

B.E (Civil Engineering) Curriculum – Regulation 2018

Minimum Credits to be Earned: 160

MODEL CURRICULUM

Semester I								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OG01	Environmental Science for Engineers	MC	5	3	0	2	-
2	18OA11	Technical English – I	HS	4	3	1	0	4
3	18OB01	Matrices and Calculus	BS	5	4	1	0	5
4	18CC01	Programming Logic and Design	ES	7	3	0	4	5
5	18CC06	Engineering Drawing	ES	4	2	2	0	4
6	18CC07	Engineering Practices Laboratory	ES	4	0	0	4	2
TOTAL				29	15	4	10	20

Semester II								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OA12	Technical English - II	HS	5	3	0	2	4
2	18OB02	Vector Calculus and Integral Transforms	BS	5	4	1	0	5
3	18OB21	Engineering Physics	BS	6	3	1	2	5
4	18CC02	Computer Applications in Civil Engineering	ES	4	0	0	4	2
5	18CC03	Engineering Mechanics	ES	5	3	2	0	5
TOTAL				25	13	4	8	21

Semester III								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OG02	Indian Constitution	MC	3	3	0	0	-
2	18OB03	Computational Differential Equations and Mathematical Statistics	BS	5	4	1	0	5
3	18OB24	Material Science for Civil Engineers	BS	4	4	0	0	4
4	18CC04	Building Drawing	ES	4	0	0	4	2
5	18CD03	Mechanics of Solids – I	PC	5	3	0	2	4
6	18CD11	Plane and Geodetic Surveying	PC	5	3	0	2	4
TOTAL				26	17	1	8	19

Semester IV								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OG03	Essence of Indian Traditional Knowledge	MC	3	3	0	0	-
2	18CC09	Engineering Geology	ES	3	3	0	0	3
3	18CD01	Mechanics of Fluids	PC	4	3	1	0	4
4	18CD04	Mechanics of Solids – II	PC	4	4	0	0	4
5	18CD09	Construction Techniques, Equipments and Practices	PC	5	3	0	2	4
6	18CD12	Environmental Engineering -I	PC	3	3	0	0	3
TOTAL				22	19	1	2	18

Semester V								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CD02	Applied Hydraulic Engineering	PC	5	3	0	2	4
2	18CD05	Structural Analysis – I	PC	4	3	1	0	4
3	18CD07	Design of Reinforced Concrete Structures	PC	5	3	0	2	4
4	18CD17	Environmental Engineering -II	PC	4	2	0	2	3
5	18xxxx	Open Elective – I	OE	3	3	0	0	3
6	18CF01	Soft Skills	EEC	3	-	-	3	-
7	18CF02	Mini Project – I	EEC	2	0	0	2	1
8	18CF05	Internship – I	EEC	2	0	0	2	1
TOTAL				28	14	1	13	20

Semester VI								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CD06	Structural Analysis – II	PC	4	3	1	0	4
2	18CD10	Soil Mechanics	PC	5	3	0	2	4
3	18CEXX	Professional Elective- I	PE	5	3	0	2	4
4	18CEXX	Professional Elective- II	PE	3	3	0	0	3
5	18CEXX	Professional Elective- III	PE	5	3	0	2	4
6	18CF02	Mini Project - II	EEC	2	0	0	2	1
TOTAL				24	15	1	8	20

Semester VII								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CD08	Pre-stressed Concrete Structures	PC	3	3	0	0	3
2	18CEXX	Professional Elective- IV	PE	5	3	0	2	4
3	18CEXX	Professional Elective- V	PE	3	3	0	0	3
4	18CEXX	Professional Elective- VI	PE	3	3	0	0	3
5	18XXXX	Open Elective – II	OE	4	4	0	0	4
6	18CF07	Survey Camp	EEC	4	0	0	4	2
7	18CF25	Project Work – Phase I	EEC	4	0	0	4	2
TOTAL				26	16	0	10	21

Semester VIII								
S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OA01	Principles of Management and Engineering Ethics	HS	3	3	0	0	3
2	18XXXX	Open Elective–III	OE	3	3	0	0	3
3	18XXXX	Open Elective–IV	OE	3	3	0	0	3
4	18XXXX	Open Elective–V	OE	3	3	0	0	3
5	18CF50	Project Work – Phase II	EEC	20	0	0	20	10
TOTAL				32	12	0	20	22

TOTAL CREDITS	161
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GROUPING OF COURSES**1. Humanities and Social Sciences (HS)**

