

B. Tech (Four Years)/B.Arch(Five Years) Course Structure

(As Per New UG Ordinance, 2020)

Semester-wise Course Structure from 2019-20 Session onward

Indian Institute of Engineering Science and Technology, Shibpur

An Institute of National Importance

भारतीय अभियांत्रिकी विज्ञान एवं प्रौद्योगिकी संस्थान, शिवपुर



IEST, Shibpur

आई आई ई एस टि, शिवपुर

Erstwhile B E College (Estd 1856)

Botanic Garden, Howrah, West Bengal, India -

711103

Website: www.iiests.ac.in

Semester-wise Senate approved Course Structure

4-year BTech Programme from 2019-20 session

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/week	Marks
			L	T	P			
1.	Mathematics – I		3	1	0	4	4	100
2.	Chemistry/Physics		3/4	0	0	3/4	3/4	100
3.	Intro to Computing/Basic Electrical Engineering		3/4	0	0	3/4	3/4	100
4.	Mechanics/Ecology & Environment		4/3	0	0	4/3	4/3	100
5.	English/Sociology & Professional Ethics		3	0	0	3	3	100
	Theory Sub-total		16/17	1	0	17/18	17/18	500
6.	Chemistry Lab/Physics Lab		0	0	3	2	3	50
7.	Computer Lab/ Electrical Lab		0	0	3	2	3	50
8.	Drawing/Workshop		0	1/0	3	3/2	4/3	50
9.	NSS/NCC/PT/Yoga					R*		
	Practical Sub-total		0	1/0	9	7/6	10/9	200
	First Semester Total					24	27	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/week	Marks
			L	T	P			
1.	Mathematics – II		3	1	0	4	4	100
2.	Physics/Chemistry		4/3	0	0	4/3	4/3	100
3.	Basic Electrical Engineering/ Intro to Computing		4/3	0	0	4/3	4/3	100
4.	Ecology & Environment/ Mechanics		3/4	0	0	3/4	3/4	100
5.	Sociology & Professional Ethics/ English		3	0	0	3	3	100
	Theory Sub-total		17/16	1	0	18/17	18/17	500
6.	Physics Lab/Chemistry Lab		0	0	3	2	3	50
7.	Electrical Lab/Computer Lab		0	0	3	2	3	50
8.	Workshop/Drawing		0	0/1	3	2/3	3/4	50
9.	NSS/NCC/PT/Yoga					R*		
	Practical Sub-total		0	0/1	9	6/7	9/10	200
	Second Semester Total					24	27	700

*R: Required (Non-credit but with grade)

Third Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/week	Marks
			L	T	P			
1.	Mathematics – III		3	0	0	3	3	100
2.	Core Theory – I		3	1	0	4	4	100
3.	Core Theory – II		3	0	0	3	3	100
4.	Core Theory – III		3	0	0	3	3	100
5.	Core Theory – IV		3	0	0	3	3	100
	Theory Sub-total		15	1	0	16	16	500
6.	Core Lab/Pract – I		0	0	3	2	3	50
7.	Core Lab/Pract – II		0	0	3	2	3	50
8.	Core Lab/Pract – III		0	0	3	2	3	50
9.	Core Lab/Pract – III /Mini Project		0	0	0	2	3	50
	Practical Sub-total		0	0	9	8	12	200
	Third Semester Total					24	28	700

Fourth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/week	Marks
			L	T	P			
1.	Core Theory – V		3	0	0	3	3	100
2.	Core Theory – VI		3	1	0	4	4	100
3.	Core Theory – VII		3	0	0	3	3	100
4.	Core Theory – VIII		3	0	0	3	3	100
5.	Core Theory		3	0	0	3	3	100
	Theory Sub-total		15	1	0	16	16	500
6.	Core Lab/Pract – IV		0	0	3	2	3	50
7.	Core Lab/Pract – V		0	0	3	2	3	50
8.	Core Lab/Pract – VI		0	0	3	2	3	50
9.	Core Lab/Pract – VII/Mini Project		0	0	0	2	3	50
	Practical Sub-total		0	0	9	8	12	200
	Fourth Semester Total					24	28	700

