SARALA BIRLA UNIVERSITY RANCHI



Established under the Sarala Birla University Act 2017 Govt. of Jharkhand as per Section 2(f) of UGC Act. 1956

CURRICULUM FOR

B.Tech

in Civil Engineering

(Based on UGC & AICTE- CBCS)

Effective from 2021-22

	DEFINITION OF CREDIT						
1 Hr. Lecture (L) per week	1 credit						
1 Hr. Tutorial (T) per week	1 credit						
1 Hr. Practical (P) per week	0.5 credit						
2 Hours Practical (Lab)/week	1 credit						
4 Hours Practical (Lab)/week	2 credits						
COU	URSE CODE AND DEFINITION						
Course Code	Definition						
BSC	Basic Science courses						
ESC	Engineering Science courses						
НЅМС	Humanities and Social Sciences including Management courses						
PCC-CE	Professional core courses						
PEC-CE	Professional Elective courses						
OEC	Open Elective Courses						
МС	Mandatory Courses						
MOOC's	Massive Open Online Courses						
CE-P1	Project stage-I						
CE-P2	Project stage-II						
CE-P3	Project stage-III						

	Structure of Civil Engineering (B.TECH.)							
	(Break up of Credits)							
1	Humanities and Social Sciences including Management courses	12						
2	Basic Science courses	23						
3	Engineering Science courses including workshop,drawing, basics of electrical/mechanical/computer etc	33						
4	Professional Core courses	67						
5	Professional Elective courses relevant to chosen specialization/branch	29						
6	Open subjects – Electives from other technical and /or emerging subjects	9						
7	Mandatory Courses[Environmental Sciences]	2						
8	Project work, seminar and internship in industry or elsewhere	16						
	Total Credits	191						

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CREDI	CREDITS DISTRIBUTION (SEMESTER-WISE AND COURSE-WISE)								
Semester	HSMC	BSC	ESC	РСС	PEC	OEC	PROJECT	МС	Total Credit Semester-wise
1st	3	9.5	13	0	0	0	0	0	25.5
2nd	3	9.5	13	0	0	0	0	2	27.5
3rd	2	4	5	14	0	0	0	0	25
4th	4	0	0	15	4	0	0	0	23
5th	0	0	0	15	0	9	0	0	24
6th	0	0	2	13	9	0	2	0	26
7th	0	0	0	6	8	0	5	0	19
8th	0	0	0	4	8	0	9	0	21
Total Credit Course-wise	12	23	33	67	29	9	16	2	191
			Total	Credit					191

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HUMA	HUMANITIES & SOCIAL SCIENCES INCLUDING MANAGEMENT COURSE							
			Н	ours per we	ek			
Sl. No.	Course Code	Course Title	L	Т	Р	Credits	Preferred Semester	
1	HSMC-101	English	3	0	0	3	Ι	
2	HSMC-102	Technical Communication	2	0	0	2	II	
3	HSMC-103	Technical Communication Lab	0	0	2	1	П	
4	HSMC-104	French Through Communicative Approach-I	2	0	0	2	III	
5	HSMC-105	French Through Communicative Approach-II	2	0	0	2	IV	
6	HSMC-106	Organisational Behaviour	2	0	0	2	IV	
		Total Credit:				12		

	BASIC SCIENCE COURSES							
Sl. No.	Course Code	Course Title	Н	ours per we	Credits	Preferred Semester		
			L	Т	Р			
1	BSC-101	Chemistry	3	1	0	4	Ι	
2	BSC-102	Chemistry Lab	0	0	3	1.5	Ι	
3	BSC-103	Physics	3	1	0	4	II	
4	BSC-104	Physics Lab	0	0	3	1.5	II	
5	BSC-105	Mathematics-I	3	1	0	4	Ι	
6	BSC-106	Mathematics-II	3	1	0	4	II	
7	BSC-107	Mathematics-III	3	1	0	4	III	
		Total Credits	:				23	

