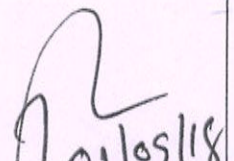
Internal Member Name and Signature:

 P. Denni Flora, AP [CIVIL]

Overall Remarks:


HoD/ Civil
HOD / CIVIL


IQAC Coordinator


Principal

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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2018-2019 (ODD SEMESTER)

SUBJECT CODE & TITLE: CE6504 HIGHWAY ENGINEERING

YEAR/SEM: III/V

STUDENT FEEDBACK ON FACULTY

S.N O.	DESCRIPTION	SCORE D OUT OF 4	SCORE D OUT OF 100
1.	Syllabus coverage as prescribed by University	3.6	90
2.	Technical knowledge of the teacher	3.5	87.5
3.	Teacher's communication skill	4.0	100
4.	Regularity in taking classes	3.5	87.5
5.	Helping the students in conducting the experiment through set of instructions and demonstrations	3.5	87.5
6.	Tendency of inviting opinion and questions on subject matter from students.	3.6	90
7.	Knowledge of the teacher in latest development of field	3.8	95
8.	Perfectness of valuation	3.4	85
OVERALL SCORE		3.612	9.31


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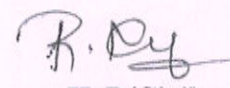
REPORT SHEET

S.NO	REG.NO	NAME	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1	912616103001	Aarthi.G	3	4	4	4	4	4	4	4
2	912616103002	Ananthi.S	4	3	4	3	3	4	4	3
3	912616103003	Anusiya.C	3	3	4	4	4	4	4	4
4	912616103004	Kanimozhi.P	4	4	4	4	4	3	4	4
5	912616103005	Lavanya.K	4	4	4	3	3	3	4	3
6	912616103006	Masilamani.M	4	4	4	3	3	3	4	4
7	912616103007	Menaka.R	4	3	4	3	3	4	4	3
8	912616103008	Praveena.M	4	3	4	4	4	4	4	3
9	912616103301	Gowsika N	3	4	4	4	4	3	3	3
10	912616103302	Kaliswari M	3	4	4	3	3	4	3	4
11	912616103303	Maheswari M	4	3	4	4	4	4	4	3
12	912616103304	Sarathapritha S	4	3	4	4	4	4	4	3
AVERAGE			3.6	3.5	4.0	3.5	3.5	3.6	3.8	3.4
PERCENTAGE			90	87.5	100	87.5	87.5	90	95	85

EXCELLENT	VERY GOOD	GOOD	AVERAGE	POOR
4	3	2	1	0


Signature of the Faculty


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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
KAIKKURICHI, PUDUKKOTTAI – 622 303.

Circular

Date: 18-07-2018


The first cycle test will be conducted on 28.07.2018, 30.07.2018, 31.07.2018 & 01.08.2018 for the III, V & VII semester (II, III & IV year) students.

The following instructions are to be followed by the faculty members.

- Total marks for which the question paper to be set will be for 50 marks.
- It is the responsibility of the question paper setter to take the Xerox copies of the required number of question papers with the help of Mr. Pandi. S & Ms. Anusha. G and it should be handed over to the Exam Coordinator Mr. J. Sathyaraj A.P/ EEE on or before 26.07.2018.
- The Exam Coordinators (exam cell) are requested to make necessary arrangements (hall arrangements, invigilation duty etc.,) for conducting the test.
- Faculty members are requested to handover the valued answer scripts to the students on or before 02.08.2018 and the class in-charges are requested to send the consolidated mark sheet along with the attendance percentage to the parents on or before 03-08-2018.

Cc:

- All faculty
- Exam cell
- Office file


PRINCIPAL 18/07/18


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Kaikkurchi - 622 303, Pudukkottai Dt.



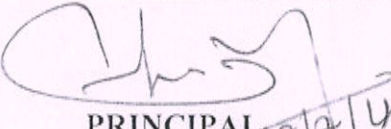
**SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
KAIKKURICHI, PUDUKKOTTAI – 622 303.**

Circular

Date: 18-07-2018

The first cycle test will be conducted on 28.07.2018, 30.07.2018, 31.07.2017 & 01.08.2018 for the V semester (III year) B.E/ B.Tech students for 50 marks as per the time table given below. Students are directed to prepare well and score good marks.