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OA01	Principles of Management and Engineering Ethics	HS	3	3	0	0	3
2	18OA03	Professional Practice, Law and Ethics	HS	3	3	0	0	3
3	18OA04	Organizational Behaviour	HS	3	3	0	0	3
4	18OA05	Finance and Accounting	HS	3	3	0	0	3
5	18OA11	Technical English – I	HS	4	3	1	0	4
6	18OA12	Technical English – II	HS	5	3	0	2	4
7	18OA13	Business English – I	HS	5	3	0	2	4
8	18OA14	Business English – II	HS	5	3	0	2	4
9	18OA21	Basics of French	HS	4	3	1	0	4
10	18OA22	Functional French	HS	4	3	1	0	4
11	18OA31	Basics of German	HS	4	3	1	0	4
12	18OA32	Functional German	HS	4	3	1	0	4
13	18OA41	Basics of Japanese	HS	4	3	1	0	4
14	18OA42	Functional Japanese	HS	4	3	1	0	4

2. Basic Sciences (BS)

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OB01	Matrices and Calculus	BS	5	4	1	0	5
2	18OB02	Vector Calculus and Integral Transforms	BS	5	4	1	0	5
3	18OB03	Computational Differential Equations and Mathematical Statistics	BS	5	4	1	0	5
4	18OB04	Partial Differential Equations, Scientific Computing and Complex Variables	BS	5	4	1	0	5
5	18OB05	Z-Transform, Differential Equations and Complex Variables	BS	5	4	1	0	5
6	18OB06	Mathematical Foundations of Computing Sciences	BS	5	4	1	0	5
7	18OB07	Probability Theory and Mathematical Statistics	BS	5	4	1	0	5
8	18OB08	Probability and Random Processes	BS	5	4	1	0	5
9	18OB09	Optimization Techniques	BS	5	4	1	0	5

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
10	18OB10	Foundations of Computing Sciences	BS	5	4	1	0	5
11	18OB11	Discrete Mathematical Structures	BS	5	4	1	0	5
12	18OB12	Probability and Statistics	BS	5	4	1	0	5
13	18OB13	Mathematical Optimization Techniques	BS	5	4	1	0	5
14	18OB14	Operations Research	BS	3	3	0	0	3
15	18OB15	Numerical Linear Algebra	BS	5	4	1	0	5
16	18OB21	Engineering Physics	BS	6	3	1	2	5
17	18OB22	Physics for Electrical Sciences	BS	4	4	0	0	4
18	18OB23	Physics for Mechanical Sciences	BS	4	4	0	0	4
19	18OB24	Material Science for Civil Engineers	BS	4	4	0	0	4
20	18OB31	Chemistry for Electrical Sciences	BS	5	3	0	2	4
21	18OB32	Applied Chemistry	BS	3	3	0	0	3

3. Engineering Sciences (ES)

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CC01	Programming Logic and Design	ES	7	3	0	4	5
2	18CC02	Computer Applications in Civil Engineering	ES	4	0	0	4	2
3	18CC03	Engineering Mechanics	ES	5	3	2	0	5
4	18CC04	Building Drawing	ES	4	0	0	4	2
5	18CC05	Basics of Mechanical and Electrical Engineering	ES	4	4	0	0	4
6	18CC06	Engineering Drawing	ES	4	2	2	0	4
7	18CC07	Engineering Practices Laboratory	ES	4	0	0	4	2
8	18CC08	Energy Efficiency in Buildings	ES	4	4	0	0	4
9	18CC09	Engineering Geology	ES	3	3	0	0	3
10	18CC10	Principles of Architecture	ES	3	3	0	0	3
11	18CC11	Basics of Thermal Energy Systems	ES	3	3	0	0	3
12	18CC12	Measurements and Instrumentation	ES	3	3	0	0	3
13	18CC13	Automotive Sensors	ES	5	3	0	2	4
14	18CC14	Database Management Systems	ES	7	3	0	4	5
15	18CC15	Progressive C Programming	ES	7	3	0	4	5
16	18CC16	Object Oriented Programming	ES	5	3	0	2	4
17	18CC17	Fundamentals of Computers	ES	3	3	0	0	3

18	18CC18	Building Bye Laws	ES	3	3	0	0	3
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4. Professional Core (PC)