	ENGINEERING SCIENCE COURSES								
Sl. No.	Course Code	urse Code Course Title Hours Per Week					Preferred Semester		
			L	Т	Р				
1	ESC-101	Basic Electrical	3	1	0	4	Ι		
2	ESC-102	Basic Electrical Lab	0	0	2	1	Ι		
3	ESC-103	Introduction to Unix & C Programming	3	1	0	4	Ι		
4	ESC-104	Introduction to Unix & C Programming Lab	0	0	2	1	Ι		
5	ESC-105	Engineering Graphics & Design	1	0	4	3	Ι		
6	ESC-106	Basic Electronics	3	1	0	4	II		
7	ESC-107	Basic Electronics Lab	0	0	2	1	II		
8	ESC-108	Data Structures using C++	3	1	0	4	II		
9	ESC-109	Data Structures using C++ Lab	0	0	2	1	II		
10	ESC-110	Engineering Workshop Practices	1	0	4	3	II		
11	ESC-111	Engineering Mechanics	3	1	0	4	III		
12	ESC-112	Programming using MATLAB	0	0	2	1	III		
13	ESC-113	Python Programming	1	0	2	2	III		
		Total Credit:				33			

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	PROFESSIONAL CORE COURSES (Sem III & IV) Branch: Civil Engineering							
SL No	Course Code	Course Title		Hours		Credit	Semester	
51. 10.	course coue		L	Т	Р			
1	PCC-CE-201	Strength of Material	3	1	0	4	III	
2	PCC-CE-202	Strength of Material Lab	0	0	2	1	III	
3	PCC-CE-203	Surveying & Levelling	3	1	0	4	III	
4	PCC-CE-204	Surveying & Levelling Lab	0	0	2	1	III	
5	PCC-CE-205	Engineering Geology	3	1	0	4	III	
6	PCC-CE-206	Fluid Mechanics	3	1	0	4	IV	
7	PCC-CE-207	Fluid Mechanics Lab	0	0	2	1	IV	
8	PCC-CE-208	Materials Testing & Evaluation	3	1	0	4	IV	
9	PCC-CE-209	Materials Testing & Evaluation Lab	0	0	2	1	IV	
10	PCC-CE-210	Building Construction	3	1	0	4	IV	
11	PCC-CE-211	Building Construction Lab	0	0	2	1	IV	
		Total				29		
	PRO	OFESSIONAL CORE CO	URSE	LS (Sei	m V ð	& VI)		
SL No.	Course Code	e Code Course Title		Hours		Credit	Semester	
51.100			L	Т	Р			
1	PCC-CE-301	Geotechnical Engineering-I	3	1	0	4	V	
2	PCC-CE-302	Geotechnical Engineering Lab-I	0	0	2	1	V	
3	PCC-CE-303	Hydraulic Engineering	3	1	0	4	V	
4	PCC-CE-304	Hydraulic Engineering Lab	0	0	2	1	V	
5	PCC-CE-305	Transportation Engineering	3	1	0	4	V	
6	PCC-CE-306	Transportation Engineering Lab	0	0	2	1	V	
7	PCC-CE-307	Structural Analysis -I	3	1	0	4	VI	
8	PCC-CE-308	Structural Engineering Lab	0	0	2	1	VI	
9	PCC-CE-309	Design of Concrete Structures-I	3	1	0	4	VI	
10	PCC-CE-310	Environmental Engineering	3	1	0	4	VI	
		Total				28		
	PROI	FESSIONAL CORE COUI	RSES	(Sem	VII &	& VIII)	
SL No	Course Code	Course Title		Hours		Credit	Semester	
51. 110.			L	Т	Р			
1	PCC-CE-401	Hydrology & Water Resources Engineering	3	1	0	4	VII	
2	PCC-CE-402	Concrete Structure Lab	0	0	2	1	VII	
3	PCC-CE-403	Computer Aided Civil Engg. Drawing.	0	0	2	1	VII	
4	PCC-CE-404	Construction Engineering & Management	3	1	0	4	VII	
	Total 10							