Date	10.00 am -11.30 am	2.30 pm -4.00 pm
28.07.2018	CE6505 Design of RC Elements(Civil) IT6503 Web Programming(IT) EE6503 Power Electronics (EEE) COACHING (ECE &CSE)	CE6504 Highway Engineering (Civil) CS6501 Internet Programming (CSE) CS6551 Computer Networks (IT) ME6701 Power Plant Engineering (EEE) EC6503 Transmission Lines and Wave guides(ECE)
30.07.2018	CE6503 Environmental Engineering-I (Civil) CS6504 Computer Graphics (CSE) IT6501 Graphics and Multimedia (IT) EE6501 Power System Analysis (EEE) EC6501 Digital Communication (ECE)	CE6506 Construction Techniques, Equipment and Practice (Civil) CS6502 Object Oriented Analysis and Design (CSE & IT) EE6502 Microprocessors and Microcontrollers (EEE) EC6504 Microprocessors and Microcontrollers (ECE)
31.07.2017	COACHING	CE6501 Structural Analysis I (Civil) MA6566 Discrete Mathematics (CSE) IT6502 Digital Signal Processing (IT) IC6501 Control Systems (EEE) EC6502 Principles of Digital Signal Processing (ECE)
01.08.2018	COACHING	CE6502 Foundation Engineering(Civil) CS6503 Theory of Computation (CSE) EC6801 Wireless Communication (IT) EE6504 Electrical Machines II (EEE) GE6351 Environmental Science and Engineering(ECE)


PRINCIPAL 18/7/18

Cc:

- All III year B.E / B.Tech Classes
- All faculty
- Exam cell
- Notice Board
- Office file


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SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
Kalkurichi - 622 303, Pudukkottai DL

Register Number:

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Cycle test - I			Date/Session	28.07.2018/AN	Marks	50
Course code	CE6504	Course Title	HIGHWAY ENGINEERING			
Regulation	2013	Duration	90 minutes	Academic Year	2018-2019(Odd Sem)	
Year	III	Semester	V	Department	Civil	

COURSE OUTCOMES

C304.1	Explain significance of highway planning, model limitations towards sustainability.
C304.2	Illustrate cross sectional elements, sight distances, horizontal curves, super elevation & transition curves.
C304.3	Demonstrate design principles of flexible & rigid pavements.
C304.4	Explain highway construction materials, properties, testing methods & CBR test for subgrade.
C304.5	Describe pavement distress in flexible and rigid pavements & pavement management system.
C304.6	Illustrate skid resistance, structural evaluation & evaluation by deflection measurements.

Q.No.	Question	CO	BTL
PART A			
(Answer all the Questions 10 x 2 = 20 Marks)			
1	Difference between Telfords and Macadam method of road construction.	C304.1	K2
2	Define camber.	C304.2	K2
3	Define SSD.	C304.2	K2
4	What are the roles of MORTH?	C304.2	K2
5	Define the term alignment and state its types.	C304.1	K2
6	What are the special features of Roman roads?	C304.1	K2
7	Write a short note about National Transport Policy Committee.	C304.1	K1
PART B			
(Answer all the Questions 2 x 13 = 26 Marks)			
8.a	Describe briefly about second twenty year road plan.	C304.1	K2
OR			
8.b	Briefly explain the role of IRC in highway development.	C304.1	K2
9.a	Briefly explain about NHAI and CRRI.	C304.1	K2
OR			
9.b	Explain the requirements of ideal highway alignment.	C304.1	K2
PART C			
(Answer all the Questions 1 x 10 = 10 Marks)			
10.a	Calculate the length of transition curve and shift using the following data: <ul style="list-style-type: none"> i. Design speed = 60KMPH & Radius of circular curve = 200m ii. Pavement width including extra widening = 7.5m iii. Allowable rate of introduction of super elevation = 1 in 150 	C304.2	K3
OR			

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10.b	<p>The design speed of the vehicle is 70kmph and the coefficient of friction is 0.35. if the total reaction time of the driver is 2.5 seconds. Calculate,</p> <ul style="list-style-type: none"> i) SSD for two way lane road. ii) SSD for single lane road iii) SSD for two way two lane road with an ascending gradient of 2% iv) SSD for two way two lane road with the breaking efficiency of 75% 	C304.2	K3
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S. Venu
 Course Faculty
 25/7/18

(Name / Sign / Date)

R. Raj
 HoD/Civil
 25/7/18

(Name / Sign / Date)

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CE 6504 - Highway Engineering (I-cycle).

