			Dr.Am	bedkar Institute of T	echnology, Beng	aluru – 5	60 056						
			Scheme of Te Outcome Based	aching and Examin Education(OBE) and	ation from the A d Choice Based	cademic Credit S	Year 2 System	2020-21 (CBCS)					
				I SEMESTER B.J	E (PHYSICS GR	OUP)	, <b>j</b> 500111	(0200)					
GI				artment	ting	Teach Hou /We	ning Irs ek		Exa	nminatio	n		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
SI. No	Οο Οοι	urse and 1rse Code	Course Title	Feaching Dep	Paper Set Board	Theory Lecture	Tutorial	Practical/ Drawing	uration in hours	IE Marks	EE Marks	otal Marks	Credit
		1				L	Т	Р	D	0	S	T	
1	BC	18MA11	Calculus and Linear Algebra	Mathematics	Science	3	2		03	50	50	100	4
2	BC	18PH12	Engineering Physics	Physics	Science	4			03	50	50	100	4
3	ES	18EE13	Basic Electrical Engineering	E and E Engineering	E and E Engineering	2	2		03	50	50	100	3
4	ES	18CV14	Civil Engineering and Mechanics	Civil Engineering	Civil Engineering	2	2		03	50	50	100	3
5	ES	18MEL15	Engineering Graphics and Design	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2		2	03	50	50	100	3
6	BC	18PHL16	Engineering Physics Laboratory	Physics	Science			2	03	50	50	100	1
7	ES	18EEL17	Basic Electrical Engineering Laboratory	E and E Engineering	E and E Engineering			2	03	50	50	100	1
8	Hu	18HS11/ 18HS12	English/ Kannada	Humanities	Humanities	1		2	02	50	50	100	1
			1	1	TOTAL	13	06	08	21	350	350	700	20

				II SEMESTED D F	CHEMISTDV C								
						Teach Hou /We	ning Irs ek		Exa	minatio	n		
Sl. No	C Ca	ourse and ourse Code	Course Title	Teachin Departme	Paper Sett Board	Theory Lecture	+ Tutorial	Drawing	Duration in hours	CIE Marks	SEE Marks	Fotal Marks	Credits
1	BC	18MA21	Advanced Calculus and Numerical Methods	Mathematics	Science	3	2		03	50	50	100	4
2	BC	18CH22	Engineering Chemistry	Chemistry	Science	4			03	50	50	100	4
3	ES	18CS23	C Programming for Problem Solving	Computer Science and	Computer Science and	2	2		03	50	50	100	3
4	ES	18ELN24	Basic Electronics	ECE/E and I/ TC	E and C	2	2		03	50	50	100	3
5	ES	18ME25	Elements of Mechanical Engineering	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2	2		03	50	50	100	3
6	BC	18CHL26	Engineering Chemistry Laboratory	Chemistry	Science			2	03	50	50	100	1
7	ES	18CSL27	Computer Programming Laboratory	Computer Science and Engineering	Computer Science and Engineering			2	03	50	50	100	1
8	8 Hu 18HS21/ 18HS22 English/Kannada Humanities Humanities 1 2 02 50 50 100 1									1			
					TOTAL	13	08	06	23	400	400	800	20
Note:	BC: Scie	nce Course, E	S: Engineering Science, Hu: Hu	manity and Social So	cience.								
Defin	ition of C	redit:	1 hour Lecture (L) per week per	semester =1 Credit									
			<ul><li>2 hour Tutorial (T) per week per</li><li>2 hour Practical/Laboratory/Drav</li></ul>	semester =1 Credit wing (P) per week per	semester =1 Cred	it.							

