Program Structure (B.Tech Civil Engineering Specialization in Smart Cities)

		Semester 1				
Sl. No	Course Code	Name of the Course	L	T	P	C
1		Energy Sources and Audit	1	0	0	1
2		Data Analytics (Excel and Tableu)	1	0	0	1
3		AI Fundamentals	2	0	0	2
4		Differential / Vector calculus and Matrices	3	0	0	3
5		Programming for Problem Solving (C)	1	0	4	3
6		Communication Skill (BEC-1)	3	0	0	3
7		Engineering Physics	2	0	0	2
8		Engineering Physics Lab	0	0	2	1
9		Bio Systems in Engineering	2	0	0	2
10		AC DC Circuits	2	0	2	3
		Total credits				21

		Semester II				
Sl No	Course Code	Name of the Course	L	T	P	C
1		Integral and Multiple Calculus	2	0	0	2
2		Partial Differential Equations	1	0	0	1
3		Embedded Technology and IOT	1	0	2	2
4		Waste Management	0	0	2	1
5		Environmental Science	0	0	1	0.5
6		Liberal and Creative Arts	0	0	1	0.5
7		Creativity, Innovation and Entrepreneurship	1	0	2	2
8		Application of Python Programming	0	0	2	1
9		Introduction to Digital System	2	0	2	3
10		Data Structure Using C	2	0	2	3
11		Digital Fabrication	0	0	2	1
12	BCE01T3201	Engineering Mechanics	3	0	0	3
		Total credits				20

		Semester III				
Sl No	Course Code	Name of the Course	L	T	P	C
1		Mathematics-III (Functions of Complex Variables and Transforms)	3	0	0	3
2		Aptitude building and Logical Reasoning - I	0	0	2	1
3		Disruptive Technologies	0	0	4	2
4		AI and its Applications	0	0	4	2
5	BCE02T3301	Strength of Materials	2	0	0	2
6	BCE02T3302	Basic Fluid Mechanics	2	0	0	2

7	BCE02T3303	Introduction to Surveying	2	0	0	2
8	BCE02T3304	Basic Transportation Engineering	2	0	0	2
9	BCE02P3302	Basic Fluid Mechanics Lab	0	0	2	1
10	BCE02P3303	Surveying Lab	0	0	2	1
11	BCE01P3304	Engineering Drawing	0	0	4	2
12	BCE02P3301	Strength of Materials Lab	0	0	2	1
13	BCE02P3304	Basic Transportation Engineering Lab	0	0	2	1
		Total credits				22

Semester IV

Sl No	Course Code	Name of the Course	L	T	P	C
1		Mathematics-IV (Numerical and Computational Methods)	2	0	0	2
2		Numerical and Computational Methods Lab	0	0	2	1
3		Aptitude building and Logical Reasoning - II	0	0	2	1
4		Engineering Clinic - I (IOT)	0	0	2	1
5		Communication Skill (BEC-2) - 3 credit	3	0	0	3
6	BCE01T3402	Construction Engineering	3	0	0	3
7	BCE02T3403	Basic Structural Analysis	2	0	0	2
8	BCE02T3404	Water & Waste Water Treatment Systems	2	0	0	2
9	BCE02T3405	Soil Mechanics	2	0	0	2
10	BCE02T3406	Reinforced Concrete Structures	2	0	0	2
11	BCE02P3404	Water Analysis Lab	0	0	2	1
12	BCE02P3405	Soil Mechanics Lab	0	0	2	1
13	BCE01P3402	Construction Engineering Lab	0	0	2	1
		Total credits				22

Semester V

Sl No	Course Code	Name of the Course	L	T	P	C
1		Mathematics-V (Application of Statistical Methods in Construction)	3	0	0	3
2		Engineering Economics and Management	3	0	0	3
3		Engineering Clinic - II (Machine Learning)	0	0	2	1
4		Campus to Corporate	3	0	0	3
5		Aptitude building and Logical Reasoning – III	0	0	2	1
6		Applied Geology	2	0	0	2
7		Program Elective – I	3	0	0	3
8	BCE01P3504	CAD Lab - I (AUTOCAD)	0	0	4	2
9		Planning Techniques	3	0	0	3
10		Social Internship	0	0	2	1
11		Hobby Class	0	0	1	0.5

12	BCE02P3501	Industrial Internship - I	0	0	0	1
13		Smart City map preparation	0	0	0	1
		Total credits				24.5

Semester VI

Sl No	Course Code	Name of the Course	L	T	P	C
1		Excel Training & PPT Training	0	0	1	0.5
2	BCE02T3601	Introduction to Design of Steel Structures	2	0	0	2
3		Foreign Language (German / Japanese / French)	0	0	4	2
4	BCE01P3605	Analysis and Design Lab (STAAD PRO)	0	0	2	1
5		Aptitude building and Logical Reasoning - IV	0	0	2	1
6	BCE01P3606	Design and Innovation	0	0	2	1
7		Open Elective - I	3	0	0	3
8		Program Elective - II	3	0	0	3
9		Program Elective - III	3	0	0	3
10		Energy Efficient Buildings in Smart city	3	0	0	3
11	BCE02T3603	Quantity Surveying and Estimating	3	0	0	3
12	BCE02P3607	Estimation Lab (PRIMAVERA)	0	0	4	2
		Total credits				24.5

Semester VII

Sl No	Course Code	Name of the Course	L	T	P	C
1		Program Elective - IV	3	0	0	3
2		Program Elective - V	3	0	0	3
3		Ethics and Professional Competency	0	0	2	1
4	BCE02P3998	Capstone Phase-1	0	0	4	2
5		Open Elective - II	3	0	0	3
6	BCE02T3701	Project Planning and Scheduling	2	0	0	2
7	BCE02P3701	Project Planning and Scheduling Lab (PRIMAVERA)	0	0	2	1
8	BCE02P3702	Industrial Internship - II	0	0	0	1
		Total credits				16

Semester VIII

Sl No	Course Code	Name of the Course	L	T	P	C
1	BCE02P3999	Capstone Phase-2	0	0	20	10
		Total credits				10

List of Program Electives

Sl No	Course Code	List of Programme Elective	L	T	P	C
1		Metropolitan Planning, Development and Management	3	0	0	3
2		Disaster Risk Mitigation and Management	3	0	0	3
3		Sustainable Transportation	3	0	0	3
4		Demography for Smart City	3	0	0	3
5		Sustainable Construction Materials	3	0	0	3
6		Environment & Energy for Smart City	3	0	0	3
7		Management of Materials	3	0	0	3
8		TQM in Construction of Smart City	3	0	0	3
9	BCE02T5706	Value Engineering and Valuation	3	0	0	3
10	BCE02T5707	Infrastructure Development	3	0	0	3