1) S.NO	Considering factor	Telford's method	Macadam's method.
1.	Subgrade slope	Horizontal	1 in 36.
2.	Foundation stones	stones of large size varying from 220mm at centre to 170mm at edge	Broken stones of uniform 50mm size for bottom layer of 100mm thickness. — ②

2) Camber is defined as the slope of the line joining the centre of the road with the edge of the road surface and the central rise point of the road is called crown. — ②

3. Stopping sight distance is defined as the sufficient sight distance required for a driver travelling at the design speed to stop the vehicle, in case of any obstruction on the road ahead without collision. — ②

4. 1. Morth formulates & regulates the policies for road transport
 2. It increases the mobility + efficiency of the road transport. — ②

5. Alignment of the highway is defined as the process of fixing the position of centre line of the highway on the ground. — ②

1. Horizontal alignment
 2. Vertical alignment.

6. * they were built straight without any gradient
 * the soft soil from the top was removed till the hard stratum was reached. — ②

7. the central government appointed the national transport policy committee in the year 1978, to prepare a comprehensive national transport policy for the country for the next decade. — ②

Part-B

899 IRC initiated second twenty year plan in 1959 at the meeting of the chief engineers at Bombay and forwarded to central government. the second twenty year plan was also known as Bombay road plan. — ④

Various objectives of the Bombay plan
 1. providing good communication in the rural areas is essential to check increasing urbanization

According to this plan, the road lengths of various highway are calculated as below — ④

$$L_1 = \frac{A}{64} + \frac{B}{80} + \frac{C}{96} + 32K + 8M + D$$

$$L_2 = \frac{A}{20} + \frac{B}{24} + \frac{C}{32} + 48K + 24M + 11.2N + 1.6P + D.$$

$$L_3 = \frac{A}{8} + \frac{B}{16} + \frac{C}{24} + 48K + 24M + 11.2N + 9.6P + 6.4Q + 2.4R + D.$$

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— ⑤

L_1 = Length of NH in km

L_2 = L_1 + Length of SH in km

L_3 = L_2 + Length of MDR in km

L_4 = L_3 + Length of ODR in km.

8b) In the year 1934, December, on the recommendation of the Indian Road Development Committee formed a technical, semi-official body of Highway Engineers called Indian Road Congress, for the development of road in India. As the activities of the IRC expanded, it was formally registered as a Society in 1937, under the Societies Registration Act of 1860.

Objectives of IRC:

1. IRC promotes and encourages the science and practice of building & maintenance of roads
2. It provides a channel for the expression of collective opinion of its members.

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9a) The National Highway Authority of India is an autonomous agency of the Government of India, responsible for the transport management of a network of over 1,00,000 km of National Highway in India. The National Highway Authority of India was constituted by an act of Parliament, the National Highway Authority of

India act, 1988

i) It promotes and encourage the science & practice of building & maintenance of roads.

ii) It provides a channel for the expression of collective opinion of its members regarding the roads.

Phase I: It was approved by Cabinet Committee

Phase - II: It was approved by CCEA

Phase - III: The government in 2005 & 2007 has approved phase III

Phase - IV: It includes widening of 2000 km highway.

Phase - V: CCEA has approved in October 2006. — 8

CRRRI

a national laboratory established in 1950, a constituent of Council of Scientific & Industrial Research, New Delhi is engaged in carrying out research and development projects on design construction & maintenance of roads & runways. traffic & transportation planning of big & medium cities. — 5

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7) Alignment

1. Horizontal alignment
2. Vertical alignment

— ③

1. Ideal alignment

Shortness

easy

Safety

Economics

It should be provided with easy gradient

It should have easy visibility & direction.