PROFESSIONAL ELECTIVE COURSES (Sem V & VI)								
	Branch: Civil Engineering							
SL No.	Course Code	Course Title	Hrs./ Week L: T: P	Credits	Preferred Semester			
1	PEC-CE-301	Disaster Preparedness & Planning Management	3:01:00	4	IV/VI			
2	PEC-CE-302	Geotechnical Engineering-II	3:01:00	4	IV/VI			
3	PEC-CE-303	Geotechnical Engineering Lab-II	0:00:02	1	IV/VI			
4	PEC-CE-304	Engineering Economics,Estimation & Costing	3:01:00	4	IV/VI			
5	PEC-CE-305	Instrumentation & Sensor Technologies for Civil Engineering Applications	3:01:00	4	IV/VI			
6	PEC-CE-306	Railway Engineering	3:01:00	4	IV/VI			
7	PEC-CE-307	Open Chanel Flow	3:01:00	4	IV/VI			
	PROFESS	SIONAL ELECTIVE COUR	SES (Sem	VII & V	III)			
		Branch: Civil Engineeri	ng		-			
1	PEC-CE-401	Design of Concrete Structures-II	3:01:00	4	VII/VIII			
2	PEC-CE-402	Structural Analysis-II	3:01:00	4	VII/VIII			
3	PEC-CE-403	Design of Hydraulic Structure	3:01:00	4	VII/VIII			
4	PEC-CE-404	Traffic Engineering & Management	3:01:00	4	VII/VIII			
5	PEC-CE-405	Port & Harbour Engineering	3:01:00	4	VII/VIII			
6	PEC-CE-406	Prestressed Concrete	3:01:00	4	VII/VIII			
7	PEC-CE-407	Bridge Engineering	3:01:00	4	VII/VIII			
8	PEC-CE-408	Design of Steel Structures	3:01:00	4	VII/VIII			
9	PEC-CE-409	Foundation Engineering & Geotechnical Design	3:01:00	4	VII/VIII			
10	PEC-CE-410	Solid & Hazardous Waste Management	3:01:00	4	VII/VIII			
11	PEC-CE-411	Earthquake Engineering	3:01:00	4	VII/VIII			
12	PEC-CE-412	Structural Dynamics	3:01:00	4	VII/VIII			
13	PEC-CE-413	Water & Air Quality Modelling	3:01:00	4	VII/VIII			
14	PEC-CE-414	Air & Noise Pollution and Control	3:01:00	4	VII/VIII			
15	PEC-CE-415	Irrigation Engineering	3:01:00	4	VII/VIII			
16	PEC-CE-416	Masonry Structures	3:01:00	4	VII/VIII			

	OPEN ELECTIVE COURSES						
		Branch: Civil Engineering					
Sl. No. Course Code Course Title Credits							
1	OEC-CSE-301	Machine Learning for Real-World Applications	4				
2	OEC-EEE-305	Renewable Energy	4				
3	OEC-EEE-306	Renewable Energy Lab	1				
4	OEC-101	Economics	4				
5	OEC-102	Sanskrit	4				

	PROJECT						
		Branch: Civil Engi	neering				
Sl. No.	Credits	Preferred Semester					
1	CE-P1	Project Stage-I (Mini Project/ Industrial Training)	0:00:04	2	VI		
2	CE-P2	Project Stage-II(Minor Project Work) (to be continued in next semester)	0:00:10	5	VII		
3 CE-P3 Project Stage-III(Major Project Work & Dissertation) 0:00:18 9							
	Total Credit 16						

Mandatory Courses							
~	Hours per week						Preferred
SI. No.	Course Code	Course Title	L	Т	Р	Credits	Semester
1	MC-101	Induction Programme	0	0	0	0	Ι
2	MC-102	Environmental Science	2	0	0	2	IV
3	MC-103	Values & Ethics	2	0	0	0	IV
4	MC-104	PDP-I	2	0	0	0	Ι
5	MC-105	PDP-II	2	0	0	0	II
6	MC-106	PDP-III	2	0	0	0	III
7	MC-107	PDP-IV	2	0	0	0	IV
8	MC-108	PDP-V	2	0	0	0	V
9	MC-109	PDP-VI	2	0	0	0	VI
10	MC-110	PDP-VII	2	0	0	0	VII
11	MC-111	PDP-VIII	2	0	0	0	VIII
12	MC-112	PT & Games/NSS/NCC-I	0	0	0	0	Ι
13	MC-113	PT & Games/NSS/NCC-II	0	0	0	0	Π
14	MC-114	Vedic Mathematics-I	2	0	0	0	VI
15	MC-115	Vedic Mathematics-II	2	0	0	0	VII
		Total Credit:				2	

