

Civil Engineering Department, SoS Engineering and Technology
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)
Scheme & Syllabus of B.Tech. Civil Engineering (NEP 2020)

w.e.f. Academic Session 2022-23 (1st Semester/First Year)
I-SEMESTER BTech Mechanical/IP/Chemical/Civil Engineering

S.No	Course Code	Course Name	Course Category	Teaching Hours/ Week			Evaluation Scheme				Credits
				L	T	P	Continuous Internal Assessment (CIA)		Semester Examination Assessment	Total Marks	
							TA	IA			
1	AMUATB1	Engineering Mathematics - A	B	3	1	-	10	30	60	100	4
2	CYUATB3	Engineering Chemistry	B	3	-	-	10	30	60	100	3
3	ECUATE4	Basic Electrical and Electronics Engineering	E	3	-	-	10	30	60	100	3
4	FOUATC2	Environmental Science and Ecology	C	2	-	-	10	30	60	100	2
5	CSUATE5	Computer Programming	E	3	-	-	10	30	60	100	3
6	LAUATC1	Indian Constitution	C	1	-	-	50		-	50	1
7	CYUALB3	Engineering Chemistry Laboratory	B	-	-	2	25		25	50	1
8	CSUALE5	Computer Programming Laboratory	E	-	-	2	25		25	50	1
9	IPUALL2	Engineering Workshop Practices	L	-	-	2	25		25	50	1
10	PEUALS2	Sports and Yoga	S	-	-	2	25		25	50	1
Total				15	1	08	350		400	750	20

Note: AM: Mathematics, PP: Physics, ME: Mechanical Engineering, IP: Industrial & Production Engineering, CE: Civil Engineering, CS: Computer Sc. & Engg., IT: Information Technology, PE: Physical Education, FO: Forestry, LA: Law, NS: NSS, U: Undergraduate, T: Theory, L: Laboratory,

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BASIC SCIENCE (B)	ENGINEERING SCIENCE (E)	SKILL ENHANCEMENT COURSE (L)	HUMANITIES SCIENCE (H)	MANDATORY COURSE (C)	EXTRA-CURRICULAR ACTIVITIES (S)
1. Mathematics – A 2. Physics 3. Chemistry 4. Mathematics - B	1. Engineering Mechanics 2. Introduction to Information Technology 3. Basic Electrical Engineering 4. Basic Electrical and Electronics Engineering 5. Computer Programming 6. Basic Communication Engineering	1. Engineering Graphics 2. Engineering Workshop Practices	1. English for communication 2. Human Values and Ethics	1. Indian Constitution 2. Environmental Science & Ecology	1. NSS 2.Sports and Yoga
Credit Definition: ➤ 1-hour lecture (L) per week per semester = 1Credit ➤ 1-hour tutorial (T) per week per semester = 1Credit ➤ 2-hour Practical/Drawing(P) per week per semester = 1 Credit		➤ Four credit courses are to be designed for 50 hours of Teaching-Learning process. ➤ Three credit courses are to be designed for 40 hours of Teaching-Learning process. ➤ Two credit courses are to be designed for 30 hours of Teaching-Learning process. ➤ One credit courses are to be designed for 15 hours of Teaching-Learning process Note: The above is applicable only to THEORY courses			
AICTE Activity Points to be earned by students admitted to B.Tech., programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every regular student admitted to the 4 years Degree program and every student entering 4years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, any time during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression.					

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Scheme & Syllabus of B.Tech. Civil Engineering (NEP 2020)

w.e.f. Academic Session 2022-23 (2nd Semester/First Year)

II-SEMESTER BTech Mechanical/IP/Chemical/Civil Engineering

S.No	Course Code	Course Name	Course Category	Teaching Hours/ Week			Evaluation Scheme				Credits
				L	T	P	Continuous Internal Assessment (CIA)		Semester Examination Assessment	Total Marks	
							TA	IA			
1	AMUBTB4	Engineering Mathematics-B	B	3	1	-	10	30	60	100	4
2	PPUBTB2	Engineering Physics	B	3	1	-	10	30	60	100	4
3	ITUBTE2	Introduction to Information Technology	E	3	-	-	10	30	60	100	3
4	ELUBTH1	English for Communication	H	3	-	-	10	30	60	100	3
5	CEUBTE1	Engineering Mechanics	E	3	-	-	10	30	60	100	3
6	MEUBTH2/ CHUBTH2/ IPUBTH2/ CEUBTH2	Human Values and Ethics	H	1	-	-	50		-	50	1
7	PPUBLB2	Engineering Physics Laboratory	B	-	-	2	25		25	50	1
8	CEUBLE1	Engineering Mechanics Laboratory	E	-	-	2	25		25	50	1
9	MEUBLL1	Engineering Graphics	L	1	-	3	25		25	50	3
10	NSUBLS1	NSS	S	-	-	2	25		25	50	1
Total				17	2	09	350		400	750	24