It should permit the arrangement for

future expansion

— ⑤

Part - C

10) a) Rate of change of centrifugal acceleration $\gamma = \frac{80}{75+V}$

$$C = \frac{80}{75+60} = 0.592 \text{ m/s}^2$$

Length of transition curve is $= \frac{0.0215V^3}{CR}$

$$L = 40.74 \text{ m.}$$

$$e = \frac{0.75V^2}{9R} = 0.08 \text{ — ③}$$

checking of Safety against Skidding

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PRINCIPAL

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$$e+f = \frac{V^2}{9R}$$

$$f = 0.0717$$

— ②

Total width of pavement at curve = 7.5m

$$B = W + W_e = 7.5m$$

$$E = eB = 0.07 \times 7.5 = 0.525$$

$$N = 150$$

$$L_s = \frac{EN}{2} = \frac{0.525}{2} \times 150 \quad \text{--- (3)}$$

$$= 39.375m.$$

minimum value of $L_s = 48.6m$

$$\boxed{S = 0.5208m} \quad \text{--- (2)}$$

10. b) i) Stopping sight distance

$$SSD = vt + \frac{v^2}{2gf}$$

$$SSD = 0.278vt + \frac{v^2}{254f} \quad \text{if } v \text{ is given in kmph}$$

v - Design speed of vehicle

$$= 103.77m. \quad \text{--- (3)}$$

ii) SSD for two-way traffic with single lane road.

$$= 207.54m. \quad \text{--- (2)}$$

iii) SSD for an ascending gradient:
Length of SSD = $0.278vt + \left[\frac{v^2}{254(f + 0.01n)} \right]$

n - slope of the road = 2%.

$$= 100.79m.$$

iv) SSD with braking efficiency

$$f' = 0.35 \times \frac{75}{100}$$

$$f' = 0.2625$$

SSD for two way two lane road

$$= 122.14m. \quad \text{--- (2)}$$

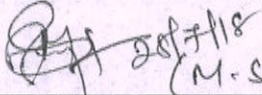

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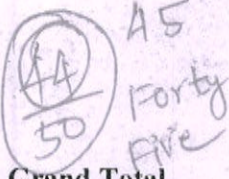
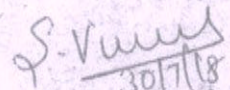
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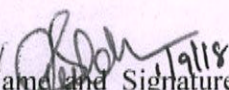
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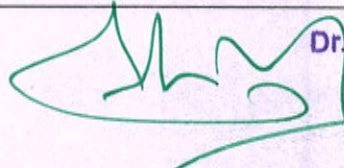
Cycle Test Answer Book

Name	Praveena . M			Year/ Semester	IV / V
Reg No.	912616103004	Date/Session	28-07-18 / AN	Department	CIVIL
Course code	CE 6504	Course Title	Highway Engineering		
Cycle Test (Put a tick mark)	CT 1	<input checked="" type="checkbox"/>	CT 2	<input type="checkbox"/>	CT 3 <input type="checkbox"/> Model <input type="checkbox"/>
Name and Signature of the Invigilator with date	 (M. SATHYA, AP/ECE)				

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	b	
					Marks	Marks	
1	✓	2	11	✓	12		12
2	✓	2	12	✓	11		11
3	✓	2	13		Part-c		
4	✓	1	14	✓	10		10
5	✓	2	15				
6	✓	2	16				
7	✓	1	Total				(32) 33
8			 Grand Total				 S. Venu 30/7/18 S. Vetrivel Name and Signature of the Examiner with date
9							
10							
Total		12					

To be filled by the examiner							
Course Outcomes	1	2	3	4	5	6	Total
Marks allotted	34	16	-	-	-	-	50
Marks Obtained	30	14	-	-	-	-	44
IQAC Audit - Remarks							P-SUBHA  Name and Signature of the IQAC member
Total mistake was found and correct mark entered in consolidated Mark Statement							


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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2018 – 2019 (ODD SEMESTER)

STUDENTS MARK STATEMENT- CO BASED

CYCLE TEST-I

SUBJECT CODE & TITLE: CE6504 & HIGHWAY ENGINEERING

YEAR/SEM: III/V

MONTH & YEAR: JULY 2018

S.NO	REG NO	STUDENT NAME	CO1 (34)	CO2 (16)	TOTAL (50)	TOTAL (100)
1	912616103001	AARTHI.G	30	11	41	82
2	912616103002	ANANTHI.S	11	7	18	36
3	912616103003	ANUSIYA.C	12	07	19	38
4	912616103004	KANIMOZHIL.P	29	12	41	82
5	912616103005	LAVANYA.K	16	4	20	40
6	912616103006	MASILAMANI.M	10	8	18	36
7	912616103007	MENAKA.R	32	16	48	96
8	912616103008	PRAVEENA.M	30	15	45	90
9	912616103301	GOWSIKA N	28	15	43	86
10	912616103302	KALISWARI M	32	15	47	94
11	912616103303	MAHESWARI M	31	14	45	90
12	912616103304	SARATHAPRITHA S	32	13	45	90