			Dr.A	Ambedkar Institute o	f Technology, Be	ngaluru-	56						
	Scheme of Teaching and Examination from the Academic Year 2020-21 Outcome Based Education(OBE) and Choice Based Credit System (CBCS)												
			Outcome Based	Education(OBE) and	CHEMISTRY CI	redit Sy	ystem	(CBCS)					
	SI Course and			te t		Teacl Hou /We	ning Irs ek		Exa	aminatio	n		
Sl. No	Co Cot	urse and ırse Code	Course Title	Teaching Depa	Paper Sett Board	Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	otal Marks	Credits
						L	Т	Р		•	•1	L	
1	BC	18MA11	Calculus and Linear Algebra	Mathematics	Science	3	2		03	50	50	100	4
2	BC	18CH12	Engineering Chemistry	Chemistry	Science	4			03	50	50	100	4
3	ES	18CS13	C Programming for Problem Solving	Computer Science and Engineering	Computer Science and Engineering	2	2		03	50	50	100	3
4	ES	18EC14	Basic Electronics	ECE/E and I/ TC	E and C Engineering	2	2		03	50	50	100	3
5	ES	18ME15	Elements of Mechanical Engineering	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2	2		03	50	50	100	3
6	BC	18CHL16	Engineering Chemistry Laboratory	Chemistry	Science			2	03	50	50	100	1
7	ES	18CSL17	Computer Programming Laboratory	Computer Science and Engineering	Computer Science and Engineering			2	03	50	50	100	1
8	HS	18HS11/ 18HS12	English/ Kannada	Humanities	Humanities	1		2	02	50	50	100	1
				1	TOTAL	13	08	06	23	350	350	700	20

			1	II SEMESTER B.I	E (PHYSICS GRO	JUP)		1					
Sl. No	Сои	urse and	Course Title	ing nent	d	Teacl Hou /We	ning 1rs ek		Exa	nminatio	n		
	Cou	rse Code		Teachi Departr	Paper Se Boar	Theory Lecture Tutorial		Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BC	18MA21	Advanced Calculus and Numerical Methods	Mathematics	Science	3	2		03	50	50	100	4
2	BC	18PH22	Engineering Physics	Physics	Science	4			03	50	50	100	4
3	ES	18EE23	Basic Electrical Engineering	E and E Engineering	E and E Engineering	2	2		03	50	50	100	3
4	ES	18CV24	Civil Engineering and Mechanics	Civil Engineering	Civil Engineering	2	2		03	50	50	100	3
5	ES	18MEL25	Engineering Graphics and Design	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2		2	03	50	50	100	3
6	BC	18PHL26	Engineering Physics Laboratory	Physics	Science			2	03	50	50	100	1
7	ES	18EEL27	Basic Electrical Engineering Laboratory	E and E Engineering	E and E Engineering			2	03	50	50	100	1
8	HS	18HS21/ 18HS22	English/ Kannada	glish/Kannada Humanities Humanities 1 2 02 50 50 100 1								1	
					TOTAL	13	06	08	23	400	400	800	20
		~~~~											
Note:	BS: Scier	nce Course, E	S: Engineering Science, Hu: Hum	anity and Social Sci	ence.								
Defin	ition of C	redit:	1 hour Lecture (L) per week per se	emester = 1 Credit									
			2 hour Tutorial (T) per week per s	emester =1 Credit									
	2 hour Practical/Laboratory/Drawing (P) per week per semester =1 Credit.												

			<b>Dr. Ambedkar Insti</b> SCHEME OF TEACHING AN	<b>tute of Technology,</b> I ID EXAMINATION 1	Bengaluru- from Acade	<b>560 056</b> mic Year	2020-21					
	B.E (Civil Engineering) Outcome Based Education (OBE) and Choice Based Credit System (CBCS)											
III SE	MESTI	ER	Outcome Dased Education (C	DL) and choice Da	seu creun	bystem	(CDCD)					
					Teachin	ng Hou	rs /Week		Exami	nation		
SI. No	Co Co	ourse and urse Code	Course Title	Teaching epartment	Theory Lecture	Tutorial	Practica 1/ Drawing	ration in hours	E Marks	E Marks	al Marks	Credits
				<u> </u>	L	Т	Р	Du	СП	SE	Tot	
1	BC	18MA31	Transform calculus and Special functions	Mathematics	2	2		03	50	50	100	3
2	PC	18CV31	Building Materials and Construction	CV	3			03	50	50	100	3
3	PC	18CV32	Strength of Materials	CV	4			03	50	50	100	4
4	PC	18CV33	Surveying	CV	4			03	50	50	100	4
5	PC	18CV34	Fluid Mechanics	CV	4			03	50	50	100	4
6	PC	18CV35	Applied Engineering Geology	CV	3			03	50	50	100	3
7	PC	18CVL36	Civil Engg. Material Testing Laboratory	CV			2	03	50	50	100	1
8	PC	18CVL37	Surveying Practice	CV			3	03	50	50	100	1
9	HS	18HS31/32	Constitution of India Professional Ethics and Human Rights/ Environmental Science	HS/CV	1			02	50	50	100	1
10	MC	18HS33	Soft skills (MC)	Humanities	04	-		03	50	-	50	0
	TOTAL         19         02         05         29         500         450         950         24											
	Course, prescribed to lateral entry Diplome holders admitted to III somester of Engineering prescreme											
11	MC		Desis Enge Methematics	Mothematica			or Engine	$\frac{1}{02}$	50	.o	50	0
11	MC	TOMADOL	Dasic Engg Mathematics - 1	wiamematics	02	01		03	50		50	0
Note:	ote: BC: Science Course, PC: Professional Core. Hu: Humanities, MC: Mandatory Course.											