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Scheme & Syllabus of B.Tech. Civil Engineering (NEP 2020)

Note: AM:Mathematics, PP:Physics, ME: Mechanical Engineering, IP: Industrial & Production Engineering, CE: Civil Engineering, CS: Computer Sc. & Engg., IT: Information Technology, PE: Physical Education, NS: NSS, U: Undergraduate, T: Theory, L: Laboratory,					
BASIC SCIENCE (B) 1. Mathematics – A 2. Physics 3. Chemistry 4. Mathematics - B	ENGINEERING SCIENCE (E) 1. Engineering Mechanics 2. Introduction to Information Technology 3. Basic Electrical Engineering 4. Basic Electrical and Electronics Engineering 5. Computer Programming 6. Basic Communication Engineering	SKILL ENHANCEMENT COURSE (L) 1. Engineering Graphics 2. Engineering Workshop Practices	HUMANITIES SCIENCE (H) 1. English for communication 2. Human Values and Ethics	MANDATORY COURSE (C) 1. Indian Constitution 2. Environmental Science & Ecology	EXTRA-CURRICULAR ACTIVITIES (S) 1. NSS 2.Sports and Yoga
Credit Definition: ➤ 1-hour lecture (L) per week per semester = 1Credit ➤ 1-hour tutorial (T) per week per semester = 1Credit ➤ 2-hour Practical/Drawing(P) per week per semester = 1 Credit		➤ Four credit courses are to be designed for 50 hours of Teaching-Learning process. ➤ Three credit courses are to be designed for 40 hours of Teaching-Learning process. ➤ Two credit courses are to be designed for 30 hours of Teaching-Learning process. ➤ One credit courses are to be designed for 15 hours of Teaching-Learning process Note: The above is applicable only to THEORY courses			
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Scheme & Syllabus of B.Tech. Civil Engineering (NEP 2020)

w.e.f. Academic Session 2023-24 (3rd Semester/2nd Year)

S.No	Course Code	Course Name	Course Category	Teaching Hours/ Week			Evaluation Scheme				Credits
				L	T	P	Continuous Internal Assessment (CIA)		Semester Examination Assessment	Total Marks	
							TA	IA			
1	AMUCTB1	Engineering Mathematics-III	B	3	0	0	10	30	60	100	3
2	CEUCTT1	Strength of Materials	PC	3	1	0	10	30	60	100	4
3	CEUCTT2	Fluid Mechanics-I	PC	3	0	0	10	30	60	100	3
4	CEUCTT3	Surveying & Geomatics	PC	3	0	0	10	30	60	100	3
5	CEUCTP1	Building Materials & Construction	PE	3	0	0	10	30	60	100	3
	CEUCTP2	Engineering Geology									
	CEUCTP3	Ancient Philosophy of Civil Engineering									
6	CEUCTO1	Green Buildings	OE	3	0	0	10	30	60	100	3
	CHUCTO1	Engineering Materials									
	CSUCTO1	Data Structure with C++									
	ITUCTO1	Computer Organization and Architecture									
	IPUCTO1	I.C. Engine									
	MEUCTO1	Introduction to Thermodynamics									
ECUCTO1	Data Communication										
Labs/Projects											
7	CEUCLT1	Survey Lab	Lab1	0	0	2	25	25	50	1	
8	CEUCLT2	Fluid Mechanics Lab	Lab 2	0	0	2	25	25	50	1	
Total				18	1	4				700	21

L-Lecture, T-Tutorial, P-Practical, TA-Teacher Assessment, CIA – Continuous Internal Assessment, SEA-Semester Examination Assessment, IA- Internal Assessment {Based on two class tests (CTs) of marks-15 each}, NEP-National Education Policy.