Note:PDP: Presonality Development ProgrammePT: Physical TrainingNSS: Natinal Service SchemeNCC: National Cadet Corps

MASSIVE OPEN ONLINE COURSES

Branch: Civil Engineering (B.Tech)

Sl. No.	Course Code	Course Title	Hrs./ Week L: T: P	Credits
1	MOOCs -101	Artificial Intelligence for Real-World Application	3:01:00	4
2	MOOCs -102	Applications of Deep Learning and Neural Networks	3:01:00	4
3	MOOCs -103	Usability Design of Software Applications	3:01:00	4
4	MOOCs -104	Applied Cloud Computing	3:01:00	4
5	MOOCs -105	Information Security - Practitioner's perspective	3:01:00	4
6	MOOCs -106	Innovation and Entrepreneurship	3:01:00	4
7	MOOCs -107	Practical Approach to Data Mining and Analytics	3:01:00	4
8	MOOCs -108	IoT and its Applications	3:01:00	4
9	MOOCs -109	Intelligent Game Design and its Applications	3:01:00	4
10	MOOCs -110	Industrial Mechatronic Systems	3:01:00	4
11	MOOCs -111	Solar Energy Technology and its Applications	3:01:00	4

Note: A student will be eligible to get Under Graduate degree with Honours or additional Minor Engineering, if he/she completes an additional 20 credits. These could be acquired through MOOCs.

	COURSE STRUCTURE												
	Branch: Civil Engineering (B.Tech)												
SI.	Category	Course	Course Title		Hours)	Credit	TA	Marks	TT ()			
110.		Coue	Theo		I	r		IA	ESE	lotal			
1	Basic Science Course	BSC-101	Chemistry	3	1	0	4	30	70	100			
2	Basic Science Course	BSC-105	Mathematics – I	3	1	0	4	30	70	100			
3	Engineering Science Course	ESC-101	Basic Electrical	3	1	0	4	30	70	100			
4	Engineering Science Course	ESC-103	Introduction to Unix & C Programming	3	1	0	4	30	70	100			
5	Humanities and Social Sciences including Management Courses	HSMC-101	01 English 3 0 0				3	30	70	100			
	-	19	150	350	500								
Practical/Drawing/Design													
1	Engineering Science Course	ESC-105	Engineering Graphics & Design	1	0	4	3	30	20	50			
2	Basic Science Course	BSC-102	Chemistry Lab	0	0	3	1.5	30	20	50			
3	Engineering Science Course	ESC-102	Basic Electrical Lab	0	0	2	1	30	20	50			
4	Engineering Science Course	ESC-104	Introduction to Unix & C Programming Lab	0	0	2	1	30	20	50			
	_				- - -	Fotal(B)	6.5	120	80	200			
			Mandatory Cou	rses/M	OOC'S								
1	Mandatory Courses	MC-101	Induction Program	0	0	0	0	0	0	0			
2	Mandatory Courses	MC-112	PT & Games/NSS/NCC-I	2	0	0	0	0	0	0			
3	Mandatory Courses	MC-104	PDP-I	2	0	0	0	0	0	0			
Total(C) 0 0 0 0										0			
L_Lor	ture T_Tutorial D D	Grand 7	i otal (A+B+C)				25.5	270	430	700			
IA- In	iternal Assessment, E	SE-End Sem	nester Examination										