			Dr. Ambedkar Institute	of Technology, Ben	galuru-56	0 056 0 Voor 2	020.21					
	SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21 B.E (Civil Engineering) Outcome Based Education (OBE) and Choice Based Credit System (CBCS)											
IV SEN	ГГСТГГ	•	Outcome Based Education (OBE)	and Choice Based	Credit S	ystem (	CBCS)					
IV SEIV.	IESIEN	<u> </u>			Teachin	g Hour	s /Week		Exan	ination		
Sl. No	Course and Course code		Course Title	Teaching Department	Theory Lecture	L Tutoria	H     H     Lactical     H       Drawing     Drawing     H	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	$\begin{array}{c c c c c c c c c c c c c c c c c c c $											
2	PC	18CV41	Water Supply Engineering	CV	3			03	50	50	100	3
3	PC	18CV42	Analysis of Determinate Structures	CV	4			03	50	50	100	4
4	PC	18CV43	Hydraulics and Hydraulic Machines	CV	4			03	50	50	100	4
5	PC	18CV44	Hydrology and Irrigation Engineering	CV	3			03	50	50	100	3
6	PC	18CV45	Concrete Technology	CV	4			03	50	50	100	4
7	PC	18CVL46	Computer Aided Building Planning and Drawing	CV		1	3	03	50	50	100	1
8	PC	18CVL47	Concrete & Highway materials Lab	CV			2	03	50	50	100	1
9	HS	18HS41/42	Constitution of India Professional Ethics and Human Rights/ Environmental Science	HS/CV	1			02	50	50	100	1
10	MC	18HS43	Employability skills (MC)	Humanities	04	-		03	50	-	50	0
	TOTAL         25         03         05         29         500         450         950         24											
			Course prescribed to lateral entry Diploma h	olders admitted to	III seme	ster of 1	Engineeri	ng prog	rams			
	MC	18MAD41	Basic Engg Mathematics - II	Mathematics	02	01		03	50		50	0
Note: B ENV: E	Note: BC: Science Course, PC: Professional Core. Hu: Humanities, NCMC: Non-Credit Mandatory Course. ENV: Environmental Studies, CIP: Constitution of India Professional Ethics and Human Rights											

			Dr. Ambedkar SCHEME OF TEACHING	<b>Institute o</b> F AND EX	of Technolog	<b>gy, Benga</b>	aluru-560 0 Academic Y	<b>56</b> Zear 2020-2	.1			
	B.E (Civil Engineering) Outcome Based Education (OBE) and Choice Based Credit System (CBCS)											
VSE	Outcome Based Education (OBE) and Choice Based Credit System (CBCS)           ' SEMESTER											
v SI					Teachin	g Hours	/Week		Exami	ination		
Sl. N o	Co Coi	urse and 1rse code	Course Title	Teaching Department	Theory Lectur e	Tutori al	Practic al/ Drawi	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	Т	Р					
1	HS	18HS51/52	M&E / IPR (title as per BOS decision)	Hu	3			03	50	50	100	3
2	PC	18CV51	Wastewater Treatment and Disposal	CV	3			03	50	50	100	3
3	PC	18CV52	Design of RCC Structural Elements	CV	4			03	50	50	100	4
4	PC	18CV53	Analysis of Indeterminate Structures	CV	4			03	50	50	100	4
5	PC	18CV54	Geotechnical Engineering	CV	2	2		03	50	50	100	3
6	PE	18CV55X	Professional Elective - 1	CV	3			03	50	50	100	3
7	OE	18CV56X	Open Elective - A	CV	3			03	50	50	100	3
8	PC	18CVL57	Hydraulics and Hydraulic Machinery Laboratory	CV			2	03	50	50	100	1
9	PC	18CVL58	Computer Aided Design Laboratory	CV			2	03	50	50	100	1
10	HS	18HS55	Placement Training	Hu	2			03	50		50	PP/NP
				TOTAL	25		4	30	500	450	950	25
				]	Electives							
Cou	rse cod	e	Professional Electives - 1	Students	can select a	ny one of	the open e	lectives (Pl	ease refer	to consolic	lated list of	Dr. AIT