Fifth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/ week	Marks
			L	T	P			
1.	Core Theory – IX		3	1	0	4	4	100
2.	Core Theory – X		3	1	0	4	4	100
3.	Core Theory – XI		3	0	0	3	3	100
4.	Core Theory – XII		3	0	0	3	3	100
5.	Core Theory		3	0	0	3	3	100
	Theory Sub-total		15	3	0	18	17	500
6.	Core Lab/Pract – VIII		0	0	3	2	3	50
7.	Core Lab/Pract – IX		0	0	3	2	3	50
8.	Core Lab/Pract – X		0	0	3	2	3	50
	Practical Sub-total		0	0	9	6	9	150
	Fifth Semester Total					24	26	650

Sixth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/ week	Marks
			L	T	P			
1.	Core Theory – XIII		3	1	0	4	4	100
2.	Core Theory – XIV		3	1	0	4	4	100
3.	Core Theory – XV		3	0	0	3	3	100
4.	Core Theory – XVI		3	0	0	3	3	100
5.	Core Theory – XVII		3	0	0	3	3	100
	Theory Sub-total		15	2	0	17	17	500
6.	Lab – XI		0	0	3	2	3	50
7.	Lab – XII		0	0	3	2	3	50
8.	Lab – XIII		0	0	3	2	3	50
	Practical Sub-total		0	0	9	6	9	150
	Sixth Semester Total					23	26	650

Seventh Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/week	Marks
			L	T	P			
1.	Core Theory – XVIII		3	0	0	3	3	100
2.	Core Theory – XIX		3	0	0	3	3	100
3.	Core Elective – I		3	0	0	3	3	100
4.	Open Elective (HSS)		3	0	0	3	3	100
	Theory Sub-total		12	0	0	12	12	400
6.	Lab – XIV		0	0	3	2	3	50
7.	Lab – XV		0	0	3	2	3	50
8.	B. Tech Project/1		0	0	2	4	2	100
9.	Internship from 6 th Sem (Evaluation)		0	0	0	2	0	50
	Practical Sub-total		NIL	NIL	8	10	8	250
	Seventh Semester Total					22	20	650

Eighth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Class load/week	Marks
			L	T	P			
1.	Core Theory – XX		3	1	0	4	4	100
2.	Core Elective – II		3	0	0	3	3	100
3.	Open –Elective I		3	0	0	3	3	100
	Theory Sub-total		10	1	0	10	10	300
4.	B. Tech Project /2		0	0	2	8	2	200
5.	Seminar		0	0	0	2	0	50
6.	Comprehensive Viva		0	0	0	2	0	100
	Practical Sub-total		10	1	2	12	2	350
	Eighth Semester Total					22	12	650

This is the basic course structure. There may be small variations in credits depending on the requirements of a particular department. Credits in each semester may vary between 22-26.

Total Credit: 24 + 24 + 24 + 24 + 24 + 23 + 22 + 22 = 187

Programme: B. Tech. in Aerospace Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Chemistry	CH1101	3	0	0	3	100
3.	Introduction to Computing	CS1101	3	0	0	3	100
4.	Mechanics	AM1101	4	0	0	4	100
5.	Professional Communication in English	HU1101	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1171	0	0	3	2	50
7.	Computer Lab	CS1171	0	0	3	2	50
8.	Drawing Practice	AM1171	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	1	9	7	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Physics	PH1201	4	0	0	4	100
3.	Basic Electrical Engineering	EE1201	4	0	0	4	100
4.	Ecology & Environment	CE1201	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1202	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1271	0	0	3	2	50
7.	Electrical Lab	EE1271	0	0	3	2	50
8.	Workshop	WS1271	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	0	9	6	200
	Second Semester Total					24	700

*R: Required (Non-credit but with grade)

Programme: B. Tech. in Aerospace Engineering

Third Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – III	MA 2101	3	0	0	3	100
2.	Fluid Dynamics	AE 2101	3	1	0	4	100
3.	Strength of Materials	AM 2101	4	0	0	4	100
4.	Dynamics	AM 2102	4	0	0	3	100
5.	Basic Flight Mechanics	AE 2102	4	0	0	3	100
	Theory Sub-total		18	1	NIL	17	500
6.	Fluid Dynamics Laboratory	AE 2171	0	0	3	2	50
7.	Strength of Materials Laboratory	AM 2171	0	0	3	2	50
8.	Machine Drawing	AM 2172	0	0	3	2	50
9.	Seminar/Mini Project -I	AE 2191	0	0	0	2	50
	Sessional Sub-total		NIL	NIL	9	8	200
	3 rd Semester Total					25	700