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MARKS RANGE:

<20	20-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
-	-	4	-	-	-	-	6	2

Total No.of Candidates Present	12
Total No.of Candidates Absent	-
Total No.of Students Pass	08
Total No. of Students Fail	04
Percentage of Pass	66.66%

S. Venu
08/07/2018
Faculty Incharge

R. Dy
08/7/18
HoD/Civil
HOD / CIVIL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
KAIKKURICHI,
PUDUKKOTTAI - 622 303

[Signature]
08/08/18
Principal
PRINCIPAL
SRI BHARATHI ENGINEERING
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KAIKKURICHI - 622 303,
PUDUKKOTTAI DISTRICT

[Signature]
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DEPARTMENT OF CIVIL ENGINEERING

ROOT CAUSE ANALYSIS

Name of the Faculty : Mr.S.Vetrivel., AP/CIVIL

Degree & Program : B.E/ CIVIL

Year/ Semester: III/ V

Academic Year : 2018-2019 / ODD

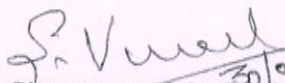
Cycle Test : I/II/III

Course Code & Name : CE6504 & HIGHWAY ENGINEERING

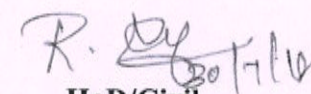
Result Target : 100%

Result Achieved:66.66%

S.NO	REG NO	NAME OF THE STUDENT	CAUSES FOR FAILURE	CORRECTIVE ACTION TAKEN
1	912616103002	Ananthi S	Due to health issue	Insist the student to take care of her health
2	912616103003	Anusuya-c	Confused in problems & concepts	Encouraged to study clearly.
3	912616103005	Lavanya.k	Not well prepared	Insist the student to prepare well
4.	912616103006	Masilamani M	Due to improper time Management	Encouraged the student to Manage the time


Signature of the Faculty


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Circular


Date: 03.08.2018

Retest for first cycle test will be conducted from **06.08.2018** to **11.08.2018** for the III, V and VII semester (II, III & IV year) students.

The following instructions are to be followed by the faculty members.

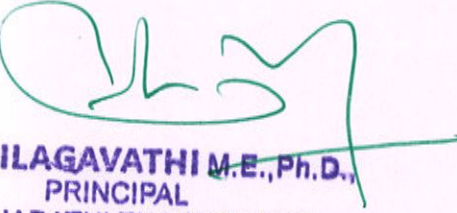
The following instructions are to be followed by the faculty members.

- Total marks for which the question paper to be set will be for 50 marks.
(PART A 5X2=10, PART B 2X13=26 & PART C 1X14=14)
- It is the responsibility of the **question paper** setter to take the Xerox copies of the required number of question papers.
- Concerned Faculty members are requested to conduct the examination as per the scheduled and handover the valued answer scripts to the students on or before **13.08.2018**.


PRINCIPAL
03/08/18

Cc:

- All faculty
- Exam cell
- Office file



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Circular

Date: 03.08.2018

Retest for first cycle test will be conducted from **06.08.2018** to **11.08.2018** for the V semester (III year) B.E students for **50 marks** as per the time table given below. Students are directed to prepare well and score good marks.

Date	04.00 pm -05.30 pm
06.08.2018	CE6502-Foundation Engineering(CIVIL) IT6503-Web Programming(IT) EE6503-Power Electronics(EEE)
07.08.2018	CE6504-Highway Engineering (CIVIL) CS6504-Computer Graphics(CSE) IT6501-Graphics and Multimedia(IT) EE6501-Power System Analysis(EEE) EC6501-Digital Communication(ECE)
08.08.2018	CE6505-Design of RC Elements (CIVIL) CS6501-Internet Programming (CSE) CS6551-Computer Networks(IT) ME6701-Power Plant Engineering(EEE) EC6503-Transmission Lines and Wave Guides(ECE)
09.08.2018	CE6503-Environmental Engineering I (CIVIL) CS6502-Object Oriented Analysis and Design(CSE &IT) EE6502-Microprocessors and Microcontrollers (EEE) EC6504- Microprocessors and Microcontrollers(ECE)
10.08.2018	CE6506-Construction Techniques, Equipment and Practice (CIVIL) MA6566-Discrete Mathematics(CSE) IT6502-Digital Signal Processing(IT) IC6501-Control Systems (EEE) EC6502-Principles of Digital Signal Processing(ECE)
11.08.2018	CE6501-Structural Analysis I(CIVIL) CS6503-Theory of Computation(CSE) EC6801-Wireless Communication(IT) EE6504-Electrical Machines II(EEE) GE6351-Enviormental Science and Engineering(ECE)