180	CV551	Transport	ation Engineering	for open electives) offered by any Department.								
180	CV552	Theory of	Elasticity	Selection	of an open of	elective is	s not allowe	d provided			6.1	
180	18CV553         Ground Improvement Techniques           18CV554         Advanced Surveying				• The candidate has studied the same course during the previous semesters of the programme							
180	<u>2V354</u>	Advanced	1 Surveying	• The sy	llabus conte	ent of op	en elective	1s similar	to that of	Departmen	ntal core co	ourses or
OPEN ELECTIVE - A					vilar course	under (	anv catago	ry is prop	cribed in	the highe	r comostor	s of the
180	<sup>7</sup> V561	Air Pollut	tion and Control	brogra	mai course,		any categol	ry, is pies		the inglie	a semester	s or the
18CV561Air Pollution and ControlR18CV562Integrated Solid Waste ManagementR					ion to electiv	ves shall	be docume	nted under	the guidance	ce of Prog	ramme Coo	ordinator/

	Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21 B.E (Civil Engineering)												
	Outcome Based Education (OBE) and Choice Based Credit System (CBCS)												
VI	SEME	STER	[			Taaah	ng Uouw	Wool		Evomi	nation		
SI. N o	Co Co	ourse and ourse code	Course Title	Teaching	Jepartment	Theory Lectur e	Tutori al	Practic al/ Drawi	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
	110	10110 61/60			<b>–</b>	L	Т	Р				100	
1	HS	18HS61/62	M&E/IPR	H	lu	3			03	50	50	100	3
2	PC	Railways Airport Tunnel and Harbour     CV     3     2      03     50     50     100     4											
3	PC	PC18CV62Railways, Airport, Tunnel and Harbour EngineeringCV30350501003											
4	PC	PC       18CV63       Foundation Engineering       CV       2       2        03       50       50       100       3											
5	PE	18CV64X         Professional Elective - 2         CV         3          03         50         50         100         3											
6	OE	18CV65X	Open Elective – B	C	CV	3			03	50	50	100	3
7	PC	18CVL66	Computer Aided Drawing of RC and St structures	ceel C	CV			2	03	50	50	100	1
8	PC	18CVL67	Geotechnical Engineering Laboratory	С	CV			2	03	50	50	100	1
9	Μ	18CVM68	Mini-Project						03	50	50	100	2
10	PC	18CVL69	Extensive Survey Project	C	CV			2	03	50	50	100	1
11	HS	18HS66	Placement Training	Н	Iu	2			03	50		50	PP/NP
				TOTA	AL	20	2	6	33	550	500	1050	24
Not	te: PC:	Professional	Core, PE: Professional Elective, OE: C	)pen Elective, M	<b>AP:</b> ]	Mini-Pro	ject, INT	: Internshi	ip.				
Int	ernship	: All the stude	ents admitted to III year of BE have to un	dergo mandatory	y int	ernship o	f 4 weeks	during the	vacations	s of VI and	l VII sem	esters and	d /or VII
and	VIII se	emesters.											
ΑU	A University examination will be conducted during VIII semester and prescribed credit are added to VIII semester.												
Inte	Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as												
fail	ed and I	have to comple	ete during subsequent University examin	ation after satisfy	$\frac{y}{\cdot}$ the	e internshi	p require	ments.					
				Elect	ives				/ <b>D</b>				
	ode		Professional Electives - 2					Open Elec	cuve - B				
180	V641	Pre-Stressed	Concrete	Students can se	elect	any one	of the op	en elective	s (Please	refer to co	onsolidate	d list of	Dr AIT
180	V642	Alternate Bu	ilding Materials and Technologies	for open electiv	ves) (	offered by	z anv Den	artment	s (1 lease		momune		<b>D</b> 1, 111
180	18CV643 Traffic Engineering Selection of an open elective is not allowed provided,												

18CV644	Open Channel Hydraulics	• The candidate has studied the same course during the previous semesters of the programme.
18CV645	Earth and Earth Retaining Structures	• The syllabus content of open elective is similar to that of Departmental core courses or
	<b>Open Elective - B</b>	professional electives.
18CV651	Integrated Solid Waste Management	• A similar course, under any category, is prescribed in the higher semesters of the
18CV652	Photogrammetry and Remote Sensing	programme.
		Registration to electives shall be documented under the guidance of Programme Coordinator/
		Mentor.

# Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21 B.E (Civil Engineering) Outcome Based Education (OBE) and Choice Based Credit System (CBCS) VII SEMESTER Teaching Hours /Week Examination

						0						
S1. No	Cou Cou	urse and Irse code	Course Title	Teaching Department	Theory Lecture	F Tutorial	Practical	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	MC	18HS71/72	CMEP / OSHA	IM/CV	2 2		P	03	50	50	100	2
2	PC	18CV71	Design of RC & Steel Structures	CV	4			03	50	50	100	4
3	PC	18CV72	Estimation and Valuation	CV	4			03	50	50	100	4
4	PE	18CV73X	Professional Elective - 3	CV	3			03	50	50	100	3
5	PE	18CV74X	Professional Elective - 4	CV	3			03	50	50	100	3
6	OE	18CV75X	Open Elective - C	CV	3			03	50	50	100	3
7	PC	18CVL76	Environmental Engg. Laboratory	CV			2	03	50	50	100	1
8	PC	18CVL77	Advanced Civil Engg. Laboratory	CV			2	03	50	50	100	1
8	Project	18CVP78	Project Work Phase - I	CV			2	03	50	50	100	2
9	INT	18CVI79	Internship	(If not co	ompleted af	ter VI sem	ester examina acations of V	tions, it has II and VIII	s to be car semesters	ried out du	ring the	
			TOTAL	•	19		6	27	450	450	900	23
Note:												

PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course

CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration

### Internship:

All the students admitted to III year of BE have to undergo mandatory internship of 4 weeks during the vacations of VI and VII semesters and /or VII and VIII semesters. A SEE examination will be conducted during VIII semester and prescribed credits shall be added to VIII semester.

Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as failed and have to complete during subsequent SEE examination after satisfy the internship requirements.

		Electives
Course code	<b>Professional Electives - 3</b>	Open Elective - B
18CV731	Pavement Materials and Construction	Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT for open
18CV732	Photogrammetry and Remote Sensing	electives) offered by any Department.
18CV733	Environmental Impact Assessment	$\checkmark$ The candidate has studied the same course during the previous semesters of the programme.
18CV734	Design of Bridges	✓ The syllabus content of open elective is similar to that of Departmental core courses or professional
18CV735	Structural Dynamics	electives.
18CV736	Construction Project Management	<ul> <li>A similar course, under any category, is prescribed in the higher semesters of the programme.</li> <li>✓ Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor</li> </ul>
18CV737	Reinforced Earth Structures	Registration to creet tes shart of documented and of the guidance of Programme Coordinator, mentor.

### Electives : 4

Course code	Professional Elective
18CV741	Water Resources Engineering
18CV742	Advanced Foundation Design
18CV743	Pavement Design
18CV744	Earthquake Resistant Design of Structures
18CV745	Solid Waste Management
18CV746	Quality Management System in Civil Engineering
18CV747	Hydraulic Structures & Irrigation drawing

## Electives : B

Course code	<b>Open Elective - C</b>
18CV751	Ecology and Environmental Impact Assessment
18CV752	Urban Transport Planning
18CV753	Photo Geology and Remote Sensing

Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21 B.E (Civil Engineering) Outcome Based Education (OBE) and Choice Based Credit System (CBCS)												
VIII SEMESTER												
					Teaching Hours /Week			Examination				
Sl. No	Course and Course code		Course Title	Teaching Department	Theory Lecture	Tutorial	Practical / Drawing	uration in hours	JE Marks	EE Marks	otal Marks	Credits
					L	Т	Р	A	C	S	L	
1	MC	18HS81/82	CMEP / OSHA	IM /CV	2			03	50	50	100	2
2	Project	18CVP81	Project Work Phase - II	CV			2	03	50	50	100	10
3	Seminar	18CVS82	Technical Seminar	CV			2	03	50		50	1
4	INT	18CVI83	Internship	(Completed VI and VI	(Completed during the intervening vacations of VI and VII semesters and /or VII and VIII 03 50 5 semesters.)					50	100	2
	TOTAL						4	12	200	150	350	15
Note: PC: Prot CMEP: Internsl Those, v	fessional Core Cost Manage hip: vho have not	e, PE: Professio ment of Engine pursued /compl	nal Elective, OE: Open Electi ering Projects, OSHA: Occup eted the internship will be dec	ive, INT: Intern pational Safety a clared as failed	ship, MC: M and Health A and have to o	andatory Co dministratio	ourse n ring subseque	ent SEE exar	nination at	fter they sa	tisfy the in	iternship

requirements.

# Total 175 Credit Distributions for all semester B.E. (Civil Engineering) Programme.

Semester	Ι	II	III	IV	V	VI	VII	VIII	<b>Total Credits</b>
Credits	20	20	24	24	25	24	23	15	175