Fourth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Fundamentals of Viscous Flow	AE 2201	3	1	0	4	100
2.	Advanced Strength of Materials	AE 2202	4	0	0	4	100
3.	Theory of Vibration	AE 2203	3	0	0	3	100
4.	Engineering Thermodynamics	AE 2204	4	0	0	4	100
5.	Aircraft Performance	AE 2205	3	0	0	3	100
	Theory Sub-total		17	1	NIL	18	500
6.	Computational Solid Mechanics Laboratory	AE 2271	0	0	3	2	50
7.	CAD Laboratory	AE 2272	0	0	3	2	50
8.	Vibration Laboratory	AE 2273	0	0	3	2	50
9.	Mathematical Modeling and Simulation Laboratory	AE 2274	0	0	3	2	50
	Sessional Sub-total		NIL	NIL	12	8	200
	4 th Semester Total					26	700

Programme: B. Tech. in Civil Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Chemistry	CH1101	3	0	0	3	100
3.	Introduction to Computing	CS1101	3	0	0	3	100
4.	Mechanics	AM1101	4	0	0	4	100
5.	Professional Communication in English	HU1101	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1171	0	0	3	2	50
7.	Computer Lab	CS1171	0	0	3	2	50
8.	Drawing	AM1171	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	1	9	7	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Physics	PH1201	4	0	0	4	100
3.	Basic Electrical Engineering	EE1201	4	0	0	4	100
4.	Environment & Ecology	CE1201	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1202	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1271	0	0	3	2	50
7.	Electrical Lab	EE1271	0	0	3	2	50
8.	Workshop	WS1271	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	0	9	6	200
	Second Semester Total					24	700

*R: Required (Non-credit but with grade)

Programme: B. Tech. in Civil Engineering

Third Semester

Sl. No.	Course Name	Course Code	Class Load /Week			Credit	Marks
			L	T	P		
1.	Surveying	CE2101	4	0	0	4	100
2.	Civil Engineering Materials	CE2102	4	0	0	4	100
3.	Mathematics – III	MA2101	3	0	0	3	100
4.	Solid Mechanics	AM2103	4	0	0	4	100
5.	Fluid Mechanics	AM2104	4	0	0	4	100
	Theory Sub-total		16	0	NIL	19	500
6.	Civil Engineering Drawing	CE2171	0	0	3	2	50
7.	Introduction to Civil Engineering Profession	CE2191	0	0	3	2	50
8.	Solid Mechanics Laboratory	AM2174	0	0	3	2	50
9.	Hydraulics Laboratory	AM2175	0	0	3	2	50
	Practical Sub-total		NIL	NIL	9	8	200
	Third Semester Total					27	700

Fourth Semester

Sl. No.	Course Name	Course Code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Structural Analysis I	CE2201	4	0	0	4	100
2.	Geotechnical Engineering I	CE2202	4	0	0	4	100
3.	Environmental Engineering I	CE2203	4	0	0	4	100
4.	Water Resources Engineering– I	CE2204	4	0	0	4	100
5.	Geology for Civil Engineering	ES2201	3	0	0	3	100
	Theory Sub-total		19	0	NIL	19	500
6.	Water Resources Engineering Laboratory	CE2271	0	0	3	2	50
7.	CE Materials Laboratory	CE2272	0	0	3	2	50
8.	Surveying Laboratory	CE2273	0	0	3	2	50
9.	General Civil Engineering Problems (Minor Project)	CE2291	0	0	0	2	50
	Practical Sub-total		NIL	NIL	9	8	200
	Fourth Semester Total					27	700

Programme: B. Tech. in Electrical Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Physics	PH1101	4	0	0	4	100
3.	Basic Electrical Engineering	EE1101	4	0	0	4	100
4.	Ecology & Environment	CE1101	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1102	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1171	0	0	3	2	50
7.	Basic Electrical Engineering Laboratory	EE1171	0	0	3	2	50
8.	Workshop	WS1171	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	0	9	6	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Chemistry	CH1201	3	0	0	3	100
3.	Introduction to Computing	CS1201	3	0	0	3	100
4.	Mechanics	AM1201	4	0	0	4	100
5.	Professional Communication in English	HU1201	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1271	0	0	3	2	50
7.	Computer Lab	CS1271	0	0	3	2	50
8.	Drawing	AM1271	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	1	9	7	200
	Second Semester Total					24	700

*R: Required (Non-credit but with grade)

