

UG Course Structure for Civil Engineering (2018-2019)					
Cat.	Deviation	Programme Components	CIV	Recommended (IV Years)	
				Min	Max
HU	0	Humanities and Social Science	22	22	22
IS	0	Science	67	62	84
IE	0	Institute Requirement Engineering/ Pharmacy	48	41	60
EP	0	Engineering Drawing (Manual and Computer Aided), Manufacturing Practices and Practice course of Department/ School	22	18	24
LM	0	Language and Management	18	18	24
DC/ MC	0	Department/Programme Core (Includes Stream Courses)	172	105	175
DE/ BE	0	Department/Programme Elective (Includes Stream Courses)	45	30	75
OE	0	Open Elective (Interdisciplinary Stream courses from Science/ Engineering/Pharmacy)	36	35	80
DP	0	Project/ Industrial visit/ Training	30	20	50
DT	0	Dissertation	0	0	0
		Total	460	430	460
		All Semester Total (Hons.)	480	450	480
L: Lecture hours; T: Tutorial hours; P: Laboratory/ Practical hours; C: Credits					
Stream Electives in Civil Engineering					
Stream	Stream Code	Stream Title			
HWR	CEX1X	Hydraulics & Water Resources Engineering			
GTE	CEX2X	Geotechnical Engineering			
STE	CEX3X	Structural Engineering			
ENE	CEX4X	Environmental Engineering			
TRE	CEX5X	Transportation Engineering			
X1X					
		Hydraulics & Water Resources Engineering			
UG Pt. III(V Sem.)	CE312	Urban Hydrology and Hydraulics	3	0	9
UG Pt. III(VI Sem.)	CE313	Hydraulic Modeling	3	0	9
UG Pt. IV(VII Sem.)	CE413	Water Power Engineering	3	0	9
UG Pt. IV(VIII Sem.)	CE414	Design of Hydraulic Structure	3	0	9
	CE415	River Engineering	3	0	9
X2X					
		Geotechnical Engineering			
UG Pt. III(V Sem.)	CE322	Introduction to FEM in Civil Engineering Applications	3	0	9
UG Pt. III(VI Sem.)	CE323	Geotechnical Engineering Design	3	0	9
UG Pt. IV(VII Sem.)	CE422	Ground Modification and soil stabilisation	3	0	9

UG Pt. IV(VIII Sem.)	CE421	Introductory Rock Mechanics	3	0	0	9
	CE423	Introduction to Geotechnical Earthquake Engineering	3	0	0	9
	CE424	Applications of Geosynthetics in Civil Engineering	3	0	0	9
X3X Structural Engineering						
UG Pt. III(V Sem.)	CE336	Matrix Analysis of Structures	3	0	0	9
UG Pt. III(VI Sem.)	CE337	Prestressed Concrete Design	3	0	0	9
UG Pt. IV(VII Sem.)	CE435	Introduction to Composite Materials	3	0	0	9
UG Pt. IV(VIII Sem.)	CE433	Plastic Design of Structures	3	0	0	9
	CE434	Earthquake Resistant Design of Structures	3	0	0	9
	CE565	Optimization Methods	3	0	0	9
X4X Environmental Engineering						
UG Pt. III(V Sem.)	CE341	Conveyance of Water and Waste Water	3	0	0	9
	CE342	Ecological Engineering	3	0	0	9
UG Pt. III(VI Sem.)	CE343	Rural Water Supply and Onsite Sanitation Systems	3	0	0	9
UG Pt. IV(VII Sem.)	CE443	Environmental Pollution & Control	3	0	0	9
UG Pt. IV(VIII Sem.)	CE442	Advanced Water & Waste Water Treatment Engineering	3	0	0	9
	CE444	Solid and Hazardous Waste management	3	0	0	9
X5X Transportation Engineering						
UG Pt. III(V Sem.)	CE352	Pavement Material	3	0	0	9
UG Pt. IIV(VI Sem.)	CE353	Traffic Engineering	3	0	0	9
UG Pt. IV(VII Sem.)	CE453	Airport Engineering	3	0	0	9
UG Pt. IV(VIII Sem.)	CE451	Analysis and Design of Pavements	3	0	0	9
	CE627	Transport Economics	3	0	0	9
UG Course Structure for Civil Engineering (2018-2019)						
UG-CRC Code	Course Code	Course Name	L-T-P			Credits
Section-1BB		Civil Engineering : 4-Year B. Tech. I-Semester				
IH.H101.14	H101	Universal Human Values	2	0	0	6
GY.PE101.14	PE101	Elementary Physical Education	0	1	3	5
GY.CP101.14	CP101	Creative Practices #	0	1	3	5
		Total	2	2	6	16
LM.HL101.14	HL101	Basic English*	2	0	1	7
		Total	4	2	7	23
L: Lecture hours; T: Tutorial hours; P: Laboratory/ Practical hours; C: Credits						