Cc:

- All III year B.E Classes
- All faculty
- Exam cell
- Notice Board
- Office file

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03/08/18

10.b	<p>The design speed of the vehicle is 80kmph and the coefficient of friction is 0.45. if the total reaction time of the driver is 3.5 seconds. Calculate,</p> <ul style="list-style-type: none"> i) SSD for two way lane road. ii) SSD for single lane road iii) SSD for two way two lane road with an ascending gradient of 2% SSD for two way two lane road with the breaking efficiency of 75% 	C304.2	K3
------	--	--------	----

S. Venu
06/08/18
Course Faculty

(Name / Sign / Date)

R. Pu
6/8/18
HoD/Civil

(Name / Sign / Date)

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[Handwritten Signature]

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[Handwritten Signature]

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DEPARTMENT OF CIVIL ENGINEERING

ATTENDANCE SHEET - RETEST FOR CYCLE TEST-I

Name of the Faculty : Mr.S.VETRIVEL


Course Code & Name : CE6504/ HIGHWAY ENGINEERING

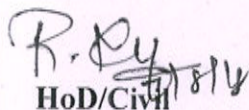
Academic Year : 2018 -2019 /ODD SEM

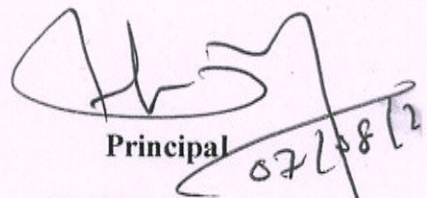
Degree & Program : B.E./CIVIL

Year/ Semester: III/V

S.NO	REG.NO	NAME	SIGNATURE
1	912616103002	ANANTHI.S	Ananthi
2	912616103003	ANUSIYA.C	Anusya
3	912616103005	LAVANYA.K	Lavanya -
4	912616103006	MASILAMANI.M	Masilamani


Faculty Incharge


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HOD / CIVIL
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PUDUKKOTTAI - 622 303


Principal
PRINCIPAL
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PUDUKKOTTAI DISTRICT


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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2018 – 2019 (ODD SEMESTER)

STUDENTS MARK STATEMENT- CO BASED

RETEST FOR CYCLE TEST-I

SUBJECT CODE & TITLE: CE6504 & HIGHWAY ENGINEERING

YEAR/SEM: III/V

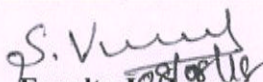
MONTH & YEAR: AUGUST & 2018

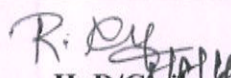
S.NO	REG NO	STUDENT NAME	CO1 (34)	CO2 (16)	TOTAL (50)	TOTAL (100)
1	912616103002	ANANTHI.S	31	9	40	80
2	912616103003	ANUSIYA.C	32	11	43	86
3	912616103005	LAVANYA.K	32	13	45	90
4	912616103006	MASILAMANI.M	33	13	46	92

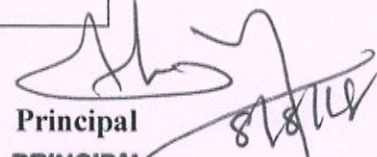
MARKS RANGE:

<20	20-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
-	-	-	-	-	-	1	2	1

Total No.of Candidates Present	04
Total No.of Candidates Absent	-
Total No.of Students Pass	04
Total No. of Students Fail	-
Percentage of Pass	100%


Faculty Incharge


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Principal

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PUDUKKOTTAI DISTRICT


Dr. S. THILAGAVATHI M.E., Ph.D., PUDUKKOTTAI - 622 303

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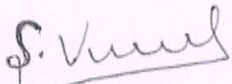
ACADEMIC YEAR 2018 – 2019 (ODD SEMESTER)

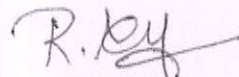
FINAL INTERNAL STUDENTS MARK STATEMENT(Out of 20)