Programme: B. Tech. in Electrical Engineering

Third Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics III		3	0	0	3	100
2.	Electrical and Electronic Measurements	EE2101	3	0	0	3	100
3.	Electrical Machines I	EE2102	3	1	0	4	100
4.	Classical Electrodynamics	EE2103	3	1	0	4	100
5.	Signals and Systems	EE2104	3	1	0	4	100
	Theory Sub-total		15	3	NIL	18	500
6.	Measurement Laboratory (Core Lab / Practical-I)	EE2171	0	0	3	2	50
7.	Electrical Machines Laboratory – I	EE2172	0	0	3	2	50
8.	Numerical Simulation and Application Tools Laboratory	EE2173	0	0	3	2	50
9.	Mini Project-I	EE2191	0	0	0	2	50
	Practical Sub-total		NIL	NIL	9	8	200
	3 rd Semester Total					26	700

Fourth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Electrical Machines –II	EE2201	3	1	0	4	100
2.	Network Theory	EE2202	3	1	0	4	100
3.	Analog Electronics	EE2203	3	0	0	3	100
4.	Control Systems I	EE2204	3	1	0	4	100
5.	Digital Electronics	EE2205	3	0	0	3	100
	Theory Sub-total		15	3	NIL	18	500
6.	Electrical Machines Laboratory-II	EE2271	0	0	3	2	50
7.	Digital Electronics and Analog Electronics Laboratory	EE2272	0	0	3	2	50
8.	Laboratory on Network Theory	EE2273	0	0	3	2	50
9.	Mini Project -II	EE2291	0	0	0	2	50
	Practical Sub-total		NIL	NIL	9	8	200
	4 th Semester Total					26	700

Programme: B. Tech. in Electronics and Telecommunication Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Physics	PH1101	4	0	0	4	100
3.	Basic Electrical Engineering	EE1101	4	0	0	4	100
4.	Ecology & Environment	CE1101	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1102	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1171	0	0	3	2	50
7.	Basic Electrical Engineering Laboratory	EE1171	0	0	3	2	50
8.	Workshop	WS1171	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	0	9	6	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Chemistry	CH1201	3	0	0	3	100
3.	Introduction to Computing	CS1201	3	0	0	3	100
4.	Mechanics	AM1201	4	0	0	4	100
5.	Professional Communication in English	HU1201	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1271	0	0	3	2	50
7.	Computer Lab	CS1271	0	0	3	2	50
8.	Drawing	AM1271	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	1	9	7	200
	Second Semester Total					24	700

Programme: B. Tech. in Electronics and Telecommunication Engineering

Third Semester

Sl no	Course Name	Course Code	Class Load / Week			Credit	Full Marks
			L	T	P		
1	Mathematics III	MA2101	3	0	0	3	100
2	Network Theory	ET2101	3	1	0	4	100
3	Basic Electronics	ET2102	3	0	0	3	100
4	Electronic Devices	ET2103	4	0	0	4	100
5	Signals and Systems	ET2104	4	0	0	4	100
	Theory Sub Total					18	500
6	Network Theory Lab	ET2171	0	0	3	2	50
7	Basic Electronics Lab	ET2172	0	0	3	2	50
8	Electronic Devices Lab	ET2173	0	0	3	2	50
9	Modelling and Simulation Lab	ET2174	0	0	3	2	50
	Sessional Sub Total					8	200
3 rd Semester Total						26	700

Fourth Semester

Sl no	Course Name	Course Code	Class Load / Week			Credit	Full Marks
			L	T	P		
1	Analog Electronics	ET2201	4	0	0	4	100
2	Digital Electronics	ET2202	4	0	0	4	100
3	Microelectronics Technology	ET2203	3	0	0	3	100
4	Electronic Instrumentation and Control	ET2204	4	0	0	4	100
5	Electromagnetic Theory and Radio Wave Propagation	ET2205	3	0	0	3	100
	Theory Sub Total					18	500
6	Analog Electronics Lab	ET2271	0	0	3	2	50
7	Digital Electronics Lab	ET2272	0	0	3	2	50
8	Microelectronics Technology Lab	ET2273	0	0	3	2	50
9	Electronic Instrumentation and Control Lab	ET2274	0	0	3	2	50
	Sessional Sub Total					8	200
4 th Semester Total						26	700

Programme: B. Tech. in Computer Science and Technology

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Physics	PH1101	4	0	0	4	100
3.	Basic Electrical Engineering	EE1101	4	0	0	4	100
4.	Ecology & Environment	CE1101	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1102	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1171	0	0	3	2	50
7.	Basic Electrical Engineering Laboratory	EE1171	0	0	3	2	50
8.	Workshop	WS1171	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	0	9	6	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Chemistry	CH1201	3	0	0	3	100
3.	Introduction to Computing	CS1201	3	0	0	3	100
4.	Mechanics	AM1201	4	0	0	4	100
5.	Professional Communication in English	HU1201	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1271	0	0	3	2	50
7.	Computer Lab	CS1271	0	0	3	2	50
8.	Drawing	AM1271	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	1	9	7	200
	Second Semester Total					24	700