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Scheme & Syllabus of B.Tech. Civil Engineering (NEP 2020)

w.e.f Academic Session 2023-24 (4th Semester/2nd Year)

S. No	Course Code	Course Name	Course Category	Teaching Hours/Week			Evaluation Scheme			Total Marks	Credits
							Continuous Internal Assessment (CIA)		Semester Examination Assessment		
				L	T	P	TA	IA	SEA		
1	CEUDTT1	Structural Analysis-I	PC	3	1	0	10	30	60	100	4
2	CEUDTT2	Fluid Mechanics-II	PC	3	0	0	10	30	60	100	3
3	CEUDTT3	Concrete Technology	PC	3	0	0	10	30	60	100	3
4	CEUDTP1	Estimation and Costing	PE	3	0	0	10	30	60	100	3
	CEUDTP2	Sustainable Construction									
	CEUDTP3	Ocean Engineering									
5	CEUDTO1	Remote Sensing & GIS	OE	3	0	0	10	30	60	100	3
	CHUDTO1	Fluidization Engineering									
	CSUDTO1	Introduction to Information Science									
	ITUDTO1	Computer Network									
	ITUDTO2	Fundamentals of python programming									
	IPUDTO1	Automobile Engineering									
	MEUDTO1	Introduction to Fluid Mechanics									
ECUDTO1	Introduction to Electronic Devices & Circuits										
6	CEUDTM1	Management and Organizational Behaviour	M	2	0	0	-	-	-		0
Labs/Projects											
7	CEUDLT1	Civil Engineering Drawing with Computer Applications	Lab1	0	0	2	25	25	50	1	
8	CEUDLT2	Material Testing Lab	Lab 2	0	0	2	25	25	50	1	
9	CEUDPT1	Mini Project	Project	0	0	4	50	50	100	2	
Total				17	1	12				700	20

L-Lecture, T-Tutorial, P-Practical, TA-Teacher Assessment, CIA – Continuous Internal Assessment, SEA-Semester, Examination Assessment, IA- Internal Assessment {Based on two class tests (CTs)of marks-15 each}, NEP-National Education Policy,

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w.e.f Academic Session 2024-25 (5th Semester/3rd Year)

S.No	Course Code	Course Name	Course Category	Teaching Hours/ Week			Evaluation Scheme				Credits
				L	T	P	Continuous Internal Assessment (CIA)	Semester Examination Assessment	Total Marks		
										TA	
1	CEUETT1	Design of Concrete Structures	PC	3	0	0	10	30	60	100	3
2	CEUETT2	Structural Analysis - II	PC	3	0	0	10	30	60	100	3
3	CEUETT3	Highway Engineering	PC	3	0	0	10	30	60	100	3
4	CEUETT4	Geotechnical Engineering-I	PC	3	0	0	10	30	60	100	3
5	CEUETT5	Environmental Engineering - I	PC	3	0	0	10	30	60	100	3
6	CEUETP1	Advanced Solid Mechanics	PE	3	0	0	10	30	60	100	3
	CEUETP2	Construction Project Planning and Systems									
	CEUETP3	Infrastructure Planning & Management									
	CEUETP4	Disaster Preparedness and Planning Management									
	CEUETP5	Basics of Computational Hydraulics									
Labs/Projects											
7	CEUELT1	Highway Engineering Lab	Lab1	0	0	2		25	25	50	1
8	CEUELT2	Geotechnical Engineering Lab	Lab 2	0	0	2		25	25	50	1
9	CEUEPF1	Mini Project-II	Project	0	0	4		50	50	100	2
Total				18	0	8				800	22

L-Lecture, **T**-Tutorial, **P**-Practical, **TA**-Teacher Assessment, **CIA** – Continuous Internal Assessment, **SEA**-Semester Examination Assessment, **IA**- Internal Assessment {Based on two class tests (CTs) of marks-15 each}, **NEP**-National Education Policy.

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w.e.f. Academic Session 2024-25 (6th Semester/3rd Year)

S.No	Course Code	Course Name	Course Category	Teaching Hours/Week			Evaluation Scheme				Credits
				L	T	P	Continuous Internal Assessment (CIA)	Semester Examination Assessment	Total Marks		
										TA	
1	CEUFTT1	Design of Steel Structures	PC	3	0	0	10	30	60	100	3
2	CEUFTT2	Environmental Engineering - II	PC	3	0	0	10	30	60	100	3
3	CEUFTT3	Water Resources Engineering -I	PC	3	0	0	10	30	60	100	3
4	CEUFTT4	Geotechnical Engineering-II	PC	3	0	0	10	30	60	100	3
5	CEUFTP1	Advanced Concrete Design	PE	3	0	0	10	30	60	100	3
	CEUFTP2	Ground Improvement Techniques									
	CEUFTP3	Sustainable Urban Transportation Planning									
	CEUFTP4	Open Channel Flow									
	CEUFTP5	Solid and Hazardous Waste Management									
6	CEUFMO1	MOOCs-1 *	OE	3	0	0	10	30	60	100	3
Summer Internship/Industrial Training **											
Labs/Projects											
7	CEUFLT1	Environmental Engineering Lab	Lab1	0	0	2		25	25	50	1
8	CEUFLT2	Computer Applications in Civil Engineering. Lab	Lab 2	0	0	2		25	25	50	1
9	CEUFPF1	Mini Project-III	Project	0	0	4		50	50	100	2
Total				18	0	8				800	22