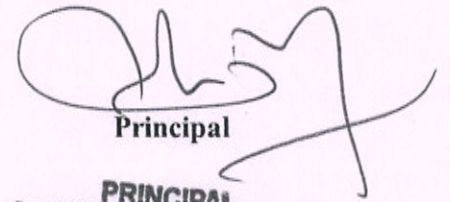
SUBJECT CODE & TITLE: CE6504/ HIGHWAY ENGINEERING

YEAR/SEM: III/V

S.NO	REG NO	STUDENT NAME	TOTAL (20)
1	912616103001	AARTHI.G	17
2	912616103002	ANANTHI.S	17
3	912616103003	ANUSIYA.C	17
4	912616103004	KANIMOZHI.P	17
5	912616103005	LAVANYA.K	18
6	912616103006	MASILAMANI.M	17
7	912616103007	MENAKA.R	19
8	912616103008	PRAVEENA.M	18
9	912616103301	GOWSIKA N	17
10	912616103302	KALISWARI M	19
11	912616103303	MAHESWARI M	18
12	912616103304	SARATHAPRITHA S	18


Faculty Incharge


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PUDUKKOTTAI DISTRICT



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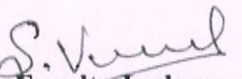
ACADEMIC YEAR 2018 – 2019 (ODD SEMESTER)

ANNA UNIVERSITY RESULT STATEMENT NOV/DEC-2018

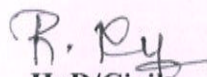
SUBJECT CODE & TITLE: CE6504/ HIGHWAY ENGINEERING

YEAR/SEM: III/VI

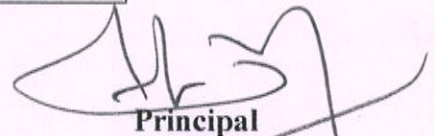
S.NO	REG NO	STUDENT NAME	GRADE
1.	912616103001	Aarthi.G	C
2.	912616103002	Ananthi.S	U
3.	912616103003	Anusiya.C	UA
4.	912616103004	Kanimozhi.P	E
5.	912616103005	Lavanya.K	C
6.	912616103006	Masilamani.M	E
7.	912616103007	Menaka.R	C
8.	912616103008	Praveena.M	E
9.	912616103301	Gowsika N	U
10.	912616103302	Kaliswari M	E
11.	912616103303	Maheswari M	D
12.	912616103304	Sarathapritha S	C


Faculty Incharge


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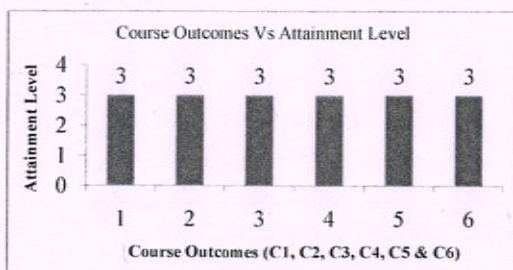
SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Department of Civil Engineering

Internal Assessment - Attainment of Course Outcomes (Through Direct Assessment)

COURSE CODE/TITLE		ACADEMIC YEAR - 2018 - 19														BATCH						2016 - 2020										
YEAR/SEM		Mr.S.Vetrivel														COURSE OUTCOME						TARGET(%)										
COURSE COORDINATOR		Mr.S.Vetrivel														TOTAL STRENGTH						12										
ATTAINMENT LEVEL	Level	Range																														
	1	UP TO 60% of the students scored more than target																														
	2	61 - 79% of the students scored more than target																														
		IAT 1 - MARKS ALLOTTED						IAT 2 - MARKS ALLOTTED						IAT 3 - MARKS ALLOTTED						Assignment / Mini Project / Tutorial / Seminar						TOTAL COURSE OUTCOME						
S.NO	REG NO	NAME OF THE STUDENT	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6
			60	40							40	60							60	40		10	10			10	60	50	50	60	60	50
1	912616103001	AARTHI G	49	33							33	49							53	35		9	9			9	49	42	42	49	53	44
2	912616103002	ANANTHI S	48	32							34	50							51	34		8	8			8	48	40	42	50	51	42
3	912616103003	ANUSIYA C	51	34							35	53							45	30		7	7			8	51	41	42	53	45	38
4	912616103004	KANIMOZHIL P	49	33							37	55							52	34		8	8			8	49	41	45	55	52	42
5	912616103005	LAVANYA K	53	36							36	54							54	36		8	8			8	53	44	44	54	54	44
6	912616103006	MASILAMANI M	55	37							33	50							48	32		8	8			8	55	45	41	50	48	40
7	912616103007	MENAKA R	58	38							38	58							57	38		9	9			8	58	47	47	58	57	46
8	912616103008	PRAVEENA M	53	36							36	54							54	36		9	9			9	53	45	45	54	54	45
9	912616103301	GOWSIKA N	51	34							37	55							51	34		8	8			8	51	42	45	55	51	42
10	912616103302	KALISWARI M	56	38							37	55							57	38		9	9			9	56	47	46	55	57	47
11	912616103303	MAHESWARI M	53	36							37	56							53	36		9	8			8	53	45	45	56	53	44
12	912616103304	SARATHAPRITHA S	54	36							38	57							52	35		9	9			9	54	45	47	57	52	44