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CD01	Mechanics of Fluids	PC	4	3	1	0	4
2	18CD02	Applied Hydraulic Engineering	PC	5	3	0	2	4
3	18CD03	Mechanics of Solids I	PC	5	3	0	2	4
4	18CD04	Mechanics of Solids II	PC	4	4	0	0	4
5	18CD05	Structural Analysis I	PC	4	3	1	0	4
6	18CD06	Structural Analysis II	PC	4	3	1	0	4
7	18CD07	Design of Reinforced Concrete Structures	PC	5	3	0	2	4
8	18CD08	Pre-stressed Concrete Structures	PC	3	3	0	0	3
9	18CD09	Construction Techniques, Equipments and Practices	PC	5	3	0	2	4
10	18CD10	Soil Mechanics	PC	5	3	0	2	4
11	18CD11	Plane and Geodetic Surveying	PC	5	3	0	2	4
12	18CD12	Environmental Engineering - I	PC	3	3	0	0	3
13	18CD13	Basics of Dynamics and Seismic Design	PC	4	4	0	0	4
14	18CD14	Industrial Structures	PC	3	3	0	0	3
15	18CD15	Housing Planning Management	PC	3	3	0	0	3
16	18CD16	Water Resources and Irrigation Engineering	PC	3	3	0	0	3
17	18CD17	Environmental Engineering - II	PC	4	2	0	2	3
18	18CD18	Structural Dynamics and Earthquake Engineering	PC	3	3	0	0	3
19	18CD19	Ground Improvement Techniques	PC	3	3	0	0	3
20	18CD20	Disaster Management	PC	3	3	0	0	3

5. Professional Electives (PE)

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CE01	Concrete Technology	PE	5	3	0	2	4
2	18CE02	Advanced Concrete Technology	PE	3	3	0	0	3
3	18CE03	Design of Steel Structures	PE	3	3	0	0	3
4	18CE04	Advanced Design of Reinforced Concrete Structures	PE	4	4	0	0	4
5	18CE05	Fire Safety Engineering	PE	3	3	0	0	3
6	18CE06	Coastal Zone Management	PE	3	3	0	0	3
7	18CE07	Disaster Resistant Structures	PE	3	3	0	0	3
8	18CE08	Prefabricated Structures	PE	3	3	0	0	3

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
9	18CE09	Tall Structures	PE	3	3	0	0	3
10	18CE10	Building Services	PE	3	3	0	0	3
11	18CE11	Maintenance and Rehabilitation of Structures	PE	3	3	0	0	3
12	18CE12	Construction Management	PE	3	3	0	0	3
13	18CE13	Estimating and Costing	PE	5	3	0	2	4
14	18CE14	Town Planning and Urban Development	PE	3	3	0	0	3
15	18CE15	Construction Quality and Safety Management	PE	3	3	0	0	3
16	18CE16	Construction Planning and Scheduling	PE	3	3	0	0	3
17	18CE17	Engineering Economics and Cost Analysis	PE	3	3	0	0	3
18	18CE18	Foundation Engineering	PE	3	3	0	0	3
19	18CE19	Green Building	PE	3	3	0	0	3
20	18CE20	Hydrology	PE	3	3	0	0	3
21	18CE21	Solid Waste Management	PE	3	3	0	0	3
22	18CE22	Wealth from Waste	PE	3	3	0	0	3
23	18CE23	Environmental Impact Assessment	PE	3	3	0	0	3
24	18CE24	Air Pollution and Control Engineering	PE	3	3	0	0	3
25	18CE25	Highway Engineering	PE	5	3	0	2	4
26	18CE26	Railway Engineering	PE	3	3	0	0	3
27	18CE27	Airports, Docks and Harbour Engineering	PE	3	3	0	0	3
28	18CE28	Traffic Engineering and Management	PE	3	3	0	0	3
29	18CE29	Total Station and GPS Surveying	PE	5	3	0	2	4
30	18CE30	Cartography	PE	3	3	0	0	3

6. Employability Enhancement Courses (EEC)

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18CF01	Soft Skills	EEC	3	-	-	3	-
2	18CF02	Mini Project – I	EEC	2	0	0	2	1
3	18CF03	Mini Project – II	EEC	2	0	0	2	1
4	18CF04	Comprehension	EEC	-	-	-	-	-
5	18CF05	Internship – I	EEC	2	0	0	2	1
6	18CF06	Internship – II	EEC	2	0	0	2	1
7	18CF07	Survey Camp	EEC	0	0	0	4	2
8	18CF08	Digital Surveying	EEC	4	0	0	4	2
9	18CF09	Tekla Structures	EEC	4	0	0	4	2
10	18CF10	Design of Structures Using ETABS	EEC	4	0	0	4	2
11	18CF11	Project Management Using MS Project	EEC	4	0	0	4	2
12	18CF25	Project Work – Phase I	EEC	4	0	0	4	2

13	18CF50	Project Work – Phase II	EEC	20	0	0	20	10
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7. Mandatory Courses (MC)

S. No.	Course Code	Course Title	Category	Contact Hours	Instruction Hours/Week			C
					L	T	P	
1	18OG01	Environmental Science for Engineers	MC	5	3	0	2	-
2	18OG02	Indian Constitution	MC	3	3	0	0	-
3	18OG03	Essence of Indian Traditional Knowledge	MC	3	3	0	0	-