Dr. AMBEDKAR INSTITUTE OF TECHNOLOGY

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Department of Computer Science & Engineering

Scheme for the Batch 2020

Dr.Ambedkar Institute of Technology, Bengaluru-56											
Scheme of Teaching and Examination from the Academic Year 2018 – 19											
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)											
I SEMESTER B.E (CHEMISTRY GROUP)											
Sl. No	Course and Course Code		Course Title	Teaching Department	Paper Setting Board	Teaching Hours /Week			Examination				Credits
						Theory Lecture L	**Tutorial** T	**Dra Practi** P	**Duration in hours**	**CIE Marks**	**SEE Marks**	**Total Marks**	
1	BC	18MA11	Calculus and Linear Algebra	Mathematics	Science	3	2	--	3	50	50	100	4
2	BC	18CH12	Engineering Chemistry	Chemistry	Science	3	2	--	3	50	50	100	4
3	ES	18CS13	Programming for Problem Solving	Computer Science and Engineering	Computer Science and Engineering	2	2	--	3	50	50	100	3
4	ES	18EC14	Basic Electronics	ECE/E and I/ TC	E and C Engineering	2	2	--	3	50	50	100	3
5	ES	18ME15	Elements of Mechanical Engineering	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2	2		3	50	50	100	3
6	BC	18CHL16	Engineering Chemistry Laboratory	Chemistry	Science	--	--	2	3	50	50	100	1
7	ES	18CSL17	Computer Programming Laboratory	Computer Science and Engineering	Computer Science and Engineering	--	--	2	3	50	50	100	1
8	HS	18HS11/ 18HS12	English/ Kannada	Humanities	Humanities	1	--	2	2	50	50	100	1
					TOTAL	13	10	6	23	350	350	700	20

First year scheme

	Dr.Ambedkar Institute of Technology, Bengaluru-56

Dr.Ambedkar Institute of Technology, Bengaluru-56

Scheme of Teaching and Examination from the Academic Year 2018 – 19

Outcome Based Education(OBE) and Choice Based Credit System (CBCS)

II SEMESTER B.E (PHYSICS GROUP)

Sl. No	Course and Course Code		Course Title	Teaching Department	Paper Setting Board	Teaching Hours /Week			Examination				
						Theory L	Tutorial T	Practical P	Duration	CIE Marks	SEE Marks	Total Marks	Credits
1	BC	18MA21	Advanced Calculus and Numerical Methods	Mathematics	Science	3	2	--	3	50	50	100	4
2	BC	18PH22	Engineering Physics	Physics	Science	3	2	--	3	50	50	100	4
3	ES	18EE23	Basic Electrical Engineering	E and E Engineering	E and E Engineering	2	2	--	3	50	50	100	3
4	ES	18CV24	Civil Engineering and Mechanics	Civil Engineering	Civil Engineering	2	2	--	3	50	50	100	3
5	ES	18MEL25	Engineering Graphics and Design	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2	--	2	3	50	50	100	3
6	BC	18PHL26	Engineering Physics Laboratory	Physics	Science	--	--	2	3	50	50	100	1
7	ES	18EEL27	Basic Electrical Engineering Laboratory	E and E Engineering	E and E Engineering	--		2	3	50	50	100	1
8	HS	18HS21/ 18HS22	English/ Kannada	Humanities	Humanities	1		2	2	50	50	100	1
					TOTAL	13	8	8	23	400	400	800	20

Note: BS: Science Course, ES: Engineering Science, Hu: Humanity and Social Science.

Definition of Credit:	1 hour Lecture (L) per week per semester = 1 Credit
	2 hour Tutorial (T) per week per semester =1 Credit
	2 hour Practical/Laboratory/Drawing (P) per week per semester=1 Credit.

Scheme for the Batch 2019

Second year scheme

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BC	18MA31	Discrete Mathematical Structures	Mathematics	2	2	--	04	50	50	100	3
2	PC	18CS31	Digital Logic and Computer Design	CSE	4	0	--	04	50	50	100	4
3	PC	18CS32	Data Structures and Algorithms	CSE	4	0	--	04	50	50	100	4
4	PC	18CS33	Operating System	CSE	3	0	--	03	50	50	100	3
5	PC	18CS34	Python Programming	CSE	3	0	--	03	50	50	100	3
6	PC	18CS35	Web Technology	CSE	3	0	--	03	50	50	100	3
7	PC	18CSL36	Data Structures and Algorithms Laboratory	CSE	--	--	2	02	50	50	100	1
8	PC	18CSL37	Digital Logic and Computer Design Laboratory	CSE	--	---	2	03	50	50	100	1
9		18CSL39	Python Programming Laboratory	CSE	--	---	2	02	50	50	100	1
10	HS	18HS31/32	Constitution of India Professional Ethics and Human Rights/ / Env. Studies	Hu/Civ	1	--	--	02	50	50	100	1
11	MC	18HS33	Soft skills (MC)	Humanities	04	-	--	03	50	-	50	0
				TOTAL	**24**	**02**	**06**	**33**	**450**	**450**	**900**	**24**