UG-CRC Code	Course Code	Course Name	L-T-P			Credits
Section-1BB		Civil Engineering : 4-Year B. Tech. I-Semester				
IS.PHY101.14	PHY101	Physics - I: Classical, Quantum & Relativistic Mechanics	3	1	2	13
IS.CY101.14	CY101	Chemistry - I	2	1	2	10
IS.MA101.14	MA101	Engineering Mathematics - I	3	1	0	11
IE.ME102.14	ME102	Engineering Mechanics	3	1	0	11
EP.ME104.14	ME104	Engineering Drawing	1	0	3	6
EP.ME106.14	ME106	Manufacturing Practice - II	0	0	3	3
Total			12	4	10	54
*Students who do not qualify the English test will study Basic English they will not register for gym course.						
These requirements of gymkhana course will be completed in third semester.						
Section-1BB		Civil Engineering : 4-Year B. Tech. II-Semester				
IS.MA102.14	MA102	Engineering Mathematics – II	3	1	0	11
IE.CSO101.14	CSO101	Computer Programming	3	1	2	13
IE.EO101.14	EO101	Fundamentals of Electrical Engineering	3	1	2	13
IE.EO102.14	EO102	Fundamentals of Electronics and Instrumentation Engineering				
DC.CE101.14	CE101#	Basic Surveying#	3	0	0	9
DC.CE102.15	CE102#	Surveying Laboratory#	0	0	3	3
EP.ME105.14	ME105	Manufacturing Practice – I	0	0	3	3
IH.H105.14	H105	Philosophy	2	1	0	8
IH.H106.14	H106	Education and Self *				
Total			14	4	10	60
* The students have to choose one course from H105 & H106.						
# For students taking admission in session 2019-20						
Section-2BB		Civil Engineering : 4-Year B. Tech. III-Semester				
DC.CE201.15	CE201	Mechanics of Solids	2	1	0	8
DC.CE202.15	CE202	Engineering Geology	3	0	0	9
DC.CE203.15	CE203	Building Materials and Construction	2	0	0	6
EP.CE204.15	CE204	Concrete Laboratory	0	0	2	2
DC.CE205.16	CE205	Engineering Geology Laboratory	0	0	2	2
IS.MA201.14 / IS.MA202.14	MA201/M A202	Numerical Techniques/ Probability and Statistics	3	1	0	11
IE.CHO102.14	CHO102	Fluid Mechanics	3	1	0	11
IH.H103.14	H103	Development of Societies	2	1	0	8
IH.H104.14	H104	History and Civilization				
Total			15	4	4	57
*Students have to choose one course from H103 and H104 and will study in III semester.						
# Students who could not complete the requirement of Gymkhana courses in first two semesters will do the same in this semester.						

Section-2BB		Civil Engineering : 4-Year B. Tech. IV-Semester				
IS.MA203.14/ IS.CY103.14	MA203/	Mathematical Methods	3	1	0	11
	CY103	Biochemistry				
DC.CE221.15	CE221	Geotechnical Engineering – I	3	0	0	9
DC.CE231.15	CE231	Structural Mechanics - I	3	0	0	9
DC.CE241.14	CE241	Environmental Engineering-I	3	0	0	9
DC.CE251.15	CE251	Transportation Engineering - I	3	0	0	9
EP.CE206.15	CE206	Building Planning, Drawing and Estimation	0	0	3	3
DC.CE222.15	CE222	Geotechnical Engineering Laboratory	0	0	2	2
DC.CE242.16	CE242	Environmental Engineering Laboratory	0	0	2	2
DC.CE252.17	CE252	Transportation Engineering Laboratory	0	0	2	2
DP.CE291.15	CE291	Exploratory Project	0	0	5	5
		Total	15	1	14	61
Section-3BB		Civil Engineering : 4-Year B. Tech. V-Semester				
DC.CE321.15	CE321	Geotechnical Engineering-II	2	1	0	8
DC.CE351.15	CE351	Transportation Engineering-II	2	1	0	8
DC.CE331.15	CE331	Structural Mechanics - II	2	1	0	8
DC.CE332.15	CE332	Design of RC Structures	2	1	0	8
DC.CE441.15	CE441	Environmental Engineering-II	2	1	0	8
DE.CEXXX.15	DE -1	Department Elective (DE) -1	3	0	0	9
OE - I	OE - I	Open Elective - I	3	0	0	9
EP.CE333.15	CE333	Drawing & Detailing of RC Structures	0	0	3	3
		Total	16	5	3	61
DP.CE391.16	CE391	Stream Project (Hons.)	0	0	10	10
		Total	16	5	13	71
Department Elective -1						
	CE312	Urban Hydrology and Hydraulics	3	0	0	9
	CE322	Introduction to FEM in Civil Engineering Applications	3	0	0	9
	CE336	Matrix Analysis of Structures	3	0	0	9
	CE341	Conveyance of Water and Waste Water	3	0	0	9
	CE342	Ecological Engineering	3	0	0	9
	CE352	Pavement Material	3	0	0	9
Section-3BB		Civil Engineering : 4-Year B. Tech. VI-Semester				
DC.CE334.15	CE334	Design of Steel Structure	2	1	0	8