CO's Target Value						
No. of Students scored above CO's Target Value	39.0	32.5	32.5	39.0	39.0	32.5
Percentage of Students scored above Target	100.0	100.0	100.0	100.0	100.0	100.0
CO Attainment	3	3	3	3	3	3
CO attainment Values to plot the Graph	3	3	3	3	3	3



S. Vetrivel
Faculty Incharge

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Department of Civil Engineering

COURSE OUTCOME ATTAINMENT - UNIVERSITY EXAMINATION

ACADEMIC YEAR : 2018 - 2019 (ODD SEM)

YEAR/SEM: III /V

Batch:2016-2020

SUBJECT : CE6504 Highway Engineering

CO Attainment Level: 1 - (UPTO 60%) 2- (61%-79%) 3-(80% and Above)

TOTAL STRENGTH : 12

S.NO	Register No	NAME	Univ. Grade	
1	912616103001	AARTHI.G	C	
2	912616103002	ANANTH.S	U	
3	912616103003	ANUSIYA.C	UA	
4	912616103004	KANIMOZHI.P	E	
5	912616103005	LAVANYA.K	C	
6	912616103006	MASILAMANI.M	E	
7	912616103007	MENAKA.R	C	
8	912616103008	PRAVEENA.M	E	
9	912616103301	GOWSIKA N	U	
10	912616103302	KALISWARI M	E	
11	912616103303	MAHESWARI M	D	
12	912616103304	SARATHAPRITHA S	C	
No. of S Grade			0	0
No. of A Grade			0	0
No. of B Grade			0	0
No. of C Grade			4	4
No. of D Grade			1	1
No. of E Grade			4	4
No. of U Grade			2	2
No. of UA Grade			1	1
Target for course outcome Attainment			60	12
No of students above the target			5	
CO-Attainment University (%)			41.67	

S. Vinu
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Overall Attainment Sheet – COs - POs & PSOs attainment calculation

CO	CO-Attainment Internal (CO-INT) (Avg. Attainment of All section) (%)	CO-Attainment University (CO-UNI) (Avg. Attainment of All section) (%)	Direct CO Attainment (0.20xCO-INT + 0.80xCO-UNI) (%)	CO Attainment Level
C304.1	100.0	41.67	53.3	1
C304.2	100.0	41.67	53.3	1
C304.3	100.0	41.67	53.3	1
C304.4	100.0	41.67	53.3	1
C304.5	100.0	41.67	53.3	1
C304.6	100.0	41.67	53.3	1

Expected CO-PO Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.2	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.3	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.4	3	2	2	2	-	1	-	-	1	1	1	1	2	1	1
C304.5	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304.6	3	2	2	2	-	-	-	-	1	1	1	1	2	1	1
C304	3	2	2	2	-	1	-	-	1	1	1	1	2	1	1

PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	1	0.67	0.67	0.67	-	-	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33
C304.2	1	0.67	0.67	0.67	-	-	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33
C304.3	1	0.67	0.67	0.67	-	-	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33
C304.4	1	0.67	0.67	0.67	-	0.33	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33
C304.5	1	0.67	0.67	0.67	-	-	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33
C304.6	1	0.67	0.67	0.67	-	-	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33
C304	1	0.67	0.67	0.67	-	0.33	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33

Attainment of POs and PSOs:

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304	3	2	2	2	-	1	-	-	1	1	1	1	2	1	1
Attainment	1	0.67	0.67	0.67	-	0.33	-	-	0.33	0.33	0.33	0.33	0.67	0.33	0.33

Comments by
Program
Coordinator

Remarks by HoD
Name and Signature
of the Faculty Member

[Signature] S. VETRMEL, APL(UVU)

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