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
11	MC	18MAD31	Advance Mathematics - I	Mathematics	02	01	--	03	50		50	0

Note: BC: Science Course, PC: Professional Core. Hu: Humanities, MC: Mandatory Course.
18CSL38: Student must complete a certification under anyone online course as specified in the scheme

Second year scheme

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	**T**	**P**					
1	BC	18MA41	Probability Statistics & Queuing Theory	Mathematics	2	2	--	04	50	50	100	3
2	PC	18CS41	Algorithms Design Techniques	CSE	3	0	--	03	50	50	100	3
3	PC	18CS42	OOP Principles and Practices using C++	CSE	3	0	--	03	50	50	100	3
4	PC	18CS43	Microcontroller and Embedded System	CSE	4	0	--	04	50	50	100	4
5	PC	18CS44	Theoretical Foundation of Computer Science	CSE	4	0	--	04	50	50	100	4
6	PC	18CS45	Computer Organisation and Architecture	CSE	3	0	--	03	50	50	100	3
7	PC	18CSL46	Microcontroller and Embedded System Laboratory	CSE	--	--	2	03	50	50	100	1
8	PC	18CSL47	Object Oriented Programming Laboratory	CSE	--	---	2	03	50	50	100	1
9	PC	18CSL48	Algorithm Design Techniques Laboratory	CSE	--	---	2	03	50	50	100	1
10	HS	18HS41/42	Constitution of India Professional Ethics and Human Rights/ Env. Studies	Hum/Civ	1	--	--	02	50	50	100	1
11	MC	18HS43	Employability skills (MC)	Humanities	04	-	--	03	50	-	50	0
				TOTAL	**24**	**02**	**06**	**35**	**450**	**450**	**900**	**24**

			Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs									
	MC	18MAD41	Advance Mathematics - II	Mathematics	02	01	--	03	50		50	0

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
18CSL48: Student must complete a certification under anyone online course as specified in the scheme

Scheme for the Batch 2018

Third year scheme

V SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	HS	18HS51/52	M&E / IPR (title as per BOS decision)	Hu	2	2	--	03	50	50	100	3
2	PC	18CS51	Software Engineering	CSE	3	-	--	03	50	50	100	3
3	PC	18CS52	Java Programming	CSE	4	-	--	04	50	50	100	4
4	PC	18CS53	Database Management System	CSE	3	--	--	03	50	50	100	3
5	PC	18CS54	Computer Networks & Internet Protocols	CSE	4	--	--	04	50	50	100	4
6	PE	18CS55X	Elective -1 (PENDING)	CSE	3	--	--	03	50	50	100	3
7	OE	18XXE01	Open Elective -A	CSE	3	--	--	03	50	50	100	3
8	PC	18CSL56	Database Application Laboratory	CSE	--	--	2	02	50	50	100	1
9	PC	18CSL57	Network Programming lab using java & NS	CSE	--	--	2	02	50	50	100	1
			TOTAL		22	2	4	27	450	450	900	25

Note: PC: Professional core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project, INT: Internship.

Electives

Course code	Professional Electives -2	Open Elective -A
18CS551	Web Technologies	
18CS552	Advanced Algorithms	Students can select any one of the open electives (Please refer to consolidated list of Dr AIT for open electives) offered by any Department.
18CS553	Artificial Intelligence	
18CS554	TCS-Elective	

Open Elective -A
INTER-DEPARTMENTAL ELECTIVE OFFERED BY CSE

Subject Title	Sub Code	No. of Credits
OOPS with C++	18CSE011	3
Python programming	18CSE012	3
Unix Shell Programming	18CSE013	3

Selection of an open elective is not allowed provided,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.

Third year scheme

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	**T**	**P**					
1	HS	18HS61/62	M&E/IPR	Hu	3	2	--	03	50	50	100	3
2	PC	18CS61	Internet of Things	CSE	4	--	--	04	50	50	100	4
3	PC	18CS62	Machine Learning	CSE	4	--	--	04	50	50	100	4
	PC	18CS63	Unix Programming	CSE	3	--	--	03	50	50	100	3
4	PE	18CS64X	Professional Elective -2	CSE	3	--	--	03	50	50	100	3
5	OE	**18XXE02**	**Open Elective -B**	CSE	3	--	--	03	50	50	100	3
6	PC	18CSL65	Internet of Things Lab	CSE	--	--	2	02	50	50	100	1
7	PC	18CSL66	Machine Learning Lab	CSE	--	--	2	02	50	50	100	1
8	MP	18CSP67	Mini-project	CSE				03	50	50	100	2
9	INT	18CSI68	Industry Internship	(To be carried out during the intervening vacations of VI and VII semesters)				--	--	--	--	--
			TOTAL		**20**	**2**	**4**	**24**	**400**	**400**	**800**	**24**

Note: PC: Professional core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project, INT: Internship.