EP.CE335.15	CE335	Drawing & Detailing of Steel Structures	0	0	2	2
DC.CE311.15	CE311	Open Channel Flow	2	1	0	8
DC.CE314.16	CE314	Open Channel Flow Laboratory	0	0	2	2
DE.CEXXX.15	DE - 2	Departmental Elective(DE) -2	3	0	0	9
OE - 2	OE - 2	Open Elective - 2	3	0	0	9
DP.CE392.15	CE392	Stream or UG Project	0	0	10	10
		Total	10	2	14	48
Department Elective - 2						
	CE313	Hydraulic Modeling	3	0	0	9
	CE323	Geotechnical Engineering Design	3	0	0	9
	CE568	Prestressed Concrete Design	3	0	0	9
	CE343	Rural Water Supply and Onsite Sanitation Systems	3	0	0	9
	CE353	Traffic Engineering	3	0	0	9
Section-3BB						
Civil Engineering : 4-Year B. Tech. VI-Summer Semester						
DP.CE393.15	CE393	Project / Industrial Project / Industrial Training	0	0	5	5
		Total	0	0	5	5
Section-4BB						
Civil Engineering : 4-Year B. Tech. VII-Semester						
DC.CE411.15	CE411	Engineering Hydrology	2	1	0	8
DE.CEXXX.15	DE - 3	Departmental Elective(DE) - 3	3	0	0	9
OE - 3	OE - 3	Open Elective - 3	3	0	0	9
DC.CE431.15	CE431	Structural Engineering Laboratory	0	0	2	2
LM	HU/LM	Language & Management Course	3	0	0	9
DP.CE491.15	CE491	Stream or UG Project	0	0	10	10
		Total	11	1	12	47
Department Elective - 3						
	CE413	Water Power Engineering	3	0	0	9
	CE422	Ground Modification and soil stabilisation	3	0	0	9
	CE435	Introduction to Composite Materials	3	0	0	9
	CE443	Environmental Pollution & Control	3	0	0	9
	CE453	Airport Engineering	3	0	0	9
	CE461	Geoinformatics	3	0	0	9
Section-4BB						
Civil Engineering : 4-Year B. Tech. VIII-Semester						
DC.CE412.15	CE412	Irrigation Engineering	2	1	0	8

DC.CE432.16	CE432	Advanced Design of RC Structures	3	0	0	9
DE.CEXXX.15	DE - 4	Departmental Elective - 4	3	0	0	9
DE.CEXXX.15	DE - 5	Departmental Elective - 5	3	0	0	9
OE - 4	OE - 4	Open Elective - 4	3	0	0	9
DC.CE401.15	CE401	Construction Economics and Management	2	1	0	8
LM	LM	Language & Management Course	3	0	0	9
		Total	19	3	0	61
DP.CE492.16	CE492	Stream Project (Hons.)	0	0	10	10
		Total	19	5	10	71

Department Elective - 4

	CE414	Design of Hydraulic Structure	3	0	0	9
	CE421	Introductory Rock Mechanics	3	0	0	9
	CE423	Introduction to Geotechnical Earthquake Engineering	3	0	0	9
	CE564	Plastic Design of Structures	3	0	0	9
	CE434	Earthquake Resistant Design of Structures	3	0	0	9
	CE442	Advanced Water & Waste Water Treatment Engineering	3	0	0	9
	CE620	Analysis and Design of Pavements	3	0	0	9

Department Elective - 5

	CE415	River Engineering	3	0	0	9
	CE424	Applications of Geosynthetics in Civil Engineering	3	0	0	9
	CE565	Optimization Methods	3	0	0	9
	CE444	Solid and Hazardous Waste management	3	0	0	9
	CE627	Transport Economics	3	0	0	9
	CE462	Disaster Mitigation and Earthquake Engg.	3	0	0	9

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