L-Lecture, T-Tutorial, P-Practical, TA-Teacher Assessment, CIA – Continuous Internal Assessment, SEA-Semester Examination Assessment, IA- Internal Assessment {Based on two class tests (CTs) of marks-15 each}, NEP-National Education Policy, MOOCs- Massive Open Online Courses

NOTE:

**The students should be opted the MOOC(s) offered by NPTEL/SWAYAM of 03 credits only and that needs to be approved by the BoS.*

***Student shall take MOOCs based on availability of courses at SWAYAM portal during that academic year.*

w.e.f. Academic Session 2025-26 (7th Semester/4th Year)

								Evaluation Scheme		
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S.No	Course Code	Course Name	Course Category	Teaching Hours/Week			Continuous Internal Assessment (CIA)		Semester Examination Assessment	Total Marks	Credits
				L	T	P	TA	IA			
1	CEUGTT1	Pre -Stressed Concrete	PC	3	0	0	10	30	60	100	3
2	CEUGTT2	Water Resources Engineering-II	PC	3	0	0	10	30	60	100	3
3	CEUGTT3	Railway and Airport Engineering	PC	3	0	0	10	30	60	100	3
4	CEUGTP1	Bridge Engineering	PE	3	0	0	10	30	60	100	3
	CEUGTP2	Traffic Engineering									
	CEUGTP3	Soil Dynamics									
	CEUGTP4	Construction Equipment & Automation									
	CEUGTP5	Environmental Impact Assessment and Life Cycle Analysis									
	CEUGTP6	Water Resources Planning & Management									
5	CEUGTP7	Air and Noise Pollution Control	PE	3	0	0	10	30	60	100	3
	CEUGTP8	Engineering Hydrology									
	CEUGTP9	Earthquake Resistant Design of Structures									
	CEUGTP10	Transportation Planning									
	CEUGTP11	Geosynthetics Reinforced Soil Structure									
	CEUGTP12	Safety Management in construction									
6	CEUGMO1	MOOCs-2 *	OE	3	0	0	10	30	60	100	3
7	CEUGLT1	Structural Detailing Lab	Lab1	0	0	2		25	25	50	1
8	CEUGES1	Industrial Training Seminar*	Lab 2	-	-	-		-	-	-	0
9	CEUGPF1	Minor Project	Project	0	0	8		50	50	100	4
Total				18	0	10				750	23

L-Lecture, T-Tutorial, P-Practical, TA-Teacher Assessment, CIA – Continuous Internal Assessment, SEA-Semester, Examination Assessment, IA- Internal Assessment {Based on two class tests (CTs) of marks-15 each}, NEP-National Education Policy, MOOCs- Massive Open Online Courses

NOTE:

***The students should be opted the MOOC(s) offered by NPTEL/SWAYAM of 03 credits only and that needs to be approved by the BoS.**

****Student shall take MOOCs based on availability of courses at SWAYAM portal during that academic year.**

*****The students have to submit their summer internship/Industrial Training report certified by the concerned organization in the department at the time of registration in 7th Semester. Further, they are required to present their training report as seminar in the department for evaluation as successful or unsuccessful.**

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Scheme & Syllabus of B.Tech. Civil Engineering (NEP 2020)

w.e.f. Academic Session 2025-26(8th Semester/4th Year)

S.No	Course Code	Course Name	Course Category	Teaching Hours/Week			Evaluation Scheme			Credits
				L	T	P	Continuous Internal Assessment (CIA)	Semester Examination Assessment (SEA)	Total Marks	
Labs/Projects										
1	CEUHIF2	Major Project**	Project/ Filed work			16	200	200	400	8
Total						16			400	8

L-Lecture, T-Tutorial, P-Practical, TA-Teacher Assessment, CIA – Continuous Internal Assessment, SEA-Semester Examination Assessment, IA- Internal Assessment {Based on two class tests (CTs)of marks-15 each}, NEP-National Education Policy,

NOTE:

***The students may carry out the Major Project work in any Industry/Research Organization/Research Institute/in the Department in 8th semester of B.Tech. degree as per NEP 2020.**

*The students are required to present the progress of Major Project Work in the Department at every 06 weeks/as per the schedule notified by the department for continuous evaluation.

*The students who will be carrying out their major project work in organizations other than the department, they may choose co-supervisor from that respective organization

*At the end of the semester the students have to submit the major project report in hardbound as per the guidelines to be issued by the department for evaluation.