		COL	J RSE ST semester II (RI (1st Yl	U CT EAR)	TUR	RE				
		Bı	anch: Civil Eng	ineerii	ng (B.T	ech)					
		Course		Hours					Mar	·ks	
SI. NO.	Category	Code	Course Litle	L	Т	Р	Credit	IA	ESE	Total	
			Theo	ory	-		-				
1	Basic Science Course	BSC-106	Mathematics –II	3	1	0	4	30	70	100	
2	Humanities and Social Sciences including Management Courses	HSMC- 102	Technical Communication	2	0	0	2	30	70	100	
3	Engineering Science Course	ESC-106	Basic Electronics	3	1	0	4	30	70	100	
4	Basic Science Course	BSC-103	Physics	3	1	0	4	30	70	100	
5	Engineering Science Course	ESC-108	Data Structures	3	1	0	4	30	70	100	
	Total(A) 18 150 350 500										
			Practical/Dra	wing/D	esign						
1	Engineering Science Course	ESC-110	Engineering Workshop Practices	1	0	4	3	30	20	50	
2	Engineering Science Course	ESC-107	Basic Electronics Lab	0	0	2	1	30	20	50	
3	Basic Science Course	BSC-104	Physics Lab	0	0	3	1.5	30	20	50	
4	Humanities and Social Sciences including Management Courses	HSMC- 103	Technical Communication Lab	0	0	2	1	30	20	50	
5	Engineering Science Course	ESC-109	Data Structures Lab	0	0	2	1	30	20	50	
					- - -	Fotal(B)	7.5	150	100	250	
			Mandatory Cou	rses/M	OOC'S						
1	Mandatory Courses	MC-102	Environmental Science	2	0	0	2	30	70	100	
2	Mandatory Courses	MC-113	PT& Games/NSS/NCC-I	2	0	0	0	0	0	0	
3	Mandatory Courses	MC-105	PDP-II	2	0	0	0	0	0	0	
]	Fotal(C)	2	30	70	100	
				Gran	d Total (A	A+B+C)	27.5	330	520	850	
L-Lect IA- Int	ure, T-Tutorial, P-Pra ernal Assessment, ESI	ectical E-End Sem	ester Examination								

	COURSE STRUCTURE											
SEMESTER III (SECOND YEAR] Branch: Civil Engineering												
Sl. No.	Category	Course Code	Course Title		Hours		Credit	Credit Mai		arks		
				L	Т	Р		IA	ESE	Total		
Theory												
1	Basic Science Course	BSC-107	Mathematics-III	3	1	0	4	30	70	100		
2	Engineering Science Courses	ESC-111	Engineering Mechanics	3	1	0	4	30	70	100		
3	Professional Core Courses	PCC-CE-201	Strength of Material	3	1	0	4	30	70	100		
4	Professional Core Courses	PCC-CE-203	Surveying & Levelling	3	1	0	4	30	70	100		
5	Professional Core Courses	PCC-CE-205	Engineering Geology	4	0	0	4	30	70	100		
6	Humanities and Social Sciences including Management Courses	HSMC-104	French Through Communicative Approach-I	2	2 0 0		2	30	70	100		
					To	tal(A)	22	180	420	600		
		1	Practical/Drawing	g/Desig	gn	ſ			1	1		
1	Professional Core Courses	PCC-CE- 202	Strength of Material Lab	0	0	2	1	30	20	50		
2	Professional Core Courses	PCC-CE-204	Surveying & Levelling Lab	0	0	2	1	30	20	50		
3	Engineering Science Course	ESC-112	Programming using MATLAB	0	0	2	1	30	20	50		
			Mandatory Courses	/MOO	To C'S	tal(B)	3	90	60	150		
1	Mandatory Courses	MC-103	Values & Ethics	2	0	0	0	0	0	0		
2	Mandatory Courses	MC-106	PDP-III	2	0	0	0	0	0	0		
	Total(C) 0 0 0 0											
L-Lecture	T-Tutorial P-Pra	rtical	Gra	nd To	tal (A-	-в+с)	25	270	480	750		
IA- Interr	al Assessment, ESE	-End Semest	er Examination									