Electives

Course code	Professional Electives -2	Open Elective -B
18CS641	Distributed Operating System	
18CS642	Digital Image Processing	
18CS643	Compiler Design	
18CS644	Principles of Economics	

Open Elective -B
INTER-DEPARTMENTAL ELECTIVE OFFERED BY CSE

Subject Title	Sub Code	No. of Credits
Wireless Sensor Networks	18CSE021	3
Storage Area Network	18CS E022	3
Adhoc Wireless Networks	18CS E023	3
Data Science	18CSE024	3

Students can select any one of the open electives (Please refer to consolidated list of Dr AIT for open electives) offered by any Department.

Selection of an open elective is not allowed provided,
- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.

Scheme for the Batch 2017

Seventh Semester

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Theory Lecture L	Tutorial T	Practical P	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	PC	CS71	Android Programming	CSE	3	--	--	03	50	50	100	3
2	PC	CS72	Cloud Computing	CSE	3			03	50	50	100	3
3	PE	CS73X	Elective II(Group – B)	CSE	4			04	50	50	100	4
4	PE	CS74X	Elective III(Group – C)	CSE	3	--	--	03	50	50	100	3
5	PC	CSL75	Android Programming Laboratory	CSE	--	--	3	03	50	50	100	1.5
6	PC	CSL76	Cloud Computing Laboratory	CSE	--	--	3	03	50	50	100	1.5
7	PC	CSP77	Project Work –Phase I	CSE	--	--	3	03	50	50	100	-
8	OE	CSEY	IDE – I (Group – A)*		4	--	--	04	50	50	100	4
			TOTAL		**13**	**--**	**4**	**26**	**400**	**400**	**800**	**20**

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

	Electives	
Course code	Elective II(Group – B)- 4 Credits	Open Elective -B
CS731	Wireless Sensor Networks	Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT for open electives) offered by any Department.
CS732	Advanced Algorithms	
CS733	Neural Networks	Selection of an open elective is not allowed provided,
		• The candidate has studied the same course during the previous semesters of the programme.
Course code	Elective III(Group – B)- 3 Credits	• The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
CS741	Simulation & Modeling	
CS742	Digital Image Processing	• A similar course, under any category, is prescribed in the higher semesters of the programme.
CS743	Software Testing	Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.
CS744	Cyber Forensics	

7th SEMESTER
INTER-DEPARTMENTAL ELECTIVE OFFERED BY CSE

Subject Title	Sub Code	No. of Credits
Wireless Sensor Networks	CSE01	4
Storage Area Network	CSE02	4
Unix Shell Programming	CSE03	4

Eighth Semester

VIII SEMESTER

Sl.No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lectur	Tutori al	Practic al/ Drawin	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PE	CS81X	Elective IV(Group – D)	CSE	3	--	--	03	50	50	100	3
2	PE	CS82X	Elective V(Group – E)	CSE	4	--	--	03	50	50	100	4
3		HS04	Intellectual Propriety Rights(IPR)	HU	2	--	--	03	50	50	100	2
4	PROJECT	CSP83	Project Work –Phase II	CSE	--	--	--	02	50	50	100	12
5	SEMINAR	CS84	Seminar	CSE	--	--	--	02	50	50	100	2
6	OE	CS85Y	IDE – II(Group – B)*		4	--	--	04	50	50	100	4
				TOTAL	13	--	--	17	300	300	600	27

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

Electives	
Elective IV(Group – D) - [3 credits] 1)Object Technology→CS811 2) Big data Analytics→CS812 3) Artificial Intelligence & Machine Learning→CS813 **Elective V(Group – E) - [4 credits]** 1)Cryptography & Network Security→CS821 2)Internet of Things→CS822 3)Wireless Cellular Networks→CS823	Open Elective –D,E Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT open electives) offered by any Department. Selection of an open elective is not allowed provided, - The candidate has studied the same course during the previous semesters of the programme. - The syllabus content of open elective is similar to that of Departmental core courses or professional electives. Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.

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

8th SEMESTER
INTER-DEPARTMENTAL ELECTIVE OFFERED BY CSE

Subject Title	Sub Code	No. of Credits
Internet of Things	CSE04	4
Object Oriented Modeling And Design	CSE05	4