Programme: B. Tech. in Computer Science and Technology

Third Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – III		3	0	0	3	100
2.	Discrete Structures	CS2101	4	0	0	4	100
3.	Digital Logic	CS2102	3	0	0	3	100
4.	Data Structures	CS2103	3	0	0	3	100
5.	Signals and Systems	CS2104	3	0	0	3	100
	Theory Sub-total		16	0	NIL	16	500
6.	Digital Logic Laboratory	CS2171	0	0	3	2	50
7.	Data Structures Laboratory	CS2172	0	0	3	2	50
8.	Signals and Systems Laboratory	CS2173	0	0	3	2	50
9.	Seminar/Minor Project	CS2191	0	0	0	2	50
	Sessional Sub-total		NIL	NIL	9	8	200
	3 rd Semester Total					24	700

Fourth Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Design and Analysis of Algorithm	CS2201	3	0	0	3	100
2.	Computer Architecture and Organization – I	CS2202	3	0	0	3	100
3.	Programming Paradigms	CS2203	3	0	0	3	100
4.	Theory of Computation	CS2204	4	0	0	4	100
5.	Introduction to Data Science	CS2205	3	0	0	3	100
	Theory Sub-total		16	0	NIL	16	500
6.	Algorithm Laboratory	CS2271	0	0	3	2	50
7.	Computer Architecture and Org. Lab.	CS2272	0	0	3	2	50
8.	Programming Paradigms Laboratory	CS2273	0	0	3	2	50
9.	Minor Proj contd.	CS2291	0	0	0	2	50
	Sessional Sub-total		NIL	NIL	9	8	200
	4 th Semester Total					24	700

Programme: B. Tech. in Information Technology

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Physics	PH1101	4	0	0	4	100
3.	Basic Electrical Engineering	EE1101	4	0	0	4	100
4.	Ecology & Environment	CE1101	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1102	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1171	0	0	3	2	50
7.	Basic Electrical Engineering Laboratory	EE1171	0	0	3	2	50
8.	Workshop	WS1171	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	0	9	6	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Chemistry	CH1201	3	0	0	3	100
3.	Introduction to Computing	CS1201	3	0	0	3	100
4.	Mechanics	AM1201	4	0	0	4	100
5.	Professional Communication in English	HU1201	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1271	0	0	3	2	50
7.	Computer Lab	CS1271	0	0	3	2	50
8.	Drawing	AM1271	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	1	9	7	200
	Second Semester Total					24	700

Programme: B. Tech. in Information Technology

Third Semester

Sl. No.	CODE	Course Name	Class Load Per week			Credit	Marks
			L	T	P		
1		Mathematics – III	3	0	0	3	100
2	IT2101	Data Structure and Algorithms	3	1	0	4	100
3	IT2102	Digital Logic and Circuit Design	3	1	0	4	100
4	IT2103	Discrete Mathematics and Graph Theory	3	0	0	3	100
5	IT2104	Signals and Systems	3	0	0	3	100
		Theory Sub-Total	15	2	NIL	17	500
6	IT2171	Data structure and Algorithm Lab	0	0	3	2	50
7	IT2172	Digital Logic and Circuit Design Lab	0	0	3	2	50
8	IT2173	Programming Lab	0	0	3	2	50
9	IT2191	Seminar/Mini Project: Seminar	0	0	0	2	50
		Practical Sub-Total	NIL	NIL	9	8	200
		Third Semester Total				25	700

Fourth Semester

Sl. No.	code	Course Name	Class Load Per week			Credit	Marks
			L	T	P		
1	IT 2201	Communication Systems	3	0	0	3	100
2	IT2202	Computer Organization and Architecture	3	1	0	4	100
3	IT2203	Computer Graphics	3	0	0	3	100
4	IT2204	Formal language and Automata Theory	3	0	0	3	100
5	IT2205	Object Oriented System Design	3	0	0	3	100
		Theory Sub-Total	15	1	NIL	16	500
6	IT2271	Communication Systems Lab	0	0	3	2	50
7	IT2272	Computer Organization and Architecture Lab	0	0	3	2	50
8	IT2273	Computer Graphics Lab	0	0	3	2	50