		COU	URSE STRU	JC	TU	RF				
		S	EMESTER IV (SECO	ND Y	EAR]					
Branch: Civil Engineering										
Sl.	Catagony	Course	Course Title		Hours		Credit		Marks	
No.	Category	Code	Course The	L	Т	Р		IA	ESE	Total
	1		Theory		r				1	
1	Professional Elective Courses	PEC-CE-301	Disaster Preparedness & Planning Management	4	0	0	4	30	70	100
2	Professional Core Courses	PCC-CE-206	Fluid Mechanics	4	0	0	4	30	70	100
3	Professional Core Courses	PCC-CE-208	Materials Testing & Evaluation	4	0	0	4	30	70	100
4	Professional Core Courses	PCC-CE-210	Building Consruction	4	0	0	4	30	70	100
5	Humanities and Social Sciences including Management Courses	HSMC-106	Organisational Behavior	2	0	0	2	30	70	100
6	Humanities and Social Sciences including Management Courses	HSMC-105	French Through Communicative Approach- II	2	0	0	2	30	70	100
					Т	otal(A)	20	180	420	600
	1		Practical/Drawing/D	esign	1					
1	Professional Core Courses	PCC-CE-207	Fluid Mechanics Lab	0	0	2	1	30	20	50
2	Professional Core Courses	PCC-CE-209	Materials Testing & Evaluation Lab	0	0	2	1	30	20	50
3	Professional Core Courses	PCC-CE-211	Building Consruction Lab	0	0	2	1	30	20	50
				000	Te	otal(B)	3	90	60	150
			Mandatory Courses/M	UUC'S						
1	Mandatory Courses	MC-107	PDP-IV	2	0	0	0	0	0	0
				nondT	Total (A	tal(C)	0	0	0 100	0
L-Lect	ure, T-Tutorial, P-Pı	ractical	G		otal (A	· D - C)	23	270	400	730
IA- Int	ernal Assessment, ES	SE-End Semes	ter Examination							

		COUR	SE STRU	C]	ΓU	RE						
	SEMESTER V (THIRD YEAR]											
Branch: Civil Engineering												
Sl. No.	Category	Course Code	Course Title		Hour	ours Credit		Marks		5		
			L_I_P					IA	ESE	Total		
1	Professional Core Courses	PCC-CE-301	Geotechnical Engineering-I	3	1	0	4	30	70	100		
2	Professional Core Courses	PCC-CE-303	Hydraulic Engineering	3	1	0	4	30	70	100		
3	Professional Core Courses	PCC-CE-305	Transportation Engineering	3	1	0	4	30	70	100		
4	Open Elective Courses	OEC-CSE-301	Machine Learning for Real-World 3 Applications		1	0	4	30	70	100		
5	Open Elective Courses	OEC-EEE-305	Renewable Energy	3	1	0	4	30	70	100		
		20	150	350	500							
			Practical/Drawing/Desi	ign								
1	Professional Core Courses	PCC-CE-302	Geotechnical Engineering Lab-I	0	0	2	1	30	20	50		
2	Professional Core Courses	PCC-CE-304	Hydraulic Engineering Lab	0	0	2	1	30	20	50		
3	Professional Core Courses	PCC-CE-306	Transportation Engineering Lab	0	0	2	1	30	20	50		
4	Open Elective Courses	OEC-EEE-306	Renewable Energy Lab	0	0	2	1	30	20	50		
					Т	otal(B)	4	120	80	200		
		M	andatory Courses/MO	DC'S								
1	Mandatory Courses	MC-108	PDP-V	2	0	0	0	0	0	0		
					Т	otal(C)	0	0	0	0		
I_I_AAts	ure T-Tutorial D. Dra	octical	Gra	and To	otal (A	ν+Β+C)	24	270	430	700		
IA- Inte	ernal Assessment, ESI	E-End Semester I	Examination									

		COL	J RSE STRU Semester VI (Thie			RF				
		~	Branch: Civil Engi	neerin	g					
Sl. No.	Category	Course Code	Course Title	-	Hours		Credit		Marks	
			Theory	L	Т	Р		IA	ESE	Total
1	Professional Core Courses	PCC-CE-307	Structural Analysis -I	3	1	0	4	30	70	100
2	Professional Core Courses	PCC-CE-309	Design of Concrete Structures-I	3	1	0	4	30	70	100
3	Professional Core Courses	PCC-CE-310	Environmental Engineering	3	1	0	4	30	70	100
4	Professional Elective courses	PEC-CE-302	Geotechnical Engineering- II	3	1	0	4	30	70	100
5	Professional Elective courses	PEC-CE-304	Engineering Economics,Estimation & Costing	3 1 0			4	30	70	100
		otal(A)	20	150	350	500				
			Practical/Drawing/D	lesign						
1	Professional Core courses	PCC-CE-308	Structural Engineering Lab	0	0	2	1	30	20	50
2	Professional Elective courses	PEC-CE-303	Geotechnical Engineering Lab -II	0	0	2	1	30	20	50
3	Engineering Science Course	ESC-113	Python Programming	1	0	2	2	30	20	50
4	Project Work	CE-P1	Project Stage -I (Mini Project /Industrial Training)	0	0	4	2	75	25	100
					Т	otal(B)	6	165	85	250
	Mandatory		Mandatory Cours	ses						
1	Courses	MC-109	PDP-VI	2	0	0	0	0	0	0
2	Mandatory Courses	MC-114	Vedic Mathematics-I	2	0	0	0	0	0	0
					Т	otal(C)	0	0	0	0
			G	rand T	Total (A	+B+C)	26	315	435	750
L-Lect IA- Int	ure, T-Tutorial, P- ernal Assessment,	Practical ESE-End Sem	ester Examination							

		CO	URSE S	STI	RU	СТІ	JRE					
	SEMESTER VII (FOURTH YEAR]											
Branch: Civil Engineering												
Sl. No.	Category	Course	Course Title		Hours				Marl	ks		
		Code		L	Т	Р		IA	ESE	Total		
1	Professional Core courses	PCC-CE-401	Hydrology & Water Resources Engineering	3	1	0	4	30	70	100		
2	Professional Elective courses	PEC-CE-402	Structural Analysis -II	3	1	0	4	30	70	100		
3	Professional Elective courses	PEC-CE-401	Design of Concrete Structures-II	3	1	0	4	30	70	100		
		•	Total(A)	12	90	210	300					
Practical/Drawing/Design												
1	Professional Core courses	PCC-CE-402	Concrete Structure Lab	0	0	2	1	30	20	50		
2	Professional Core courses	PCC-CE-403	Computer aided Civil Engineering Drawing	0	0	2	1	30	20	50		
3	Project Work	CE-P2	Project Stage - II (Minor Project Work)	0	0	10	5	75	25	100		
		Te	otal(B)				7	135	65	300		
		_	Mand	atory C	ourses				-			
1	Mandatory Courses	MC-110	PDP-VII	2	0	0	0	0	0	0		
1	Mandatory Courses	MC-115	Vedic Mathematics-II	2	0	0	0	0	0	0		
		7	0	0	0							
				Grand	l Total ((A+B+C)	19	225	275	500		
L-Lectu	L-Lecture, T-Tutorial, P-Practical											
IA- Inte	ernal Assessme	nt, ESE-End S	emester Examin	ation								

	COURSE STRUCTURE												
	SEMESTER VIII (FOURTH YEAR]												
Branch: Civil Engineering													
SI.	Catagory	Course Code	Course Title	He	Hours		Credit		T				
No.	Category	Course Coue		L	Т	Р		IA	ESE	Total			
Theory													
1	Professional Core courses	PCC-CE-404	Construction Engineering & Management	3	1	0	4	30	70	100			
2	Professional Elective courses	PEC-CE-403	Design of Hydraulic Structure	3	1	0	4	30	70	100			
3	Professional Elective courses	PEC-CE-404	Traffic Engineering and Management	3	1	0	4	30	70	100			
	-	12	90	210	300								
		I	Practical/Dra	wing/D	esign	1			1	1			
1	Project Work	CE-P3	Project Stage -III (Major Project Work & Dissertation)	0	0	18	9	75	25	100			
					Т	otal(B)	9	75	25	100			
			Mandatory Cou	rses/M	00C'S					•			
1	Mandatory Courses	MC-111	PDP-VIII	2	0	0	0	0	0	100			
Total(C)								0	0	0			
			G	rand T	Total (A	+B+C)	21	165	235	400			
L-Le IA-]	L-Lecture, T-Tutorial, P-Practical A- Internal Assessment, ESE-End Semester Examination												