9	IT2291	Lab/Practical –VII/Mini Project: Mini Project	0	0	3/0	2	50
		Practical Sub-Total	NIL	NIL	12/9	8	200
		Fourth Semester Total				24	700

Programme: B. Tech. in Mechanical Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics-I	MA 1101	3	1	0	4	100
2.	Chemistry	CH 1101	3	0	0	3	100
3.	Introduction to Computing	CS 1101	3	0	0	3	100
4.	Mechanics	AM 1101	4	0	0	4	100
5.	Professional Communication in English	HU 1101	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH 1171	0	0	3	2	50
7.	Computer Lab	CS 1171	0	0	3	2	50
8.	Drawing Practice	AM 1171	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA 1171				R*	
	Practical Sub-total		0	1	9	7	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA 1201	3	1	0	4	100
2.	Physics	PH 1201	4	0	0	4	100
3.	Basic Electrical Engineering	EE 1201	4	0	0	4	100
4.	Environment and Ecology	CE 1201	3	0	0	3	100
5.	Sociology & Professional Ethics	HU 1201	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH 1271	0	0	3	2	50
7.	Basic Electrical Engineering Lab	EE 1271	0	0	3	2	50
8.	Workshop Practice	WS 1271	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA 1271				R*	
	Practical Sub-total		0	0	9	6	200
	Second Semester Total					24	700

*R: Required (Non-credit but with grade)

Programme: B. Tech. in Mechanical Engineering

Third Semester

Sl. No	Subject code	Course Name	Class Load/Week			Credit	Marks
			L	T	P		
1.	MA 2101	Mathematics – III	3	0	0	3	100
2.	AM 2101	Strength of Materials	4	0	0	4	100
3.	AM 2102	Dynamics	4	0	0	4	100
4.	ME2101	Basic Thermodynamics	3	0	0	3	100
5.	ME2102	Numerical Methods in Engineering	3	0	0	3	100
		Theory Sub-total	17	0	0	17	500
6.	AM 2171	Strength of Materials Laboratory	0	0	3	2	50
7.	AM 2172	Machine Drawing	0	0	3	2	50
8.	ME2171	Numerical Methods in Engineering Lab	0	0	3	2	50
9.	ME2172	Minor Project	0	0	0	2	50
		Sessional Sub-total	0	0	9	8	200
		3 rd Semester Total				25	700

Fourth Semester

Sl. No	Subject code	Course Name	Class Load/Week			Credit	Marks
			L	T	P		
1.	AM 2201	Fluid Mechanics	4	0	0	4	100
2.	ME2201	Applied Thermodynamics	3	1	0	4	100
3.	ME2202	Kinematics of Mechanisms and Robots	3	0	0	3	100
4.	ME2203	Fundamentals of Machine Design	3	0	0	3	100
5.	ME2204	Engineering Materials and Processes	3	1	0	4	100
		Theory Sub-total	16	2	0	18	500
6.	AM 2271	Fluid Mechanics Laboratory	0	0	3	2	50
7.	ME2271	Applied Thermodynamics Lab	0	0	3	2	50
8.	ME2272	Machine Shop Practice	0	0	3	2	50
9.	ME2273	CAD Modelling and Simulation Lab	0	0	3	2	50
		Sessional Sub-total	0	0	12	8	200
		4 th Semester Total				26	700

Programme: B. Tech. in Metallurgy and Materials Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Chemistry	CH1101	3	0	0	3	100
3.	Introduction to Computing	CS1101	3	0	0	3	100
4.	Mechanics	AM1101	4	0	0	4	100
5.	Professional Communication in English	HU1101	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1171	0	0	3	2	50
7.	Computer Lab	CS1171	0	0	3	2	50
8.	Drawing Practice	AM1171	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	1	9	7	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Physics	PH1201	4	0	0	4	100
3.	Basic Electrical Engineering	EE1201	4	0	0	4	100
4.	Ecology & Environment	CE1201	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1202	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1271	0	0	3	2	50
7.	Electrical Lab	EE1271	0	0	3	2	50
8.	Workshop	WS1271	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	0	9	6	200
	Second Semester Total					24	700

*R: Required (Non-credit but with grade)

Programme: B. Tech. in Metallurgy and Materials Engineering

Third Semester

Sl. No.	Course Name	Course Code	Class Load/Week			Credit	Marks
			L	T	P		
1	Mathematics-III	MA21xx	3	0	0	3	100
2	Metallurgical Thermodynamics	MM2101	3	1	0	4	100
3	Transport Phenomena and Rate Processes	MM2102	3	0	0	3	100
4	Physical Metallurgy of Ferrous Alloys	MM2103	3	0	0	3	100
5	Physics of Materials	MM2104	3	0	0	3	100
	Theory Sub-Total		15	1	0	16	500
6	Transport Phenomena and Rate Processes Lab.	MM2171	0	0	3	2	50
7	Physical Metallurgy Lab.	MM2172	0	0	3	2	50
8	Physics of Materials lab.	MM2173	0	0	3	2	50
9	Mini Project	MM2191	0	0	0	2	50
	Sessional Sub-Total		0	0	9	8	200
	3rd Semester Total					24	700

Fourth Semester

Sl. No.	Course Name	Course Code	Class Load / Week			Credit	Marks
			L	T	P		
1	Principles of Extractive Metallurgy	MM2205	3	0	0	3	100
2	Heat Treatment	MM2206	3	1	0	4	100
3	Deformation Behaviour of Materials	MM2207	3	0	0	3	100
4	Computational Materials Engineering	MM2208	3	0	0	3	100
5	Iron Making	MM2209	3	0	0	3	100
	Theory Sub-Total		15	1	0	16	500
6	Extractive Metallurgy Lab.	MM2274	0	0	3	2	50
7	Heat Treatment Lab.	MM2275	0	0	3	2	50
8	Deformation Behaviour of Materials Lab.	MM2276	0	0	3	2	50
9	Computational Materials Engineering Lab.	MM2277	0	0	3	2	50
	Sessional Sub-Total		0	0	12	8	200
	3rd Semester Total					24	700

Programme: B. Tech. in Mining Engineering

First Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – I	MA1101	3	1	0	4	100
2.	Chemistry	CH1101	3	0	0	3	100
3.	Introduction to Computing	CS1101	3	0	0	3	100
4.	Mechanics	AM1101	4	0	0	4	100
5.	Professional Communication in English	HU1101	3	0	0	3	100
	Theory Sub-total		16	1	0	17	500
6.	Chemistry Lab	CH1171	0	0	3	2	50
7.	Computer Lab	CS1171	0	0	3	2	50
8.	Drawing Practice	AM1171	0	1	3	3	50
9.	NSS/NCC/PT/Yoga	SA1171				R*	
	Practical Sub-total		0	1	9	7	200
	First Semester Total					24	700

*R: Required (Non-credit but with grade)

Second Semester

Sl. No	Course Name	Course code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – II	MA1201	3	1	0	4	100
2.	Physics	PH1201	4	0	0	4	100
3.	Basic Electrical Engineering	EE1201	4	0	0	4	100
4.	Ecology & Environment	CE1201	3	0	0	3	100
5.	Sociology & Professional Ethics	HU1202	3	0	0	3	100
	Theory Sub-total		17	1	0	18	500
6.	Physics Lab	PH1271	0	0	3	2	50
7.	Electrical Lab	EE1271	0	0	3	2	50
8.	Workshop	WS1271	0	0	3	2	50
9.	NSS/NCC/PT/Yoga	SA1271				R*	
	Practical Sub-total		0	0	9	6	200
	Second Semester Total					24	700

*R: Required (Non-credit but with grade)

Programme: B. Tech. in Mining Engineering

Third Semester

Sl. No	Course Name	Subject Code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Mathematics – III		3	0	0	3	100
2.	Electrical machines and power system in mines	MN2101	3	1	0	4	100
3.	Exploration and Shaft Sinking	MN2102	3	0	0	3	100
4.	Mine Support	MN2103	3	0	0	3	100
5.	Drilling and Blasting	MN2104	3	0	0	3	100
THEORY SUB-TOTAL			15	1	NIL	16	500
6.	Electrical machines and power system in mines lab	MN2171	0	0	3	2	50
7.	Mine visit	MN2172	0	0	3	2	50
8.	Modelling & Simulation Lab	MN2173	0	0	3	2	50
9.	Seminar/Minor Project	MN2191	0	0	0	2	50
PRACTICAL SUB-TOTAL			0	0	9	8	200
Third Semester Total						24	700

Fourth Semester

Sl. No	Course Name	Subject Code	Class Load/Week			Credit	Marks
			L	T	P		
1.	Geology	MN2201	3	0	0	3	100
2.	Heat Power and theory of Machines	MN2202	3	1	0	4	100
3.	Fluid Mechanics and Fluid Machines	AM2202	3	0	0	3	100
4.	Underground Coal Mining	MN2204	3	0	0	3	100
5.	Underground Mine Environment	MN2205	3	0	0	3	100
THEORY SUB-TOTAL			15	1	0	16	500
6.	Geology Lab	MN2271	0	0	3	2	50
7.	Heat Power and theory of Machines Lab	MN2272	0	0	3	2	50
8.	Fluid Mechanics Lab	AM2272	0	0	3	2	50
9.	Underground mine environment Lab	MN2274	0	0	3	2	50
PRACTICAL SUB-TOTAL			0	0	12	8	200
Fourth Semester Total						24	700

Programme: B. Arch. in Architecture

First Semester

Code	Course	ContactPeriods/Week			Marks	Credit
		L	T	S		
TheoreticalSubjects						
AP1101	DesignFundamentals	3	0	0	100	3
AP1102	MaterialsandMethodsof ConstructionI	3	0	0	100	3
MA1102	MathematicsIA	3	0	0	100	3
AM1103	EngineeringMechanics	3	0	0	100	3
HU1103	EnglishforEngineers	2	0	0	50	2
Subtotal		14	0	0	450	14
SessionalSubjects						
AP1171	BasicDesign	0	0	6	150	4
AP1172	DescriptiveGeometryI	0	0	6	150	4
WS1171	WorkshopPractice	0	0	3	50	2
Subtotal		0	0	15	350	10
TOTAL		29			800	24
SA1171	Non-CreditCourse(NCC/PhysicalTraining)	0	0	2	50	

Second Semester

Code	Course	ContactPeriods/Week			Marks	Credit
		L	T	S		
Theoretical Subjects						
AP1201	MaterialsandMethodsof ConstructionII	3	0	0	100	3
MA1202	MathematicsIIA	3	0	0	100	3
CS1201	Introductionto Computing&Programming	3	0	0	100	3
AM1203	Strengthof Materials	3	0	0	100	3
CE1202	FundamentalsofEcologyandEnvironmental Pollution	2	0	0	50	2
Subtotal		14	0	0	450	14
Sessional Subjects						
AP1271	ArchitecturalDesignStudioI	0	0	6	150	4
AP1272	DescriptiveGeometryII	0	0	6	150	4
AP1273	DetailsofConstructionPracticeI	0	0	3	100	2
CS1271	ComputerLab	0	0	3	50	2
Subtotal		0	0	18	450	12
TOTAL		32			900	26
SA1271	Non-CreditCourse(NCC/PhysicalTraining)	0	0	2	50	

Programme: B. Arch. in Architecture

Third Semester

Code	Subject	ContactPeriods/Week			Marks	Credit
		L	T	S		
Theoretical Subjects						
AP2101	Evolutionof ArchitectureI	3	0	0	100	3
AP2102	Materials and Methodsof Construction III	3	0	0	100	3
AP2103	Landscape Architecture and Site Planning	3	0	0	100	3
AP2104	Plumbing Services	3	0	0	100	3
CE2117	Structural Analysis	3	0	0	100	3
CE2118	Surveying	2	0	0	50	2
	Subtotal	17	0	0	550	17
Sessional Subjects						
AP2171	Architectural Design Studio II	0	0	9	200	6
AP2172	Details of Construction Practice II	0	0	3	100	2
AP2173	Computer Aided Designand Drawing	0	0	3	100	2
	Subtotal	0	0	15	400	10
TOTAL		32			950	27

Fourth Semester

Code	Subject	ContactPeriods/ Week			Marks	Credit
		L	T	S		
Theoretical Subjects						
AP2201	Evolution of Architecture II	3	0	0	100	3
AP2202	Materials and Methods of Construction IV	3	0	0	100	3
AP2203	Climatology	2	0	0	50	2
AP2204	Building Services I: Illumination and Electrical Installations	3	0	0	100	3
CE2217	Design of Reinforced Concrete Structures	3	0	0	100	3
	Subtotal	14	0	0	450	14
Sessional Subjects						
AP2271	Architectural Design Studio III	0	0	9	200	6
AP2272	Details of Construction Practice III	0	0	3	100	2
AP2273	Landscape and Site Planning Practice	0	0	3	100	2
CE2287	Surveying Practice	0	0	3	100	2
AP2291	Educational Tour I	~12days			50	2
	Subtotal	0	0	18	550	14
TOTAL		32			1000	28